

# A Bibliography of Publications about the Google PageRank Algorithm

Nelson H. F. Beebe  
University of Utah  
Department of Mathematics, 110 LCB  
155 S 1400 E RM 233  
Salt Lake City, UT 84112-0090  
USA

Tel: +1 801 581 5254

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org),  
[beebe@computer.org](mailto:beebe@computer.org) (Internet)  
WWW URL: <https://www.math.utah.edu/~beebe/>

26 February 2025  
Version 1.176

## Title word cross-reference

[Ano02, BMY05]. **12th** [FYZ06, IEE03].  
**14th** [IEE06f, IEE05a]. **18th** [TW07, Bar04].  
**1st** [IEE07d].

0 [Sob03]. 2.7 [Mol02]. **\$25** [BL06b].  $\alpha$   
[CTWZ09].  $C^3$  [PPM+17].  $k$   
[GPC08, SYJ+19].  $M$  [HM15].  $N$  [ZQL+07].  
 $r$  [XZ09].  $T$  [AGN06].  $\tilde{O}(\min d_t, \sqrt{m})$   
[WW23].

**-index** [PPM+17]. **-PageRank** [AGN06].  
**-sensitivity** [CTWZ09]. **-splitting** [HM15].  
**-step** [ZQL+07].

**/ACM** [Z+04]. **/WIC** [L+03].

**'06** [BZ06, IEE06g, IEE06e, N+06]. **'07**  
[IEE07i, IEE07b]. **'08** [IEE08c, M+08].

**1** [IT08a]. **11-12** [BC07]. **11th**

**2** [IT08b]. **2001** [ACM01, Bah01, C+01].  
**2002** [Ano02, W+02]. **2003**  
[C+03, H+03, HW03, Tom03, YS+03]. **2005**  
[NND+05]. **2006** [IEE06a, IEE06h, IEE06c,  
IEE06b, N+06, ZL06]. **2007**  
[IEE07h, IEE07a, N+07, TW07]. **2008**  
[IEE08b, LL08]. **2009** [Soh09]. **21st**  
[IEE07g, IEE07b]. **22nd** [BZ06]. **24th**  
[C+01]. **25th** [IEE05b]. **27** [WW08]. **29th**  
[LS07]. **2nd** [Gho04, WHS+06, IEE07c].

**3rd** [FG07, WHS+06].

**47th** [IEE06d, IEE08a]. **4th** [yCCZ07].

**5th** [BC07].

**6th** [ADL09, Per06].

**7th** [MPW<sup>+</sup>07].

**8th** [FG07, WHS<sup>+</sup>06].

**9th** [IEE07e, IEE06e].

**A-PageRank** [ZbXF08]. **academic** [MD19, ZMW<sup>+</sup>18]. **Accelerated** [ZW25, JWSG22, LLPC23, McS05, SSCW22, YYN12, ZHWS16]. **Accelerating** [KHMG03b, MT20, WZW13]. **Acceleration** [DSD09, GCF<sup>+</sup>20, BK13, BRZ06, Zho12]. **accelerator** [YXC<sup>+</sup>11]. **Access** [GRP07]. **accuracy** [ZFCY13]. **accuracy-aware** [ZFCY13]. **ACIS** [FG07]. **ACM** [ACM08, C<sup>+</sup>01, LL08, L<sup>+</sup>07, N<sup>+</sup>06, Sko05, Z<sup>+</sup>04]. **ACM-SIAM** [ACM08]. **ACP** [SLF<sup>+</sup>11]. **Acquisition** [M<sup>+</sup>05]. **acting** [Dje07]. **activity** [WB09]. **Ad** [Mas07]. **adaptable** [TZ03]. **Adapted** [ATV16, BS23]. **Adaptive** [DMM<sup>+</sup>08, KHG04b, KHG04a, NP09a, PT08, PCD15, RM06, WHY<sup>+</sup>21]. **adaptively** [WHS23, YYN12]. **ADCOM** [IEE06f]. **Adding** [YLL05]. **Address** [CG15]. **Advanced** [Bar04, Cli10, IEE06f, IEE06j, IEE07b, OBB07, DWH<sup>+</sup>15]. **advances** [AB14, Per06, Yu09]. **Advertising** [ZWXZ12]. **Age** [Dje07]. **Aggregating** [AB06]. **Aggregation** [DMM<sup>+</sup>08, BLMP04, BLMP06, ITBD09, ITB10, LM04b, ZYL05]. **aggregation-disaggregation** [ZYL05]. **AINA** [Bar04, IEE07b]. **Aizu** [MPW<sup>+</sup>07]. **Aizu-Wakamatsu** [MPW<sup>+</sup>07]. **Algebra** [BL06b, KBK05, MOG06]. **Algorithm** [BYG07, BB12, CGW09, CXLH10, Chu09, EKU22, GZ08, HG11, HQYfZ06, IK05, JZM<sup>+</sup>09, KL02, DLS08, LY08, LYX12, MCW10, PMKY23, PHW10, QJT07, QX10, QZLL24, Reb12b, RM05, SP20, SHR14,

TP08, WZM10, WWJ12, WZW13, XG04, YWX<sup>+</sup>07, ZXZ11, ZL08, ZZB09, AOTV12, AC07, Aug08, BK13, Ber06, CKS11, CXMR07, DWH<sup>+</sup>15, GWR09, GG06, GP07b, GW17, GJSC18, GLC22, Hav03, HWH<sup>+</sup>21, HGW24, IR04, IK06, JW10, JWSG22, LGZ07, Lev10, LJR09, LG10, MR05, MS05, MBM09, MRS<sup>+</sup>01, Miy18, NP09a, NP09b, NP09c, PT08, PWZW15, SLF<sup>+</sup>11, SW06, TZ03, TVY21, WB09, WHY<sup>+</sup>21, WW07, WW10a, YC05, YH09b, ZZL08, ZXLL10, ZjRZ<sup>+</sup>10, ZTYZ23, ATV16, BS23]. **Algorithm-Based** [SP20]. **algorithmic** [RSA09a]. **Algorithmic** [VS19b]. **algorithmics** [DHX09]. **Algorithms** [ACM08, ANTT02, IT10, Mac12, ME11, Naz10, WYW<sup>+</sup>19, WZW10, ZW25, AMM14, BYBC06, BFS03, CTX11, FRCS05, GPC08, HCWW21, HCH07b, HCH07a, ITB10, Kam10, MP18, NZJ01, TLD22, A<sup>+</sup>08, ADL09, BC07, Leo04]. **Allocation** [CHH12, AEA25]. **alpha** [CG10]. **ALPIT** [OBB07]. **AMD** [WWS<sup>+</sup>10]. **American** [Leo41]. **among** [ALP07]. **Amy** [Dje07, Kap08]. **Anal** [WW08]. **Analgesics** [YWX<sup>+</sup>07]. **analitico** [Tud08]. **Analysis** [AKL18, CC07, DZH<sup>+</sup>04, DLL12, IO18, IK05, JZM<sup>+</sup>09, NNH<sup>+</sup>07, Pre02, WZW10, BDR09, CTW<sup>+</sup>02, CSC10, DN11, DHH<sup>+</sup>02, DHH<sup>+</sup>03, EV07, HCW<sup>+</sup>07, IR04, IK06, IW06, KCN07, KBK05, Leo41, LLVX20, LM05c, MGZ08, MK19, MBHG05, NZJ01, RR17, SBC<sup>+</sup>06, YJZZ23]. **analytic** [Tud08]. **analytical** [HKJ03]. **Analytics** [Cli10, LTT10]. **anatomy** [BP98, BP12]. **Anderson** [LLPC23]. **Angeles** [IEE09b]. **Annual** [ACM08, C<sup>+</sup>01, Gho04, IEE06d]. **Ant** [SHR14]. **Appl** [WW08]. **Application** [BGJ06, DMM<sup>+</sup>08, HGW24, WZM10, YZZZ08, ZYY07, Leo41, MTF04, NP09a, NP09b, NP09c, Naz10]. **Applications** [Bar04, BGH<sup>+</sup>04, H<sup>+</sup>05b, H<sup>+</sup>03, IEE04, IEE07b, IEE07a, IEE07i, TW07, TFP06, yCCZ07, Per06, Sid08, Wu08]. **Applied**

[D<sup>+</sup>07, Reb12a]. **Apply** [LY08]. **Applying** [Din11a, JZM<sup>+</sup>09, JB08a]. **appraisal** [SLF<sup>+</sup>11]. **Approach** [GZB04, Guo07, KK06, hLqL07, MRM07, PKLK09, WL07, AM21, AT10, ALP08, BDR10, CCLL14a, DPSK06, FBFM07, IR04, IT08a, IT08b, McS05, Naz10, OTM03, PGRC18a, PCD15, TD11, YJZZ23, ZSZ05, ZSW06]. **approaches** [HKJ03]. **Approximate** [WYW<sup>+</sup>19, GMS05, PCD<sup>+</sup>08, WTX<sup>+</sup>16, WWZ19]. **Approximating** [FBFM08, GP06, GP07a, ME11]. **Approximation** [LL24, BYM08a, BYM08b, BCS05, BRZ06, BLMP04, BLMP06, PDMW06, PCD<sup>+</sup>08, ZFCY13, ZFCY15]. **approximations** [MBDC15]. **April** [BZ06, IEE06a, IEE06h, IEE08b, IEE09b]. **Architectural** [TP08]. **architecture** [MGM08a]. **Arizona** [Bah01]. **Arnoldi** [GG06, GW17, HWH<sup>+</sup>21, JW10, LEA15, MT20, WHY<sup>+</sup>21, WW07, WW10a, WW10b, WZW13, YYN12]. **Arnoldi-extrapolation** [WW10a]. **Arnoldi-Type** [WZW13, GG06]. **arrangements** [HMC12]. **art** [HCH07b, HCH07a]. **article** [Lin08]. **Articles** [DS05]. **Artificial** [FG07]. **Aruba** [IEE06b]. **ASCOS** [CG15]. **Assembling** [FG07]. **Associated** [YH09a]. **Association** [SWT08]. **ASWEC** [IEE06a]. **Asymmetric** [CG15]. **asymptotics** [BOC22]. **Asynchronous** [KG07]. **Atlanta** [BZ06, ZL06]. **atoms** [HMC12]. **attachment** [BOC22, PWZW15]. **attack** [AEA25]. **Attention** [IS08, SHH07, IS07]. **attractors** [SZ10]. **Attributes** [MYWL04]. **audio** [TMPP05]. **Aug** [IEE09a]. **August** [D<sup>+</sup>07, FG07, IEE07f, IEE08c, LYZ07, OBB07, Yu09]. **Australia** [H<sup>+</sup>05b, IEE06a]. **Australian** [IEE06a]. **Author** [NCJ15, Din11a, Din11b, FSZB15, PPM<sup>+</sup>17]. **Authoritative** [HLF10]. **Authorities** [DZH<sup>+</sup>04, CON03]. **Authority** [BHP04, FLM<sup>+</sup>05, HHP08, MH05, ZSZ05]. **Authority-based** [BHP04, HHP08].

**AuthorRank** [ABS21]. **Authors** [ZOZG07, BDR10, DYFC09]. **Automated** [NND<sup>+</sup>05, SPLW17]. **Automatic** [CS06, DS23, ZGC18]. **Automation** [IEE06e, IEE06k]. **autonomic** [IEE06f]. **award** [FT17]. **award-winning** [FT17]. **Aware** [DMS06, Fia12, ZFCY13]. **axiomatic** [AT10]. **axioms** [Alt04, Alt05, AT05].

**BA** [GZ08]. **backtracking** [AHN19, ZW25]. **BadRank** [KP09]. **Balanced** [QX10]. **Banff** [A<sup>+</sup>08]. **Bangalore** [IEE07c]. **Bangkok** [IEE06g]. **Barcelona** [ADL09]. **Barr** [Dje07]. **Based** [BIG13, CATC11, CGW09, GCF<sup>+</sup>20, GRP07, GZ08, HLF10, HQYfZ06, IEE05a, JZ07, KYO<sup>+</sup>06, LKL06, LLWH07, LWZX08, LCY09, LYX12, MCW10, NNH<sup>+</sup>07, PMKY23, QX10, QZLL24, Rad06, RM05, SP20, WPZ08, WQZD25, ZL08, ZbXF08, ZLL<sup>+</sup>21, AOTV12, ATV16, AEA25, AB06, ADN<sup>+</sup>08, BYBC06, BHP04, BDR09, CKS11, CCLL14b, CTWZ09, CXLH10, CTX11, DS23, Din11b, DWH<sup>+</sup>15, EV05, EV07, FSZB15, FT17, GWR09, GP07b, Guo20, HHP08, HM15, HCH07b, HCH07a, ITBD09, ITB10, KL07, LSXL17a, LSXL17b, LJR09, LYLz23, MR05, MP18, Miy18, NCJ15, PCD15, PPM<sup>+</sup>17, RCM17, SPLW17, SLF<sup>+</sup>11, SHH07, TLZ<sup>+</sup>19, TVY21, WB09, WLW07, WWG<sup>+</sup>22, WKK<sup>+</sup>12, YXC<sup>+</sup>11, Yan14, YJZZ23, YC05, YWX<sup>+</sup>07, YZC<sup>+</sup>19, ZSZ05, ZZL08, ZXLL10, ZjRZ<sup>+</sup>10, ZLC<sup>+</sup>22, ZYL05, CNP07, ZFCY15]. **BC** [IEE06c, LL08]. **Beach** [IEE06b, IEE07g]. **behavior** [OC21]. **Behaviors** [XLC20, ZZZL06]. **behind** [BL06b, VLD07, Wil06]. **Beijing** [FYZ06, IEE07f, Z<sup>+</sup>04]. **Belief** [QX10]. **Berkeley** [IEE06d]. **Best** [Pit19, BSV04]. **between** [BGH<sup>+</sup>04, LSV08]. **Beyond** [Dje07, Gle15, Kap08, RPB06, LM06b]. **Bialystok** [IEE06i]. **Bias** [Col02]. **Biased** [BPSV08, BPSV07, KCN07]. **biasing**

[RPM07]. **bibliographic** [FRJ08, Fia12]. **bibliometric** [AB14]. **bibliometrics** [Wei05]. **Bibliomics** [YWX<sup>+</sup>07]. **Bibliomics-based** [YWX<sup>+</sup>07]. **BIC** [IEE07a]. **BIC-TA** [IEE07a]. **Bidirectional** [LL24]. **big** [DIL<sup>+</sup>19]. **bilingual** [LG10]. **billion** [Mol02]. **billionaire** [Low09]. **billions** [KYK09]. **Bio** [D<sup>+</sup>07, IEE07a]. **Bio-Inspired** [IEE07a]. **Biography** [Ano04]. **Bioinformatics** [D<sup>+</sup>07, IEE07d]. **Biomedical** [IEE07d, Lin08]. **biotechnological** [RR17]. **Bipartite** [Bau08]. **BIRD** [LL24]. **block** [CZR20, DN11, JW10, KHMG03a, SHL<sup>+</sup>25]. **Blocking** [EKU22]. **Book** [Dje07, Kap08, Lev11a]. **Bookmark** [Ber06]. **Bookmark-coloring** [Ber06]. **BookRank** [Men09]. **boost** [DSZ07]. **Boosting** [ZLL<sup>+</sup>21]. **bound** [Guo20, LLVX20]. **Bounds** [ASH07b, FRCS05]. **boys** [Ano04]. **Brief** [Rob19, Rho10]. **Brin** [Low09]. **Bringing** [MGZ08, PBMW98, PBMW99, XLC20]. **Broken** [Dje07]. **BrowseRank** [LGL<sup>+</sup>08]. **Brunswick** [Gho04]. **BSN** [WHS<sup>+</sup>06]. **BUBiNG** [BMSV18]. **Budapest** [HW03, Tom03]. **Building** [KK06, CGL<sup>+</sup>23]. **burglary** [ZLC<sup>+</sup>22]. **Business** [WHS<sup>+</sup>06].

**CA** [ACM08, Bar03, BC07]. **calculating** [Ped07]. **Calculation** [KT08]. **California** [IEE07g, IEE09b, IEE06d, WHS<sup>+</sup>06]. **Campus** [KK06]. **Canada** [A<sup>+</sup>08, IEE06c, IEE07b, LL08, L<sup>+</sup>03]. **cancer** [WKK<sup>+</sup>12]. **Cancun** [IEE08a]. **Candidate** [WZP<sup>+</sup>14]. **canonical** [SC05, WW08, Wu08]. **Capizzano** [WW08]. **Carl** [Kap08]. **Carlo** [ALNO07, Lof14]. **case** [FF07, YLL05]. **cases** [ZLC<sup>+</sup>22]. **Cataloging** [Men09]. **categorization** [NMP03]. **cautious** [NWD07]. **Cavtat** [LS07]. **Cavtat/Dubrovnik** [LS07]. **CCGrid** [TLC06]. **CDC** [IEE08a]. **CEC** [WHS<sup>+</sup>06]. **CEC/EEE** [WHS<sup>+</sup>06]. **Center** [Bah01, FG07]. **centered** [OTM03]. **Centralities** [PKDM21]. **centrality** [ATV16, BS23]. **Centre** [IEE06c]. **centric** [IR04]. **chain** [Mas05]. **Chains** [DMM<sup>+</sup>08, LM05b, LM06a]. **change** [Suz04]. **Changed** [Mac12]. **changes** [MP07]. **Chania** [IEE07e]. **channel** [NND<sup>+</sup>05]. **channels** [ITB10]. **chaos** [CG07]. **Characterization** [LSVZ09]. **characterize** [PRU02, PRU06]. **Characterizing** [MRM07]. **Chebyshev** [BK13, JWSG22, MT20]. **Chief** [Dou07]. **China** [yCCZ07, DHX09, IEE07h, IEE07a, IEE08b, M<sup>+</sup>08, Yu09, Z<sup>+</sup>04, FYZ06, FG07, IEE05c, IEE06k, IEE07d, IEE07f, LYZ07, N<sup>+</sup>06, OBB07]. **Chinese** [M<sup>+</sup>05, LCY09]. **choice** [Kru01]. **choosing** [ALP08]. **CIT** [J<sup>+</sup>06, MPW<sup>+</sup>07]. **Citation** [PBMW98, PBMW99, BDR09, CCLL14a, DYFC09, Din11a, FSZB15, MGZ08, MD19, NJFD14]. **citation-based** [BDR09]. **citations** [FT17]. **City** [MPW<sup>+</sup>07]. **Classification** [hLqL07]. **Cleve** [Mol02]. **clicks** [CKS11]. **cloud** [LFL<sup>+</sup>15]. **Cluster** [KL07, TLC06, MR04, PDSR05]. **clustered** [PDSR05]. **Clustering** [AKL18, HCW<sup>+</sup>07, VS19a, ADN<sup>+</sup>08, RCM17]. **Co** [ZOZG07, DYFC09]. **co-citation** [DYFC09]. **Co-ranking** [ZOZG07]. **cocitation** [Din11b]. **code** [MPG<sup>+</sup>13]. **CodeRank** [NIC06]. **Cognitive** [MK19]. **Collaborative** [IEE07i, YZZZ08]. **collections** [ADN<sup>+</sup>08, CNP07, ILLS09]. **Collective** [ZMW<sup>+</sup>18]. **College** [Col02]. **Colley** [Col02]. **colluders** [Mas05]. **Colony** [SHR14]. **coloring** [Ber06]. **Columbus** [IEE05b]. **Combating** [GGMP04]. **combined** [BDR10]. **Combining** [Guo07]. **Comments** [WW08]. **Commerce** [WHS<sup>+</sup>06]. **commodity** [CHH12]. **Communication** [BGJ06, Gho04, IEE07c]. **Communications** [D<sup>+</sup>07, IEE06f, IEE07i, IEE06g]. **communities** [BGS03, DD06]. **compare**

[NZT07]. **Comparison**  
[DGR05a, DGR07, HKJ03]. **Compiègne**  
[Sko05]. **complex**  
[CXLH10, GPR13, Wu08, XZ09].  
**complexes** [PWZW15]. **Complexity**  
[LY08, Lof14]. **components** [ALP07].  
**comprehensive** [CCLL14b]. **compression**  
[SHL<sup>+</sup>25]. **computable** [ABC<sup>+</sup>08a].  
**Computation**  
[ANTT02, ALNO07, CATC11, IS08, IT10,  
KL02, LEA15, MG10, MV18, Mol02,  
RPM07, SYSB03, WA05, WWS<sup>+</sup>10, AG04,  
ABC<sup>+</sup>07, ABC<sup>+</sup>08b, BRZ06, yCCZ07,  
DGR05b, DPSK06, HCH07b, HCH07a, IS07,  
IT08a, IT08b, IT09b, ITBD09, IT09a,  
KHG04b, KHG04a, KG07, MR04, McS05,  
Miy18, SMPU15, SC05, TD11, WG07b,  
WG07a, WW08, ZYL05]. **Computations**  
[BB12, DSD09, KHM03b, BSV04, BSV05b,  
Bou25, BRZSC05, CRZT20, LSXL17a,  
LSXL17b, Sid08, Tan17, ZWSC25].  
**compute** [CG07]. **Computer**  
[IEE06d, IEE08c, IEE09b, J<sup>+</sup>06, MPW<sup>+</sup>07,  
Soh09, WZM10]. **Computers** [Mac12].  
**Computing** [D<sup>+</sup>07, FG07, GGGL10, H<sup>+</sup>07,  
IEE03, IEE05b, IEE06i, IEE07a, MAiK14,  
Men09, QJT07, TLC06, WD04, WHS<sup>+</sup>06,  
WZW10, ZL06, AMM14, Bai12, Ber05,  
Ber06, BP22, CGS02, GG06, GGL07,  
GXZ15, GW17, GJSC18, GJNC18, GLC22,  
HWH<sup>+</sup>21, HGW24, IEE06f, JWSG22,  
KHM03a, LGZ07, LSW09, MDF25, MT20,  
RM06, SHL<sup>+</sup>25, TZWG21, TLD22, WHS17,  
WHY<sup>+</sup>21, WHS23, WW07, WW10a,  
WW10b, YYN12, Zho12]. **COMSWARE**  
[IEE07c]. **Concept**  
[DMS06, AOTV12, FGM<sup>+</sup>01, TVY21].  
**Concept-Aware** [DMS06]. **Concern**  
[JZM<sup>+</sup>09]. **conditional** [LM05c].  
**Conditioning** [Kir06]. **conductance**  
[CPG11]. **Conference**  
[ACM01, Ano02, Bah01, Bar03, BZ06, Bar04,  
BMY05, C<sup>+</sup>03, C<sup>+</sup>06, C<sup>+</sup>01, D<sup>+</sup>07, FYZ06,  
FG07, Gho04, H<sup>+</sup>05a, H<sup>+</sup>07, H<sup>+</sup>05b, HW03,  
IEE05a, IEE05b, IEE05c, IEE06f, IEE06a,  
IEE06e, IEE06c, IEE06j, IEE07d, IEE07b,  
IEE07c, IEE07f, IEE07h, IEE07a, IEE07i,  
IEE08a, IEE08c, IEE08b, IEE09a, J<sup>+</sup>06,  
LYZ07, L<sup>+</sup>07, L<sup>+</sup>03, LS07, M<sup>+</sup>08, M<sup>+</sup>05,  
MPW<sup>+</sup>07, N<sup>+</sup>07, NND<sup>+</sup>05, N<sup>+</sup>06, OBB07,  
Per06, R<sup>+</sup>07, Sko05, Soh09, TW07, W<sup>+</sup>02,  
WHS<sup>+</sup>06, YS<sup>+</sup>03, Yu09, ZL06, Z<sup>+</sup>04,  
yCCZ07, ACM01]. **Congress**  
[IEE06k, IEE09b]. **conjunction** [FG07].  
**Connected** [OTK06]. **Connectivity**  
[AB06]. **conquer** [DPSK06]. **Consequences**  
[VS19b, Wei05]. **Consistently** [WL07].  
**Content**  
[AB06, Guo07, HLF10, NND<sup>+</sup>05, SHH07].  
**Content-based** [SHH07]. **Contents**  
[KYO<sup>+</sup>06]. **context**  
[FGM<sup>+</sup>01, Hav03, JW02, MBM09].  
**context-sensitive** [Hav03]. **Contextual**  
[SHH07]. **continuation** [BP22]. **continuity**  
[NMP03]. **contribution**  
[SC05, WW08, WW10b]. **contributions**  
[ABC<sup>+</sup>07, ABC<sup>+</sup>08b]. **Control**  
[IEE06e, IEE06k, IEE08a, IEE08b].  
**Convention** [Bah01]. **Convergence**  
[GK11, HW21, IK05, IK06, KL07, N<sup>+</sup>07,  
Soh09, Bai12, GvdHL20]. **Cooperative**  
[WHS<sup>+</sup>06]. **‘Copenhagen’** [Dje07].  
**Copyright** [Rho10]. **core** [PWZW15].  
**core-attachment** [PWZW15]. **Corner**  
[Mol02]. **correct** [Mar97]. **Correlation**  
[HQYfZ06]. **correlations** [OC21]. **Cost**  
[WQZD25]. **Cost-Effective** [WQZD25].  
**counts** [FSZB15]. **coupled** [TLD22].  
**course** [Reb12a]. **crawl** [BYKS09].  
**Crawled** [KOK03]. **Crawler** [AHL09, LZ09,  
TP08, YYL07a, YYL07b, ZYY07, ZQ09].  
**Crawling**  
[AHL09, BYG07, BMSV18, JZ07, MYWL04].  
**Crawls** [CSLL18]. **Creator** [Dje07]. **Crete**  
[IEE07e]. **Croatia** [LS07]. **Cross**  
[NND<sup>+</sup>05, ZSW06]. **cross-media** [ZSW06].  
**cross-reference** [ZSW06]. **cue** [ZSZ05].  
**cue-based** [ZSZ05]. **currency** [Suz04].

curve [WB09]. **Customized** [GCF<sup>+</sup>20]. **Cybernetics** [Bah01].

**D** [Dje07, Kap08]. **Dalian** [IEE06k].

**Damping** [WWJ12, ALP08, BYBC06, BL06a, BC06, BSV05a, Bol05, BSV07, SSCW22].

**Dangling** [IS08, IS07, SHL<sup>+</sup>25]. **Data** [Bar03, BZ06, C<sup>+</sup>06, D<sup>+</sup>07, H<sup>+</sup>05a, NWyY07, R<sup>+</sup>07, WQZD25, WZW10, AG04, DIL<sup>+</sup>19, GP06, GP07a, Per06, TVY21, YZC<sup>+</sup>19].

**Database** [LL08, TW07, ABS21, Pag01]. **databases** [BHP04, HHP08]. **datasets** [LRU14]. **December** [A<sup>+</sup>08, BC07, C<sup>+</sup>03, C<sup>+</sup>06, IEE06f, IEE06e, IEE06b, IEE08a, NND<sup>+</sup>05, N<sup>+</sup>06, W<sup>+</sup>02].

**decentralized** [PDMW06]. **Decision** [IEE08a]. **Decomposition** [ME11]. **Deep** [CGL<sup>+</sup>23]. **Deeper** [LM04a, BSV07].

**defense** [AEA25]. **Degree** [BIG13, FBFM08, LSVZ09, LSV08, OC21, LSV07].

**del** [Tud08]. **Demands** [CHH12]. **Densely** [OTK06]. **Dependence** [LSVZ09].

**dependencies** [BSV09, SPLW17].

**Dependent** [BGJ06, ZMW<sup>+</sup>18]. **derivative** [GGGG07]. **Descent** [Naz10]. **Design** [PCG08, CPG11]. **Detecting** [AC07, Mas05]. **Detection** [MLZ<sup>+</sup>24, ABC<sup>+</sup>08a]. **Determining** [HMC12, VLD07]. **Development** [C<sup>+</sup>01].

**DEXA** [TW07]. **diagonal** [SHC<sup>+</sup>19]. **Diego** [BC07]. **Differences** [DLL12].

**Different** [BYKS09]. **differential** [AM21]. **Differentially** [WZP<sup>+</sup>14]. **differentiation** [CCLL14a]. **difficult** [SHC<sup>+</sup>19].

**DiffPageRank** [AM21]. **DiffusionRank** [YKL07]. **dimension** [YLL05]. **diodes** [KYK09]. **directed** [ACL07a, ACL08, BOC22, DWH<sup>+</sup>15, FF07].

**Dirichlet** [CTX11, WST05]. **DirichletRank** [WTS<sup>+</sup>08]. **disaggregation** [ZYL05]. **disambiguation** [AS09, MPS12, MTF04]. **Discovery** [HHY06, LYZ07, M<sup>+</sup>08, Yu09]. **Discrete** [ACM08]. **Distributed** [BMY05, FG07, IEE03, IEE05a, IEE05b, IEE07g, IT09b, ITBD09, IT10, ITB10, SSB03, SYSB03, SYYW03, TP08, WA05, YAI<sup>+</sup>04, ZYL05, CNP07, IT08a, IT08b, SMPU15, WD04].

**Distribution** [ALP07, NND<sup>+</sup>05, BC06]. **Distributions** [IO18]. **Divide** [DPSK06].

**Do** [BYKS09, BSV04, FSZB15, LSV07]. **Doctor** [Dje07]. **document** [ADN<sup>+</sup>08, LWZX08, NMP03, TMF05, ZSZ05].

**Documentation** [PMKY23]. **Documents** [ZOZG07, MS05]. **does** [NZT07, Suz04].

**Domain** [CSLL18, Kru01]. **DRA** [AEA25]. **DRank** [SPLW17]. **Drive** [Mac12]. **drops** [AC07]. **Dubrovnik** [LS07]. **DUST** [BYKS09]. **DYNA** [KT08].

**DYNA-RANK** [KT08]. **Dynamic** [Cha07, CHH12, PCG08, RG12, WPZ08, GLST17]. **dynamical** [SZ10].

**E-Commerce** [WHS<sup>+</sup>06]. **E-Services** [WHS<sup>+</sup>06]. **each** [MM04]. **Early** [AHL09].

**Economy** [Leo41]. **Edge** [WWG<sup>+</sup>22, WQZD25, PDSR05].

**Edge-based** [WWG<sup>+</sup>22]. **Editor** [Dou07].

**EEE** [WHS<sup>+</sup>06]. **Effect** [FLM<sup>+</sup>05, RPM07, AL06b]. **Effective** [SWT08, WQZD25, WTX<sup>+</sup>16, YJZZ23].

**Effectiveness** [SSPN08]. **effects** [AGN06, BSV04, BSV05b]. **Efficient** [BLMP04, BLMP06, CGL<sup>+</sup>23, KT08, LL24, PDMW06, QJT07, WYW<sup>+</sup>19, WWS<sup>+</sup>10, YMZ19, ZXZ11, ZLJ18, AM21, CGS02, DPSK06, MR05, SHC<sup>+</sup>17, WG07b].

**Efficiently** [AHL09, SHL<sup>+</sup>25]. **Effort** [PMKY23]. **Eigenfactor** [Ber07].

**eigenfactor.org** [Ano11]. **eigenproblems** [JW10]. **eigenstructure** [GGGG07].

**Eigenvalue** [Arb16]. **Eigenvalues** [Wu08, XZ09]. **Eigenvector** [BL06b, MG10, MGM08a, MGM08b, Mol02, NP09a, NP09b, NP09c, Naz10]. **Eighth** [FG07]. **Electrical** [IEE06j]. **Electronic** [Dje07]. **elimination** [SHC<sup>+</sup>17].

**embedding** [YSX<sup>+</sup>20]. **emergence** [FGS11]. **Emitting** [DLL12]. **Empirical** [ZLL<sup>+</sup>21, Leo41]. **Empirically** [GCFG10]. **Engine** [Dje07, Kap08, SP20, BP98, LM06b, MBHG05, Wil06, BP12]. **Engineering** [BZ06, FG07, IEE05c, IEE06a, IEE06i, IEE07d, IEE07f, IEE09b, W<sup>+</sup>02, TMF05]. **Engines** [JZ07, Lev11a, ZZB09, BB05, CMS10, GP07b, Mar97, MBDC15, YXC<sup>+</sup>11]. **Ensemble** [QZLL24]. **ENSYS** [IEE07i]. **Enterprise** [WHS<sup>+</sup>06]. **Entertainment** [IEE07i]. **Entity** [LCY09, XLC20, Cha07]. **Entity-Relation** [LCY09, Cha07]. **entrepreneurs** [Low09]. **entries** [Kir06]. **Environment** [HHY06, WQZD25, KG07]. **Epidemic** [LEA15]. **Equal** [BIG13]. **equations** [Sid08]. **equilibria** [CTWZ09]. **equilibrium** [Leo41]. **error** [Guo20, LLVX20]. **estimates** [PGRC18b]. **Estimating** [DD06, Naz10, SGP08, SGP11, WW23, CGS04]. **Estimation** [IO18, KYO<sup>+</sup>06, VS19a, AG04]. **estimations** [FBFM07]. **Euromicro** [IEE05a]. **Evaluate** [NWyY07, ZMW<sup>+</sup>18]. **Evaluating** [BDR09, BDR10, CCLL14a]. **evaluation** [CCLL14b, NJFD14, Yan14]. **Event** [ILLS09, LLWH07]. **Event-Based** [LLWH07]. **Evolution** [LCY09, MYWL04]. **Evolving** [RG12]. **Exact** [GMS05]. **Example** [CC07]. **Execution** [ZLJ18]. **Existence** [FLM<sup>+</sup>05]. **existing** [HCH07b, HCH07a]. **Expansion** [XLC20]. **Experimental** [ASH07b]. **Experiments** [ANTT02, MBM09, FRCS05, MBHG05]. **Expert** [TW07]. **ExpertRank** [Zho12]. **Explained** [Col02]. **Exploiting** [KHMG03a, MAliK14]. **exponentiation** [MRS<sup>+</sup>01]. **Expressed** [WZP<sup>+</sup>14]. **Extended** [SHR14, ZbXF08]. **Extending** [BS23]. **External** [LLWH07]. **Extracting** [MS06]. **Extraction** [BGH<sup>+</sup>04, LW07, LCY09, LLYW10, SP20, ZGC18, LYLz23, WLW07]. **Extractive** [LLWH07]. **Extrapolated** [Bou25, AMM14].

**Extrapolation** [BBJ25, BRZSC05, BRZ07, CRZT20, DSD09, KHMG03b, BRZ08, HGW24, SSCW22, Sid08, Tan17, WW10a, ZHWS16]. **Eye** [LM05b, LM06a].

**faceted** [PPM<sup>+</sup>17]. **Factor** [SPY<sup>+</sup>09, ALP08, BL06a, BC06, BSV05a, BSV07]. **Factors** [WWJ12, SSCW22, VLD07]. **FactRank** [JP10]. **facts** [JP10]. **failures** [IT09b]. **Fairmont** [C<sup>+</sup>03]. **Fall** [Dje07]. **Falls** [IEE07b]. **fame** [UCH03]. **family** [NIC06]. **far** [DLLM07]. **Farm** [RPM07, DSZ07]. **Fast** [BCG10, BYG07, DGR05b, GZB04, GPC08, KL07, ME11, SMPU15, TFP06, MBDC15]. **Fault** [ZLL<sup>+</sup>21, YJZZ23]. **Faustu** [Dje07]. **FAW** [DHX09]. **feasibility** [BCS05]. **Feature** [QZLL24, SP20]. **features** [ABC<sup>+</sup>08a, ZLC<sup>+</sup>22]. **February** [ADL09, IEE05a]. **feedback** [CKS11]. **fibrations** [BLSV06]. **FICA** [BYG07]. **Field** [AKL18, NWyY07, FBFM07]. **Fifth** [M<sup>+</sup>08, H<sup>+</sup>05a]. **Filtering** [PMKY23]. **Finding** [CXMR07, CON03, CON04, Mas07, WLJH10, Mas05, NP09a, NP09b, NP09c]. **First** [D<sup>+</sup>07, BDR09, Reb12a, WMC13, NND<sup>+</sup>05]. **first-order** [WMC13]. **Fishnet** [SZ07]. **FIT** [BMY05]. **fitting** [MK19]. **fixed** [CRZT20, HW21, LLPC23]. **fixed-point** [CRZT20, HW21, LLPC23]. **Florence** [NND<sup>+</sup>05]. **Florida** [H<sup>+</sup>03]. **FOCS** [IEE06d]. **Focused** [YYL07a, YYL07b, ZYY07]. **Fold** [QZLL24]. **follow** [LSV07]. **follows** [BC06]. **FOM** [ZHWS16]. **Football** [Col02, GMA08]. **force** [DWH<sup>+</sup>15]. **force-directed** [DWH<sup>+</sup>15]. **Forensics** [WZM10]. **form** [SC05, WW08, Wu08]. **Formula** [DSD09]. **fortune** [UCH03]. **Foundations** [IEE06d]. **Fourth** [LYZ07, Soh09, Yu09, A<sup>+</sup>08]. **FPGA** [MGM08a, MGM08b, YXC<sup>+</sup>11]. **FPGA-based** [YXC<sup>+</sup>11]. **FPMPE**

[ZWSC25]. **Fractional** [AHL09]. **Fragile** [IT09a]. **Framework** [MK19, XLC20, CTW<sup>+</sup>02, DHH<sup>+</sup>02, DHH<sup>+</sup>03]. **France** [IEE05a, Sko05]. **Francisco** [ACM08, Bar03, WHS<sup>+</sup>06]. **Fredericton** [Gho04]. **Free** [Col02, AL06a, SJY<sup>+</sup>20, ZXLL10]. **Fremont** [L<sup>+</sup>07]. **Frequency** [GRP07]. **frequent** [YH09a]. **FrogWild** [MBDC15]. **Frontiers** [DHX09]. **FSKD** [M<sup>+</sup>08, LYZ07, M<sup>+</sup>08]. **FSKD'07** [Yu09]. **Fukuoka** [Bar04, BMY05]. **Fukushima** [MPW<sup>+</sup>07]. **full** [SCW<sup>+</sup>24]. **fully** [FRCS05]. **function** [BSV05a, BSV07]. **Functional** [BSV09]. **functions** [BYBC06, MPG<sup>+</sup>13]. **Future** [Mac12]. **FUZZ** [IEE09a]. **FUZZ-IEEE** [IEE09a]. **Fuzzy** [IEE09a, LYZ07, M<sup>+</sup>08, Yu09].

**Galway** [H<sup>+</sup>07]. **game** [Naz10]. **games** [CTWZ09]. **gap** [WTS<sup>+</sup>08]. **gems** [CXMR07]. **Gene** [MLZ<sup>+</sup>24, WZP<sup>+</sup>14]. **General** [DSD09, HSC07, TLZ<sup>+</sup>19]. **generalizations** [LGZ07]. **Generalized** [KP09]. **Generalizing** [BYBC06, GMA08]. **GeneRank** [BK13, MBHG05, SEH14, WZW10, YLB07]. **Genes** [WZP<sup>+</sup>14, WKK<sup>+</sup>12]. **Genius** [Dje07]. **geo** [MS05]. **geo-referencing** [MS05]. **Geometric** [CGL<sup>+</sup>23]. **Georgia** [BZ06]. **Germany** [Per06, TW07]. **giants** [Fra10, Fra11]. **gigabit** [MR04]. **global** [DD06]. **GMRES** [GJSC18, JWSG22, SSCW22, WW10b, WWJ12]. **GMRES-Power** [GJSC18]. **goes** [WKK<sup>+</sup>12]. **Google** [WW08, Ano04, AL06b, BB11, BL06b, CXMR07, CSC10, Cli10, DN11, Dje07, GMA08, Hig05, HSC07, IW06, Kir06, LM05b, LM06b, LM06a, LTT10, Lev10, Lev11b, LSW09, Low09, MOG06, MM04, Mol02, Pre02, Reb12b, Rho10, RSA09a, SC05, SZ10, Sob03, Wil06, WI09, WKK<sup>+</sup>12, Wu08, WW10b, YWX<sup>+</sup>07, Kap08].

**Google-like** [DN11]. **Google-PageRank-like** [YWX<sup>+</sup>07]. **Google-type** [Kir06]. **GPUs** [SYJ<sup>+</sup>19, WWS<sup>+</sup>10]. **Graduated** [KP09]. **Granular** [ZL06]. **Graph** [ACL06, AKL18, BGH<sup>+</sup>04, BLSV06, Chu09, DS23, DMS06, LSCY23, MLZ<sup>+</sup>24, Rad06, YKL06, ZLJ18, A<sup>+</sup>08, ACL07b, Aug08, ADL09, BC07, BLMP04, BLMP06, CPG11, Chu07, DLLM07, DWH<sup>+</sup>15, GP06, GMS05, Leo04, MAIiK14, MS05, MBDC15, SGP08, SGP11, YZTF24, ZTYZ23, ZSW06]. **Graph-Based** [Rad06, DS23]. **graph-ranking** [MS05]. **GraphBLAS** [PKDM21]. **Graphics** [LSXL17a, LSXL17b]. **Graphs** [BIG13, Bau08, AEA25, ACL07a, ACL08, Cha07, CZR20, Gro15, GLST17, PDSR05, SYJ<sup>+</sup>19, SJY<sup>+</sup>20, YSX<sup>+</sup>20]. **Graphs\*** [EKU22]. **greatest** [Low09]. **Greece** [IEE07e]. **Grid** [HHY06, IEE07h, KK06, TLC06]. **groundable** [WMC13]. **GroupRank** [WZP<sup>+</sup>14]. **Groups** [WZP<sup>+</sup>14]. **growing** [AL06a]. **Gyeongju** [N<sup>+</sup>07].

**Haier** [FG07]. **Haikou** [LYZ07, Yu09]. **Hainan** [LYZ07, Yu09]. **Halifax** [L<sup>+</sup>03]. **Hardware** [MG10]. **Hawaii** [Ano02]. **Heat** [Chu09, Chu07]. **Hefei** [DHX09]. **held** [Yu09]. **Henan** [OBB07]. **Hessenberg** [GLC22, HGW24]. **Hessenberg-type** [GLC22]. **Heterogeneous** [ZOZG07]. **heuristic** [Miy18]. **Hidden** [LL24]. **hierarchical** [YZTF24]. **High** [D<sup>+</sup>07, IEE03]. **Higher** [HW23, KBK05]. **Higher-Order** [HW23, KBK05]. **highlights** [ATV16]. **History** [Rob19, SC12]. **HITS** [DHH<sup>+</sup>02, DHH<sup>+</sup>03, FLM<sup>+</sup>05, MRS<sup>+</sup>01, NZT07, SPY<sup>+</sup>09, Zho12]. **Homogeneous** [JB09, YSX<sup>+</sup>20]. **Hong** [ACM01, C<sup>+</sup>06, M<sup>+</sup>05, N<sup>+</sup>06]. **Honolulu** [Ano02]. **Hopfield** [CC07]. **Hotel** [C<sup>+</sup>03, IEE06c, L<sup>+</sup>07, N<sup>+</sup>07]. **Houston** [H<sup>+</sup>05a]. **HowNet** [WLWZ08]. **HPC**



[D<sup>+</sup>07]. **HPC-Bio** [D<sup>+</sup>07]. **Hub** [ZFCY15, ZSZ05]. **hub-authority** [ZSZ05]. **HubPPR** [WTX<sup>+</sup>16]. **Hubs** [DZH<sup>+</sup>04, CON03]. **Human** [DLL12]. **Hungary** [HW03, Tom03]. **Hydai** [N<sup>+</sup>07]. **Hyper** [Mar97]. **Hypergraph** [CLC24]. **Hyperlink** [hLqL07, YWGC11, SBC<sup>+</sup>06]. **Hyperlink-Induced** [YWGC11]. **hyperlinking** [TMPP05]. **hyperlinks** [KL05, KL10, Lin08]. **hypertext** [ADN<sup>+</sup>08]. **hypertextual** [BP98, BP12].

**i.e** [FG07]. **I/O** [CGS02]. **I/O-efficient** [CGS02]. **ICALT** [IEE06j]. **ICARCV** [IEE06e]. **ICBBE** [IEE07d]. **ICC** [IEE09a]. **ICCIT** [Soh09, N<sup>+</sup>07]. **ICCSIT** [IEE08c]. **ICDE** [BZ06]. **ICDM** [C<sup>+</sup>06, H<sup>+</sup>05a, Per06, R<sup>+</sup>07]. **ICITA** [H<sup>+</sup>05b]. **ICIW** [IEE07i]. **ICN** [IEE06h]. **ICONS** [IEE06h]. **ICSNC** [D<sup>+</sup>07]. **Ideas** [Mac12]. **Identification** [BIG13, PWZW15]. **Identifying** [OTK06, CCLL14a]. **IEEE** [Bah01, H<sup>+</sup>05a, H<sup>+</sup>07, IEE03, IEE05c, IEE06d, IEE06b, IEE08a, IEE08b, IEE09a, J<sup>+</sup>06, L<sup>+</sup>07, MPW<sup>+</sup>07, N<sup>+</sup>06, R<sup>+</sup>07, Sko05, TLC06, WHS<sup>+</sup>06, ZL06, L<sup>+</sup>03, M<sup>+</sup>05, Z<sup>+</sup>04]. **IEEE/WIC** [Z<sup>+</sup>04]. **IEEE/WIC/ACM** [L<sup>+</sup>07, N<sup>+</sup>06, Sko05]. **illustration** [RR17]. **Image** [Bau08, JB08a, JB08b, Per06]. **images** [HCW<sup>+</sup>07]. **Immune** [PHW10]. **Impact** [DS23, Din14, JZM<sup>+</sup>09, SPY<sup>+</sup>09, Wei05, FT17, ZMW<sup>+</sup>18]. **Implementation** [ABS21]. **Implications** [AKL18, MYWL04]. **Implicitly** [LEA15]. **Importance** [NW<sub>y</sub>Y07, LM05c, LGL<sup>+</sup>08, MM04]. **Important** [AHL09]. **Improve** [hLqL07, QM06]. **Improved** [CKS11, CGW09, EKU22, GZ08, KL02, LZ09, LYX12, PHW10, YH09a, ZXZ11, ZYY07, ZQ09, ZZB09, LYLz23]. **Improved/Optimized** [EKU22]. **Improvement** [CGL<sup>+</sup>23, HLF10, YYL07a, WB09, YH09b]. **Improving** [WKK<sup>+</sup>12, ZGC18]. **In-Degree** [FBFM08, LSVZ09, LSV08, LSV07]. **Inadvertent** [Wei05]. **Incorporating** [CC07, ZGC18]. **Incremental** [KOK03, ZFCY13, BCG10, BSV04, BSV05b, Lof14]. **Indegree** [UCH03]. **Index** [CPG11, JB09, PCG08, PPM<sup>+</sup>17, SJY<sup>+</sup>20, PKLK09]. **index-free** [SJY<sup>+</sup>20]. **indexes** [AB14]. **Indexing** [WLWZ08, WTX<sup>+</sup>16]. **India** [IEE06f, IEE07c]. **indices** [ABS21]. **Induced** [YWGC11, KL05, KL10]. **Industrial** [Per06]. **Industry** [IEE07a]. **Influence** [CWL07, LXY<sup>+</sup>17, CG07]. **influential** [WLJH10]. **Information** [Bar04, C<sup>+</sup>01, DS05, H<sup>+</sup>05b, IEE06g, IEE08c, IEE09b, J<sup>+</sup>06, Lev11a, LS07, M<sup>+</sup>05, MPW<sup>+</sup>07, N<sup>+</sup>07, OBB07, Rad06, SC12, Soh09, W<sup>+</sup>02, CMS10, Kam10, Mar97, MBM09, SSPN08]. **Ingenious** [Mac12]. **Initialization** [FLM<sup>+</sup>05]. **Inner** [GGGL10, Bai12, GGL07, TLZ<sup>+</sup>19]. **Inner-Outer** [GGGL10, TLZ<sup>+</sup>19]. **Inout** [GW17]. **Inspired** [IEE07a, SHR14, WQZD25]. **Institute** [BMY05, IEE06f]. **integers** [FCS12]. **Integrating** [SWT08]. **Intelligence** [FG07, L<sup>+</sup>07, L<sup>+</sup>03, N<sup>+</sup>06, Sko05, Z<sup>+</sup>04]. **Intelligent** [BYG07, IEE06k]. **inter** [PDSR05]. **inter-cluster** [PDSR05]. **Interaction** [DS05, MLZ<sup>+</sup>24]. **interactive** [KG07]. **Interactome** [DLL12]. **interdependent** [AEA25]. **Interests** [MS06]. **Interfaces** [LS07]. **International** [ACM01, Ano02, Bah01, Bar03, BZ06, Bar04, BMY05, C<sup>+</sup>06, C<sup>+</sup>01, D<sup>+</sup>07, FYZ06, FG07, H<sup>+</sup>05a, H<sup>+</sup>07, H<sup>+</sup>05b, HW03, IEE03, IEE04, IEE05a, IEE05b, IEE05c, IEE06f, IEE06g, IEE06e, IEE06c, IEE06j, IEE07d, IEE07b, IEE07c, IEE07g, IEE07h, IEE07a, IEE07i, IEE08c, IEE08b, IEE09a, J<sup>+</sup>06, LYZ07, L<sup>+</sup>07, L<sup>+</sup>03, LS07, M<sup>+</sup>08, M<sup>+</sup>05, MPW<sup>+</sup>07, N<sup>+</sup>07, NND<sup>+</sup>05, N<sup>+</sup>06, OBB07, R<sup>+</sup>07, Sko05, Soh09, TW07, TLC06, W<sup>+</sup>02, WHS<sup>+</sup>06, YS<sup>+</sup>03, Yu09, ZL06, Z<sup>+</sup>04, A<sup>+</sup>08, ADL09, BC07, yCCZ07, DHX09, Leo04, IEE06i, IEE07f].

**Internet** [H<sup>+</sup>03, IEE04, IEE07i, BFS03, Mas07, TP08, WD04]. **introduction** [dG05]. **inventions** [RR17]. **investigation** [BSV07]. **investment** [Suz04]. **IPDPS** [IEE07g]. **Ireland** [H<sup>+</sup>07]. **ISCIT** [IEE06g]. **Island** [IEE09a]. **isomorphism** [Aug08, BLSV06]. **Italian** [Tud08]. **Italy** [Leo04, NND<sup>+</sup>05]. **Item** [ZZA<sup>+</sup>13]. **ItemRank** [GP07b]. **Iteration** [ALNO07, GGGL10, Bai12, GGL07, GXZ15, GJNC18, HM15, HW21, LLPC23, MDF25, TLZ<sup>+</sup>19, TZWG21, TLD22, WHS17, WHS23, ZWSC25]. **iterative** [DN11, LM04b, OKH<sup>+</sup>13, ZYL05]. **ITI** [LS07].

**J** [WW08]. **January** [ACM08, FYZ06, H<sup>+</sup>03, IEE04, IEE07c]. **Japan** [Bar04, BMY05, IEE04, MPW<sup>+</sup>07]. **Japanese** [OTK06]. **Jeju** [IEE09a]. **Jinan** [M<sup>+</sup>08]. **Joel** [Dje07]. **Joint** [IEE06c, WHS<sup>+</sup>06, WHS<sup>+</sup>06]. **Jordan** [WW08, SC05, Wu08]. **Journal** [BRV06, SPY<sup>+</sup>09, SSPN08]. **journals** [Ber07, BDR10, CCLL14a, CCLL14b]. **Julia** [PKDM21]. **July** [BMY05, FG07, H<sup>+</sup>05b, IEE06c, IEE06j, IEE07d, M<sup>+</sup>05, Per06]. **June** [DHX09, IEE03, IEE05b, IEE06k, LL08, LS07, M<sup>+</sup>05, WHS<sup>+</sup>06]. **Juxtaposed** [PCD<sup>+</sup>08].

**Kaohsiung** [YS<sup>+</sup>03]. **Karnataka** [IEE06f]. **Katz** [PKLK09]. **KE'05** [IEE05c]. **Kerkrade** [IEE06j]. **Kernel** [Chu09, Chu07]. **Key** [GWR09, LJR09]. **keyphrase** [LYLz23]. **Keyword** [LW07, LLYW10, SYSB03, WLW07, WLWZ08, BHP04, HHP08]. **Keywords** [Mas07, MS06, ZWXZ12]. **Kirsten** [Dje07]. **Kleinberg** [MRS<sup>+</sup>01]. **Knowledge** [IEE05c, IEE07f, IEE07h, LYZ07, M<sup>+</sup>08, Kru01, Yu09]. **Kong** [ACM01, M<sup>+</sup>05, N<sup>+</sup>06, C<sup>+</sup>06]. **Konkani** [DS23]. **Korea** [J<sup>+</sup>06, N<sup>+</sup>07, Soh09, IEE09a, J<sup>+</sup>06]. **Krylov** [DGR05a, DGR07, WZW10].

**LambdaRank** [YXC<sup>+</sup>11]. **Landmark** [RCM17]. **Language** [IEE05c, IEE06b, IEE07f, LW07, OBB07, Rad06, KL05, KL10]. **Langville** [Dje07, Kap08, IK05, IK06]. **Large** [Arb16, CSLL18, HW23, JB08a, ZW25, BP98, BP12, JW10, SYJ<sup>+</sup>19, Sid08]. **Large-Scale** [CSLL18, JB08a, ZW25, BP98, BP12]. **Largest** [Mol02]. **Larry** [Low09]. **Latency** [WQZD25]. **Latent** [CGW09]. **law** [BC06, Rho10]. **laws** [LSV07]. **layer** [PGRC18a]. **Layered** [WA05]. **layout** [HCW<sup>+</sup>07]. **league** [GMA08]. **Learning** [CGL<sup>+</sup>23, IEE06j, YZZZ08, ZZZL06, RPB06]. **Lecture** [Arb16]. **Leipzig** [Per06]. **Length** [GRP07]. **Letting** [LGL<sup>+</sup>08]. **Level** [KK06, Yan14]. **Library** [Rho10]. **Light** [IEE07a]. **Like** [PMKY23, DN11, YWX<sup>+</sup>07]. **Limit** [BL06a, Vig05]. **Linear** [BL06b, CLC24, GZB04, JB09, DGR05b, MOG06, SCW<sup>+</sup>24]. **lines** [MPG<sup>+</sup>13]. **Linguistic** [LLWH07]. **Link** [CGL<sup>+</sup>23, CON04, DZH<sup>+</sup>04, LKL06, MYWL04, NNH<sup>+</sup>07, RPM07, WG06, ZZB09, BYBC06, CTW<sup>+</sup>02, DHH<sup>+</sup>02, DHH<sup>+</sup>03, EV07, HCW<sup>+</sup>07, IR04, IT09b, IT09a, KBK05, NZJ01]. **Link-Attributes** [MYWL04]. **Link-Based** [LKL06, BYBC06]. **Link-building** [CGL<sup>+</sup>23]. **Link-Sensitive** [ZZB09]. **linked** [Pag01]. **Links** [Guo07, HLF10, AL06b, KL05, KL10, MM04, MH05]. **Lists** [WG06]. **lives** [Lev11b]. **Local** [ACL06, ABC<sup>+</sup>07, ACL07a, ABC<sup>+</sup>08b, ACL08, AKL18, BYM08a, BYM08b, CGS04, Chu09, GvdHL20, KYO<sup>+</sup>06, AC07, BS23, FBFM07, LSXL17a, LSXL17b, WWG<sup>+</sup>22]. **Localization** [ZLL<sup>+</sup>21, GPR13, YJZZ23]. **locally** [ACL07b, ABC<sup>+</sup>08a, WMC13]. **locating** [SSPN08]. **log** [MRS<sup>+</sup>01, VLD07]. **log-log** [VLD07]. **logic** [WMC13]. **Long** [IEE07g]. **look** [Rho10]. **louder** [Dje07]. **Louisiana** [C<sup>+</sup>01]. **Low**

[BIG13, WQZD25, BCS05, SHC<sup>+</sup>19]. **Low-Degree** [BIG13]. **Low-Latency** [WQZD25]. **low-rank** [BCS05, SHC<sup>+</sup>19]. **lower** [FRCS05]. **Lumping** [MV18, LSW09]. **Luoyang** [OBB07].

**MAAOR** [MV18]. **Macau** [M<sup>+</sup>05]. **machine** [RPB06]. **main** [N<sup>+</sup>06]. **make** [BSV04]. **Man** [Bah01]. **Management** [WPZ08, CCLL14a, OTM03]. **Mantissa** [GCF<sup>+</sup>20]. **mapping** [Ano11]. **MapReduce** [AM21, OKH<sup>+</sup>13]. **March** [Bar04, IEE07g, IEE09b]. **marker** [WKK<sup>+</sup>12]. **marketing** [Per06]. **Markov** [DMM<sup>+</sup>08, LM05b, LM06a, LM05c, Mas05, WA05]. **Marriott** [L<sup>+</sup>07]. **mass** [ALP07]. **Masses** [BMSV18]. **Massive** [BMSV18, EKU22, CZR20, LRU14, YSX<sup>+</sup>20]. **Massively** [HCWW21]. **matching** [GMS05]. **math** [Wi06]. **Mathematical** [IW06, BB05]. **Mathematics** [DIL<sup>+</sup>19, Pit19, Reb12a]. **Mathématiques** [RSA09b]. **matrices** [DN11]. **Matrix** [Col02, Mol02, GXZ15, HSC07, Kir06, LSW09, MRS<sup>+</sup>01, NP09a, NP09b, NP09c, Naz10, SC05, SZ10, WHS17, WHS23, WW08, Wu08, XZ09]. **Mauritius** [IEE07i]. **Mauritius** [IEE06h]. **Maximizing** [dKNvD08]. **May** [ACM01, Ano02, Bar03, yCCZ07, Gho04, HW03, IEE07b, IEE07i, Tom03, TLC06, ZL06]. **MCL** [IEE06h]. **Mean** [AKL18, FBFM07, Hig05]. **means** [BDR09]. **Measure** [AB06, BGH<sup>+</sup>04, CG15, LKL06, ATV16, JW02]. **measured** [GCFG10, YH09a]. **measurement** [PPM<sup>+</sup>17, YH09b]. **Measures** [DS23]. **Measuring** [Ber07, Din14, LY08, MD19]. **Media** [FYZ06, NND<sup>+</sup>05, ZSW06]. **Medical** [D<sup>+</sup>07]. **medicine** [Per06]. **Meet** [LSCY23]. **memory** [WWZ19]. **Merchants** [Mas07]. **Metabolic** [BIG13]. **Method** [BIG13, Col02, KL07, LEA15, Mas07, Pag01, QZLL24, Bai12, BP22, CCLL14b, DWH<sup>+</sup>15, HGW24, LYLz23, Lof14, MT20, PCD<sup>+</sup>08, PCD15, SPLW17, SLF<sup>+</sup>11, SSCW22, SCW<sup>+</sup>24, Tan17, TLZ<sup>+</sup>19, Tud08, YYN12, ZHWS16, ZWSC25]. **Methods** [ALNO07, DGR05a, Din14, HW23, IO18, KHMG03b, MV18, Ped07, Rad06, AEA25, BFS03, BBJ25, Bou25, BRZSC05, CGS04, CRZT20, DN11, DGR07, HM15, KHG04a, LG10, Sid08, TZWG21, ZYL05]. **Metodi** [Tud08]. **metric** [PPM<sup>+</sup>17]. **metrics** [Cii10, DNB02, NIC06]. **Mexico** [IEE08a]. **Meyer** [Dje07, IK05, IK06, Kap08]. **MFPIO** [ZWSC25]. **Microarray** [WZW10, MBHG05]. **Middleware** [IEE07c]. **millions** [MPG<sup>+</sup>13]. **minimal** [GP06, GP07a]. **minimization** [BRZ07]. **Mining** [Bar03, C<sup>+</sup>06, H<sup>+</sup>05a, LRU14, R<sup>+</sup>07, SHH07, SWT08, TP08, WZW10, YWGC11, GWR09, LJR09, Per06, dG05]. **Mirror** [Naz10]. **missing** [AG04]. **mixing** [Mas05]. **MixPR** [Guo07]. **MMM2006** [FYZ06]. **MMSP** [IEE07e]. **Mobile** [WHS<sup>+</sup>06, PCD15]. **Model** [CGW09, GZ08, IO18, SHH07, TP08, WPZ08, WA05, YLB07, ZZA<sup>+</sup>13, AGN06, BS23, CM08, CZR20, CSC10, CG07, KA11, WXYM07, YAI<sup>+</sup>04, ZjRZ<sup>+</sup>10, ZMW<sup>+</sup>18]. **modeled** [AEA25]. **Modeling** [FYZ06]. **Modeling** [BFS03, LEA15, ZXLL10, BB05]. **models** [A<sup>+</sup>08, ADL09, BDR09, BC07, yCCZ07, KL05, KL10, Leo04, VDL07]. **Modifications** [MRS<sup>+</sup>01]. **modified** [JW10, KA11, MDF25]. **monotone** [DLS08]. **Montbéliard** [IEE05a]. **Montbéliard-Sochaux** [IEE05a]. **Monte** [ALNO07, Lof14]. **Morne** [IEE06h, IEE07i]. **Moves** [DMS06]. **MR2179674** [WW08]. **MS** [CCLL14b]. **MuIti** [FYZ06]. **Multi-Media** [FYZ06]. **Multi** [CLC24, CHH12, LWZX08, NND<sup>+</sup>05, GJNC18, MDF25, PPM<sup>+</sup>17, SHL<sup>+</sup>25, WHS23, ZSZ05]. **Multi-channel** [NND<sup>+</sup>05]. **Multi-commodity** [CHH12]. **Multi-document** [LWZX08, ZSZ05]. **multi-faceted** [PPM<sup>+</sup>17]. **Multi-Linear**

- [CLC24]. **multi-step**  
[GJNC18, MDF25, SHL<sup>+</sup>25, WHS23].
- Multicore** [KSM12]. **multidimensional**  
[CCLL14a, ZLC<sup>+</sup>22]. **Multilevel**  
[DMM<sup>+</sup>08]. **Multilinear**  
[GLY14, GLY15, LLVX20, BBJ25, Bou25,  
BP22, CRZT20, Guo20, HW21, KBK05,  
LLPC23, LLNV17, MP18, ZWSC25].
- Multimedia** [IEE07e, TMPP05, YC05].  
**multimedia-semantic** [TMPP05].
- Multinomial** [IO18]. **Multiple**  
[LEA15, WWJ12, CG07, SSCW22].
- Multiplex**  
[HMPB13, PGRC18b, TVY21, PGRC18a].
- multisplitting** [HM15]. **multistage**  
[LGZ07]. **multithreading** [KG07].
- mutation** [YJZZ23].
- N** [Dje07, Kap08]. **Nash** [CTWZ09].
- National** [IEE06f, GMA08]. **Natural**  
[IEE05c, IEE07f]. **navigational** [EV07].
- Nebraska** [R<sup>+</sup>07]. **Net** [CC07].
- Netherlands** [IEE06j]. **Network** [BIG13,  
IEE05a, IEE07i, IO18, LW07, MLZ<sup>+</sup>24,  
NWyY07, WZP<sup>+</sup>14, ZOZG07, AOTV12,  
CTWZ09, PDMW06, PCD<sup>+</sup>08, WXYM07,  
WKK<sup>+</sup>12, YAI<sup>+</sup>04, YSX<sup>+</sup>20, ZXLL10].
- Network-Based** [IEE05a, WKK<sup>+</sup>12].
- Networking**  
[Bar04, FG07, IEE07b, IEE08b]. **Networks**  
[BGJ06, CC07, CG15, D<sup>+</sup>07, FG07, Gho04,  
IEE06c, LSCY23, LLYW10, SYSB03,  
WHS<sup>+</sup>06, ZW25, ATV16, AL06a, BOC22,  
BS23, CXLH10, DYFC09, Din11a, Din11b,  
FRJ08, Fia12, FF07, GWR09, GPR13,  
Kam10, LJR09, Lin08, MD19, MTF04,  
NJFD14, PCD15, SZ10, SYYW03, TVY21,  
YZTF24]. **Neural**  
[CC07, IEE06c, LSCY23, MLZ<sup>+</sup>24, YZTF24].
- Newly** [KOK03]. **Niagara** [IEE07b].
- Nibble** [PWZW15]. **Nine** [Mac12].
- Nineteenth** [ACM08]. **NLP**  
[IEE05c, IEE07f]. **NLP-KE** [IEE07f].
- NLP-KE'05** [IEE05c]. **NN** [XLC20]. **no**  
[WW08]. **Node**  
[CGL<sup>+</sup>23, WW23, MM04, Pag01]. **Nodes**  
[BIG13, IS08, NWyY07, AOTV12, GWR09,  
IS07, LJR09, TVY21]. **Non**  
[AHN19, EKU22, DLS08, ZW25, BS23].
- Non-backtracking** [AHN19, ZW25].
- Non-Blocking** [EKU22]. **non-local** [BS23].
- Non-monotone** [DLS08]. **Note**  
[GK11, Gro15, SW06, WHS17]. **Notes**  
[Arb16]. **Novel** [LKL06, ZL08, IR04].
- November** [A<sup>+</sup>08, H<sup>+</sup>05a, IEE05c, L<sup>+</sup>07,  
N<sup>+</sup>07, NND<sup>+</sup>05, Soh09]. **NS** [L<sup>+</sup>03].
- number** [LM12]. **Numerical**  
[Kam10, MOG06, Tud08]. **numerici** [Tud08].
- O-efficient** [CGS02]. **ObjectRank**  
[BHP04]. **objects** [YC05]. **Oct** [IEE06g].
- October**  
[Bah01, IEE05c, IEE06d, IEE07e, IEE07h,  
Leo04, M<sup>+</sup>08, MPW<sup>+</sup>07, R<sup>+</sup>07, YS<sup>+</sup>03]. **Off**  
[SHC<sup>+</sup>19]. **Off-diagonal** [SHC<sup>+</sup>19]. **Ohio**  
[IEE05b]. **Old** [DMS06]. **Omaha** [R<sup>+</sup>07].
- One**  
[ALNO07, JB09, LM12, WTS<sup>+</sup>08, Wu08].
- ONLINE** [IEE07i]. **only** [BC06]. **Ontario**  
[IEE07b]. **open** [YAI<sup>+</sup>04]. **Opportunity**  
[BIG13]. **Optimal** [LG10, SBC<sup>+</sup>06].
- Optimization** [OKH<sup>+</sup>13]. **Optimized**  
[EKU22]. **OR/MS** [CCLL14b]. **Order**  
[HW23, PBMW98, PBMW99, KBK05,  
MP07, Mol02, WMC13]. **Ordering** [JZ07].
- Ordinal** [WI09]. **Organizations** [WHS<sup>+</sup>06].
- Organizing** [SZ07, Kam10]. **Oriented**  
[WHS<sup>+</sup>06]. **Orlando** [H<sup>+</sup>03]. **Orleans**  
[C<sup>+</sup>03, C<sup>+</sup>01]. **orthogonalization**  
[SCW<sup>+</sup>24]. **our** [Lev11b]. **outcome**  
[WKK<sup>+</sup>12]. **Outer**  
[GGGL10, Bai12, GGL07, TLZ<sup>+</sup>19].
- Outlink** [AG04]. **outlinks** [dKNvD08].
- outperform** [FSZB15]. **Outsmarting**  
[BB11]. **outsourcing** [YZC<sup>+</sup>19].
- Over-sampling** [MK19].
- P2P**

[H<sup>+</sup>07, IEE07i, SSB03, SYSB03, SYYW03].

**P2PSA** [IEE07i]. **Page**

[Guo07, GRP07, NNH<sup>+</sup>07, QX10, SWT08, ZbXF08, HCW<sup>+</sup>07, LGL<sup>+</sup>08, LG10, SYYW03, TZ03, YH09b, Low09, MH05].

**Page-reRank** [MH05]. **PageRank**

[ATV16, BS23, DHH<sup>+</sup>02, Dje07, GLY14, ILLS09, Kap08, WW08, Chu07, GLST17, ITB10, TD11, WTX<sup>+</sup>16, ZXLL10, ZjRZ<sup>+</sup>10, AM21, AG04, AS09, AOTV12, AGN06, AEA25, ASH07b, ASH07a, AHL09, Alt04, Alt05, AT05, ACL06, AC07, ABC<sup>+</sup>07, ACL07a, ACL07b, ABC<sup>+</sup>08b, ACL08, ABC<sup>+</sup>08a, ANTT02, AMM14, AHN19, Aug08, AL06b, AL06a, ALP07, ALNO07, ADN<sup>+</sup>08, ALP08, AKL18, BYBC06, BCG10, Bai12, BOC22, BIG13, BL06a, BYM08a, BYM08b, Bau08, BC06, BCS05, BBJ25, Ber05, Ber06, BGS03, BGS05, BSV04, BSV05b, BSV05a, BLSV06, BSV07, BPSV07, BPSV08, BSV09, BB12, Bou25, BRZSC05, BRZ06, BRZ07, BRZ08, Bri06, BLMP04, BLMP06, BP22, CKS11, CGL<sup>+</sup>23, CATC11, Cha07, CCLL14a, CCLL14b, CM08, CGS02, CGS04, CXMR07, CGW09, CTWZ09, CXLH10, CZR20, CLC24, CS06].

**PageRank**

[Chu09, CTX11, CHH12, CRZT20, CG07, CG10, CNP07, Cut09, DD06, DGR05a, DGR05b, DGR07, DSD09, DPSK06, DHH<sup>+</sup>03, DYFC09, Din11a, Din11b, DS05, DWH<sup>+</sup>15, Dou07, DSZ07, DLL12, EKV22, EV05, FLM<sup>+</sup>05, FRJ08, Fia12, FSZB15, FT17, FRCS05, FBFM07, FF07, FBFM08, FGS11, FCS12, Fra10, Fra11, GWR09, GvdHL20, GPR13, GZB04, GP06, GP07a, GGGG07, GGGL10, GCFG10, GLY15, Gle15, GG06, GMA08, GGL07, GK11, Gro15, GCF<sup>+</sup>20, GXZ15, GW17, GJSC18, GJNC18, GLC22, GRP07, GZ08, Guo20, GPC08, HMPB13, HHY06, HG11, Hav02, HKJ03, Hav03, Hig05, HCWW21, HWH<sup>+</sup>21, HGW24, HQYfZ06, HM15, HW21, HW23, HMC12, HCH07b, HCH07a, IO18, IK05,

IK06, IW06, IS07, IS08, IT08a, IT08b, IT09b, ITBD09, IT09a, IT10, JB09, JZM<sup>+</sup>09, JWSG22, JB08b, JB08a, KYO<sup>+</sup>06, KT08, KHMG03a, KHMG03b]. **PageRank** [KHG04a, KL07, KA11, KL02, KCN07, KG07, KSM12, KL05, KL10, LSXL17a, LSXL17b, LLPC23, LM04a, LM04b, LM05a, LM05b, LM06b, LM06a, LGZ07, hLqL07, LY08, LLNV17, LLVX20, LSCY23, LJR09, Lin08, LSW09, LZ09, LSV07, LSV08, LSVZ09, LWZX08, LCY09, LLYW10, LG10, LYX12, LEA15, LX<sup>+</sup>17, LL24, Lof14, MGZ08, MCW10, MLZ<sup>+</sup>24, MOG06, MAiK14, MK19, MPS12, MR04, MR05, MM04, Mas05, MD19, MBM09, MGM08a, MGM08b, MG10, McS05, MP18, MP07, MV18, MDF25, MT20, MTF04, MBDC15, Miy18, Mol02, NP09a, NP09b, NP09c, Naz10, NWD07, NJFD14, NCJ15, PBMW98, PBMW99, PT08, PMKY23, PRU02, PRU06, PDMW06, PCD<sup>+</sup>08, PCG08, Ped07, PGRC18b, PGRC18a, PKDM21, PWZW15, PKLK09, PCD15, PPM<sup>+</sup>17, Pre02, PHW10, QJT07, QX10, QZLL24, QM06, RCM17, Reb12b, RR17, RPB06, RG12]. **PageRank** [RSA09a, RM05, RM06, RPM07, SSB03, SGP08, SGP11, SMPU15, SC05, SHR14, SLF<sup>+</sup>11, SHC<sup>+</sup>17, SHC<sup>+</sup>19, SSCW22, SCW<sup>+</sup>24, SHL<sup>+</sup>25, SYJ<sup>+</sup>19, Sid08, Sob03, SWT08, SPY<sup>+</sup>09, SW06, Tan17, TMF05, TLZ<sup>+</sup>19, TZWG21, TLD22, TVY21, TP08, UCH03, VS19a, VS19b, Vig05, VLD07, WB09, WD04, WST05, WLW07, WTS<sup>+</sup>08, WLWZ08, WPZ08, WZM10, WMC13, WYW<sup>+</sup>19, WWZ19, WWG<sup>+</sup>22, WW23, WQZD25, WHS17, WHY<sup>+</sup>21, WHS23, WG07b, WG07a, Wil06, WI09, WW07, Wu08, WW10a, WW10b, WWS<sup>+</sup>10, WWJ12, WZW13, XG04, YAI<sup>+</sup>04, YWGC11, Yan14, YJZZ23, YC05, YWX<sup>+</sup>07, YZZZ08, YSX<sup>+</sup>20, YZTF24, YH09a, YH09b, YYN12, YYL07a, YYL07b, ZXZ11, ZYY07, ZQL<sup>+</sup>07, ZL08, ZbXF08, ZZL08, ZHWS16, ZMW<sup>+</sup>18, ZGC18, ZLL<sup>+</sup>21, ZTYZ23, ZW25, ZZB09, ZLC<sup>+</sup>22,

ZWSC25, ZYL05, ZFCY13, ZFCY15, ZSW06, dKNvD08, HLF10, SYSB03, ZQ09]. **PageRank-based** [CNP07, BIG13, AEA25, CTWZ09, FSZB15, FT17]. **PageRank-Inspired** [WQZD25]. **PageRank-Like** [PMKY23]. **PageRanking** [CSC10, KOK03]. **PageRank's** [OC21]. **Pages** [AHL09, CON04, KYO<sup>+</sup>06, KOK03, MYWL04, SHR14, ZWXZ12, KYK09, Tom03, Tud08]. **PageSim** [LKL06]. **pagine** [Tud08]. **Pairwise** [YMZ19]. **Palm** [IEE06b]. **PaperRank** [AB14, ABS21]. **papers** [BDR10, ZMW<sup>+</sup>18, A<sup>+</sup>08]. **paradigm** [Tom03]. **Paradoxical** [BSV04, BSV05b]. **Parallel** [AMM14, BMY05, CATC11, FG07, GZB04, GLST17, HM15, IEE05a, IEE06i, IEE07g, LSXL17a, LSXL17b, MR04, RM05, RM06, YS<sup>+</sup>03, ZLJ18, HCWW21, LFL<sup>+</sup>15, MR05, WG07b, ZTYZ23]. **Parallel/Distributed** [FG07]. **Parallelization** [KSM12, QJT07]. **Parallelizing** [WWZ19, WG07a]. **parameters** [GCFG10]. **parametric** [HSC07]. **PARELEC** [IEE06i]. **Part** [IT08a, IT08b]. **Partially** [HW23]. **particular** [BC06]. **Partition** [RM05, ACL07b, MR05]. **Partition-Based** [RM05, MR05]. **Partitioning** [ACL06, CATC11, CLC24, Chu09, AC07, ACL07a, ACL08]. **patents** [RR17]. **patients** [WKK<sup>+</sup>12]. **Pattern** [LCY09]. **PatternRank** [XLC20]. **patterns** [EV07]. **PC** [MR04]. **Peer** [BMZ07, H<sup>+</sup>07, PDMW06, PCD<sup>+</sup>08, YAI<sup>+</sup>04]. **Peer-to-Peer** [BMZ07, H<sup>+</sup>07, PDMW06, PCD<sup>+</sup>08, YAI<sup>+</sup>04]. **Penalty** [Sob03]. **Penetrating** [YMZ19]. **Penetrating-rank** [YMZ19]. **penicillin** [YKL07]. **Performance** [D<sup>+</sup>07, IEE03, PPM<sup>+</sup>17, SLF<sup>+</sup>11]. **Perron** [MP18]. **Perron-based** [MP18]. **person** [OTM03]. **person-centered** [OTM03]. **personal** [OTM03]. **Personalised** [ZGC18]. **personalization** [EV05, EV07]. **Personalized** [ASH07b, ASH07a, AKL18, GRP07, LSCY23, LWZX08, LL24, MLZ<sup>+</sup>24, PCG08, PL06, VS19a, VS19b, WYW<sup>+</sup>19, AT10, BCG10, BCS05, Ber06, Cha07, CZR20, FRCS05, GPR13, GP06, GP07a, GLST17, GPC08, JW03, Kam10, MAiK14, NCJ15, PGRC18b, WMC13, WTX<sup>+</sup>16, WWZ19, WWG<sup>+</sup>22, YSX<sup>+</sup>20, HCWW21, SYJ<sup>+</sup>19, ZFCY13, ZFCY15]. **Personalizing** [AS09, CNP07, HKJ03]. **Perspective** [PL06]. **perturbation** [ALP08, LLVX20]. **PerturbationRank** [DLS08]. **photo** [ILLS09]. **pinball** [Hig05]. **Pinning** [CXLH10]. **Pitfalls** [BPSV08, BPSV07]. **Placement** [WQZD25]. **Placing** [FGM<sup>+</sup>01]. **play** [CCLL14a]. **playing** [Hig05]. **plex** [Lev11b]. **plot** [VLD07]. **PODS'08** [LL08]. **point** [CRZT20, HW21, LLPC23]. **Poland** [IEE06i]. **polyhedral** [HMC12]. **Polynomial** [SEH14, CG07]. **polynomials** [JWSG22, MT20]. **Portfolio** [MPG<sup>+</sup>13]. **positioning** [DWH<sup>+</sup>15]. **possible** [YKL07]. **potential** [SC05, WW08]. **Power** [HW23, WW07, BC06, LSV07, SSCW22, GJSC18, HWH<sup>+</sup>21, WHY<sup>+</sup>21]. **Power-Arnoldi** [WW07]. **power-GMRES** [SSCW22]. **power-law** [BC06]. **PPI** [WZP<sup>+</sup>14]. **PPRTGI** [MLZ<sup>+</sup>24]. **PR** [AEA25]. **PR-DRA** [AEA25]. **PRO** [Sob03]. **Practical** [EKU22, Zho12]. **Practice** [Din14, CMS10, Lev11a]. **pre** [DWH<sup>+</sup>15]. **pre-positioning** [DWH<sup>+</sup>15]. **Precision** [GCF<sup>+</sup>20]. **Preconditioned** [SCW<sup>+</sup>24, WWJ12, WHS23]. **preconditioner** [SHC<sup>+</sup>19]. **Preconditioning** [SEH14, TD11]. **Predicting** [UCH03]. **Prediction** [GRP07, KL07, FT17, WKK<sup>+</sup>12]. **Predictive** [YKL06]. **preferences** [SPLW17]. **preferential** [BOC22]. **Preparation** [WG06]. **preprocessed** [GJNC18]. **Presentation** [SHR14]. **prestige** [Ber07]. **PRFold** [QZLL24]. **PRFold-TNN** [QZLL24]. **Pride** [PMKY23]. **principal**

[Naz10]. **principle** [ALP07]. **Principles** [LL08]. **prioritization** [SPLW17]. **Prioritizing** [AHL09, PMKY23]. **Probabilistic** [LSV08, BFS03, WMC13]. **Probability** [MCW10]. **Problem** [CG15, DGR05a, GK11, LM05a, SEH14, WWJ12, WZW13, AB14, CSC10, DGR07, HM15, LSXL17a, LSXL17b, MGM08a, MGM08b, NP09b, Naz10, TLZ<sup>+</sup>19, Tud08, TD11, WTS<sup>+</sup>08, Wu08, WW10b]. **problema** [Tud08]. **Problems** [Arb16, GLC22, HW23, GW17, GJSC18, SHC<sup>+</sup>17, SHC<sup>+</sup>19, SCW<sup>+</sup>24, ZHWS16]. **procedures** [BRZ07]. **Proceedings** [Bar04, ACM01, BZ06, C<sup>+</sup>06, FYZ06, FG07, H<sup>+</sup>03, IEE03, IEE04, IEE05a, IEE05b, IEE06f, IEE06h, IEE07b, IEE07g, LYZ07, MPW<sup>+</sup>07, NND<sup>+</sup>05, N<sup>+</sup>06, OBB07, TW07, YS<sup>+</sup>03, ACM08, Ano02, Bar03, C<sup>+</sup>03, C<sup>+</sup>01, DHX09, Gho04, H<sup>+</sup>05a, H<sup>+</sup>07, HW03, IEE05c, IEE06i, IEE06j, IEE07e, IEE07h, IEE08c, IEE08b, IEE09b, LL08, L<sup>+</sup>07, L<sup>+</sup>03, LS07, R<sup>+</sup>07, Sko05, W<sup>+</sup>02, ADL09, BMY05, BC07, yCCZ07, H<sup>+</sup>05b, Leo04, Per06, Z<sup>+</sup>04]. **Processing** [IEE05a, IEE05c, IEE07g, IEE07f, IEE07e, LSXL17a, LSXL17b, OBB07, Rad06, YS<sup>+</sup>03, ZLJ18, CPG11, SJY<sup>+</sup>20]. **Processors** [KSM12]. **product** [JB08b]. **Production** [NND<sup>+</sup>05]. **products** [BDR09]. **Programming** [WMC13]. **progress** [RR17]. **Project** [Rho10]. **Propagation** [LXY<sup>+</sup>17]. **propagational** [Suz04]. **properties** [BRZ06, IW06]. **proposal** [OTM03]. **Protein** [BIG13, DLL12, QZLL24, PWZW15]. **ProteinRank** [WZW13]. **Protocol** [BGJ06]. **Pseudo** [CLC24]. **Pseudo-PageRank** [CLC24]. **publication** [YLL05]. **publications** [WXYM07]. **PubMed** [Lin08]. **push** [WWG<sup>+</sup>22]. **Python** [PKDM21]. **Qingdao** [FG07]. **Quality** [AB06, KYO<sup>+</sup>06]. **Queries** [WYW<sup>+</sup>19, XLC20, GPC08, OKH<sup>+</sup>13, WWZ19]. **Query** [TZ03, CPG11, MPS12]. **Query-sensitive** [TZ03]. **quest** [Mar97]. **quickly** [MAIK14].

**Random** [CG10, FF07, HG11, JP10, MW16, TFP06, YKL06, ZZA<sup>+</sup>13, BS23, CM08, CG07, GCFG10, GMS05, GP07b, KA11, LM05c]. **random-walk** [GP07b]. **randomize** [SBC<sup>+</sup>06]. **Randomized** [IT10, IT08a, IT08b, ITBD09, ITB10, NP09a, NP09b, NP09c]. **Rank** [QX10, SP20, SHR14, WZP<sup>+</sup>14, BCS05, GMA08, MH05, SHC<sup>+</sup>19, Wu08, XZ09, YZC<sup>+</sup>19, YMZ19, KT08, ZGC18]. **rank** [XZ09]. **rank-one** [Wu08]. **Ranking** [Alt04, Alt05, AT05, Ano11, Bol05, Col02, CSLL18, DMS06, DMM<sup>+</sup>08, KYK09, DLS08, PBMW98, PBMW99, PL06, Rob19, SHH07, SWT08, SPY<sup>+</sup>09, Vig09, WXYM07, WI09, WA05, WL07, XLC20, YKL06, ZbXF08, ZZB09, AOTV12, AT10, BYBC06, CTX11, CNP07, DYFC09, Hav03, KHG04b, KL05, LM12, MS05, NMP03, NCJ15, PDSR05, Pag01, RPB06, SP20, SYYW03, SSPN08, TZ03, Tom03, TVY21, Tud08, VDL07, WKK<sup>+</sup>12, ZjRZ<sup>+</sup>10, ZOZG07]. **Rankings** [CWL07, FLM<sup>+</sup>05, FSZB15, LM06b, Dje07, Kap08]. **Rating** [BMZ07, LM12]. **Rational** [BRZ08]. **Re** [SP20, KL05, MH05]. **re-rank** [MH05]. **Re-ranking** [SP20, KL05]. **Reading** [WG06]. **Realtime** [SYJ<sup>+</sup>19, SJY<sup>+</sup>20]. **Receiving** [DLL12]. **Recognition** [QZLL24, ILLS09]. **Recommendation** [QX10, SWT08, ZWXZ12, ZZA<sup>+</sup>13]. **recommender** [GP07b, ZZL08]. **Recommending** [ZL08]. **records** [MRS<sup>+</sup>01]. **reference** [ZSW06]. **referencing** [MS05]. **refined** [CCLL14b]. **Refining** [CCLL14a]. **Regensburg** [TW07]. **Regional** [WQZD25]. **regular** [TLZ<sup>+</sup>19]. **Related** [CON04, CON03, Lin08].

**Relatedness** [ZGC18]. **Relation** [LCY09, Cha07, LSV08]. **Relationship** [LY08]. **relaxed** [AMM14, TZWG21]. **Relevance** [LLWH07, YH09b]. **relevant** [MPG<sup>+</sup>13]. **Reordering** [LM05a, SHL<sup>+</sup>25]. **Repertitioning** [CATC11]. **Reprint** [BP12]. **Reputation** [WPZ08, CTWZ09, HCH07a, MD19, YAI<sup>+</sup>04]. **Requirement** [JZM<sup>+</sup>09]. **requirements** [SPLW17]. **reRank** [MH05]. **Reranking** [Lin08, KL10]. **Research** [C<sup>+</sup>01, DS05, Gho04, MCW10, SC12, WPZ08, YWGC11, ZbXF08]. **researchers** [FT17]. **Residence** [LYX12]. **residual** [Guo20]. **residual-based** [Guo20]. **Resilient** [CWL07]. **Resource** [HHY06, LLWH07, AEA25]. **Restart** [TFP06]. **Restarted** [LEA15, JW10]. **Result** [VS19b]. **Results** [PL06, Rob19, GGGG07]. **Retrieval** [C<sup>+</sup>01, DS05, Lev11a, Rad06, SC12, SWT08, YMZ19, BB05, CMS10, Lin08, MBM09, ZSW06]. **Retrieving** [YC05]. **Revealed** [DLL12]. **reverse** [BYM08a, Hig05, BYM08b]. **Reversely** [WL07]. **Review** [Kap08, Lev11a, CCLL14b, HCH07b, HCH07a]. **Reviews** [Dje07]. **revised** [A<sup>+</sup>08]. **revisited** [Bri06, FGM<sup>+</sup>01]. **reweighted** [YSX<sup>+</sup>20]. **Rider** [SP20]. **Rider-Rank** [SP20]. **Rise** [Dje07]. **Ritz** [JW10]. **Robotics** [IEE06e]. **Robust** [ABC<sup>+</sup>08a, PCD<sup>+</sup>08]. **Role** [VS19a]. **roles** [CCLL14a]. **Rome** [Leo04]. **Routine** [MS06]. **Rules** [PMKY23, Lev10].

**S** [WW08, Guo07]. **SAINT** [H<sup>+</sup>03, IEE04]. **SALSA** [FLM<sup>+</sup>05]. **Sampling** [MRM07, CZR20, MK19]. **San** [ACM08, Bar03, BC07, WHS<sup>+</sup>06]. **Sanya** [IEE08b]. **SAWN** [FG07]. **Scalable** [ZLJ18]. **Scale** [Arb16, CSLL18, JB08a, AL06a, BP98, BP12, LFL<sup>+</sup>15, SJY<sup>+</sup>20, ZXLL10, ZW25]. **scale-free** [AL06a, ZXLL10]. **Scaling** [JW03, FRCS05]. **scenario** [TMPP05]. **Scheduled** [ZFCY15, ZFCY13]. **scheme** [CXLH10]. **schemes** [SSPN08]. **Scholarly** [Din14, Ber07]. **Science** [Dje07, IEE06d, IEE08c, IEE09b, Kap08, Ano11, LM06b, LM12, Wei05]. **Sciences** [Soh09]. **scientific** [BDR09, BDR10, CXMR07, WXYM07, Yan14, ZMW<sup>+</sup>18]. **Scopus** [ABS21]. **Scoring** [NNH<sup>+</sup>07, GP07b]. **sculpting** [Cut09]. **Search** [AB06, CMS10, Dje07, JZ07, JB08a, Kap08, Mas07, PL06, Rob19, SYSB03, SP20, XLC20, YWGC11, ZZB09, BHP04, BB05, BP98, BP12, CPG11, FGM<sup>+</sup>01, Hav03, HHP08, JW03, JB08b, Kam10, LM06b, Mar97, Miy18, MBHG05, PT08, PDMW06, PCD<sup>+</sup>08, WD04, Wil06, YXC<sup>+</sup>11, YZC<sup>+</sup>19, YLL05, ZQL<sup>+</sup>07, Lev11a]. **Search-Ad** [Mas07]. **Searches** [TP08]. **Searching** [BGH<sup>+</sup>04, CC07, MPG<sup>+</sup>13, HCW<sup>+</sup>07]. **Seattle** [IEE03]. **Second** [IEE07a, IEE07i, D<sup>+</sup>07, IEE07i]. **secrets** [Low09]. **securing** [AEA25]. **Segmentation** [GCF<sup>+</sup>20]. **Selection** [QZLL24, YWX<sup>+</sup>07, RCM17, ZLC<sup>+</sup>22, ZFCY15]. **Self** [FG07, AGN06, Kam10, TZ03]. **self-adaptable** [TZ03]. **Self-Assembling** [FG07]. **self-organizing** [Kam10]. **self-validating** [AGN06]. **Semantic** [CGW09, LLWH07, TMF05, TMPP05, ZGC18, MTF04, WL07]. **Semantics** [IEE07h]. **semi** [SPLW17]. **semi-automated** [SPLW17]. **SemRe** [ZGC18]. **SemRe-Rank** [ZGC18]. **sense** [AS09, MTF04]. **Sensing** [IEE08b]. **Sensitive** [ASH07b, ASH07a, CS06, ZZB09, Hav02, Hav03, TZ03, WLJH10]. **sensitivity** [CTWZ09, GGGG07]. **Sensor** [BGJ06]. **Seoul** [J<sup>+</sup>06, Soh09]. **Sept** [H<sup>+</sup>07, IEE06g]. **September** [C<sup>+</sup>01, IEE06i, IEE07f, IEE07a, IEE08c, J<sup>+</sup>06, Sko05, TW07, Z<sup>+</sup>04]. **Sergey** [Low09]. **Serra** [WW08]. **Serra-Capizzano** [WW08]. **Service** [WHS<sup>+</sup>06]. **Services** [Gho04, IEE07i, WHS<sup>+</sup>06]. **Set** [XLC20]. **Sets** [NNH<sup>+</sup>07, YH09a, Yu09]. **setting** [HSC07]. **Seventh** [LL08, R<sup>+</sup>07, H<sup>+</sup>07].



**Several** [TZWG21]. **Shan** [IEE07h]. **Shandong** [M<sup>+</sup>08]. **Shanghai** [yCCZ07]. **shapes** [Lev11b]. **shared** [WWZ19]. **Sharp** [PGRC18b, AC07]. **Shepherd** [Dje07]. **Shepherd-Barr** [Dje07]. **Sheraton** [Ano02, IEE06c]. **Shifted** [SSCW22, WWJ12]. **Shockley** [Dje07]. **Short** [ZWXZ12]. **Short-Text** [ZWXZ12]. **shoulders** [Fra10, Fra11]. **Shurkin** [Dje07]. **SIAM** [ACM08, Bar03, WW08]. **SIGACT** [LL08]. **SIGART** [LL08]. **SIGIR** [C<sup>+</sup>01]. **SIGMOD** [LL08]. **SIGMOD-SIGACT-SIGART** [LL08]. **Signal** [DLL12, IEE07e, Per06]. **Silicon** [L<sup>+</sup>07]. **Similar** [BYKS09, LSV07]. **Similarity** [BGH<sup>+</sup>04, CG15, DS23, LKL06, YMZ19, JW02]. **Simple** [PMKY23, YZTF24, FSZB15]. **simpler** [JWSG22]. **simplified** [AC07]. **SimRank** [CG15, JW02, LFL<sup>+</sup>15, SJY<sup>+</sup>20]. **Simulation** [C<sup>+</sup>03]. **Singapore** [IEE08c, W<sup>+</sup>02, IEE06e, TLC06]. **Single** [WYW<sup>+</sup>19, WW23, SJY<sup>+</sup>20, WWZ19]. **Single-Node** [WW23]. **Single-Source** [WYW<sup>+</sup>19, WWZ19]. **Singular** [JB09, ME11, ALP08, SCW<sup>+</sup>24]. **Site** [CATC11, EV07]. **Site-Based** [CATC11]. **SiteRank** [JZ07]. **SiteRank-Based** [JZ07]. **Sites** [OTK06]. **Six** [IEE06k]. **Sixth** [OBB07, C<sup>+</sup>06, IEE06j, J<sup>+</sup>06, TLC06]. **SKG** [IEE07h]. **slow** [Mas05]. **Small** [MW16]. **Snapshot** [OTK06]. **SNPD** [FG07]. **Sochaux** [IEE05a]. **Social** [IEE07i, Men09, ZZA<sup>+</sup>13, PCD15, YZC<sup>+</sup>19]. **social-based** [PCD15]. **Software** [FG07, IEE06a, IEE07c, NIC06]. **solution** [Sid08]. **Solutions** [WHS<sup>+</sup>06, SHL<sup>+</sup>25]. **solver** [MGM08b]. **Solving** [Arb16, SHC<sup>+</sup>17, SSCW22, SCW<sup>+</sup>24, ZHWS16, WTS<sup>+</sup>08]. **SOR** [GK11]. **SoS4CO** [WHS<sup>+</sup>06]. **Source** [WYW<sup>+</sup>19, SJY<sup>+</sup>20, WWZ19]. **space** [SBC<sup>+</sup>06]. **Spain** [ADL09]. **Spam** [CWL07, OTK06, PHW10, ABC<sup>+</sup>08a, DSZ07, GGMP04]. **Spam-Resilient** [CWL07]. **spammer** [MK19]. **spamming** [YKL07]. **Sparse** [HW23, DGR05b]. **speaks** [Dje07, Low09]. **Special** [IS08, IS07]. **specially** [XZ09]. **specific** [PT08]. **Spectral** [Vig09, RCM17]. **Spectrum** [ZLL<sup>+</sup>21, PGRC18a]. **Spectrum-Based** [ZLL<sup>+</sup>21]. **Split** [MK19]. **Splitting** [JB09, Bou25, GXZ15, GJNC18, HM15, MDF25, WHS17, WHS23]. **splittings** [TLZ<sup>+</sup>19]. **SpmV** [WWS<sup>+</sup>10]. **Spoken** [IEE06b]. **Sports** [SHH07]. **Spread** [LEA15]. **Stable** [NZJ01]. **Stage** [Dje07, LGZ07]. **Stand** [Fra10]. **standing** [Fra11]. **State** [HCH07b, HCH07a, DN11]. **states** [Mas05]. **static** [RPB06]. **stationary** [GGL07, Kir06]. **Statistics** [OTK06]. **Status** [PKLK09, BRV06]. **Steady** [DN11]. **Steady-state** [DN11]. **step** [GXZ15, GJNC18, MDF25, SHL<sup>+</sup>25, WHS17, WHS23, ZQL<sup>+</sup>07]. **Stochastic** [VDL07, DN11, NP09a, NP09b, NP09c, Naz10]. **Strategy** [JZ07, ZXZ11, PT08, SHC<sup>+</sup>17]. **streams** [SGP08, SGP11]. **street** [BS23]. **Structural** [VS19b, JW02, KL05, KL10]. **structural-context** [JW02]. **Structure** [ANTT02, CON04, IO18, Leo41, SZ07, WG06, YWGC11, IT09a, KHM03a, MM04, PRU02, PRU06, PWZW15, dG05]. **structured** [SYYW03]. **structures** [MAiK14]. **Study** [ZLL<sup>+</sup>21, YLL05]. **Sublinear** [BB12]. **Subspace** [DGR05a, WZW10, DGR07]. **subspaces** [Miy18]. **successively** [Wu08]. **Sufficient** [ALNO07]. **summaries** [SBC<sup>+</sup>06]. **Summarization** [CS06, DS23, LLWH07, LWZX08, ZSZ05]. **support** [PCD15]. **Surathkal** [IEE06f]. **Surfer** [HG11, CM08, GCFG10, KA11, NWD07]. **Surfers** [MW16, CG07]. **surfing** [AGN06]. **survey** [Ber05, DNB02]. **SWRank** [WL07]. **Sydney** [H<sup>+</sup>05b, IEE06a]. **Symbolic**

[ZLJ18]. **Symposia** [IEE07b]. **Symposium** [ACM08, H<sup>+</sup>03, IEE03, IEE04, IEE06d, IEE06g, IEE06i, IEE07g, LL08, TLC06]. **Synonym** [BGH<sup>+</sup>04, LLYW10]. **System** [GZB04, WLWZ08, DGR05b, Suz04, WD04, Wei05]. **Systematic** [DLL12]. **Systems** [Bah01, BMY05, D<sup>+</sup>07, IEE05b, IEE07c, IEE07i, IEE09a, JB09, LYZ07, LL08, M<sup>+</sup>08, SYSB03, TW07, W<sup>+</sup>02, Yu09, ZZA<sup>+</sup>13, AEA25, Alt04, Alt05, AT05, AT10, SSB03, SCW<sup>+</sup>24, Sid08, ZZL08].

**Tagging** [Bau08, ZZA<sup>+</sup>13]. **Tail** [LSVZ09]. **Taiwan** [YS<sup>+</sup>03]. **Taking** [Vig05]. **TAMC** [yCCZ07]. **Target** [BIG13, MLZ<sup>+</sup>24]. **Targeted** [CZR20]. **Targets** [YWX<sup>+</sup>07]. **task** [OTM03]. **TC** [HQYfZ06]. **TC-PageRank** [HQYfZ06]. **Teaching** [DMS06]. **teams** [GMA08]. **Technique** [HHY06, YZZZ08, RM06]. **Techniques** [AB06, CATC11, CGS02]. **technological** [RR17]. **Technologie** [RSA09b]. **Technologies** [IEE06g, IEE06j]. **Technology** [BMY05, H<sup>+</sup>05b, IEE06f, IEE06b, IEE08c, J<sup>+</sup>06, LS07, MPW<sup>+</sup>07, N<sup>+</sup>07, OBB07, Sko05, Soh09, WHS<sup>+</sup>06, MBHG05]. **Teleportation** [RG12, GCFG10]. **Temporal** [LSCY23, YLL05]. **Tenth** [ACM01]. **Term** [ZGC18, YH09a]. **Texas** [H<sup>+</sup>05a]. **Text** [CS06, DS23, ZWXZ12, BB05, Lin08, ZSZ05, BYKS09]. **Texts** [DS23]. **TF** [MLZ<sup>+</sup>24]. **TF-Target** [MLZ<sup>+</sup>24]. **Thai** [CS06]. **Thailand** [IEE06g]. **their** [MPG<sup>+</sup>13, MS06]. **Theoretical** [PKLK09, Pre02, WW10b]. **Theories** [IEE07a]. **Theory** [NW<sub>y</sub>Y07, SLF<sup>+</sup>11, yCCZ07]. **thick** [JW10]. **thick-restarted** [JW10]. **thinks** [Lev11b]. **Third** [Bar03, DHX09, IEE07h, W<sup>+</sup>02, Leo04, H<sup>+</sup>05b]. **Three** [GGGG07]. **Throttling** [CWL07]. **Time** [BB12, Fia12, GRP07, LYX12, WW23, Hig05, WB09]. **time-activity-curve** [WB09]. **Time-aware** [Fia12]. **Time-Length** [GRP07]. **TNN** [QZLL24]. **Today** [Mac12]. **Tokyo** [IEE04]. **tool** [SSPN08]. **top** [GPC08, SYJ<sup>+</sup>19]. **top-** [GPC08, SYJ<sup>+</sup>19]. **Topic** [ASH07b, ASH07a, BPSV08, CS06, Din11b, Hav02, Hav03, HQYfZ06, IO18, IR04, NMP03, YWGC11, Yan14, YZC<sup>+</sup>19, BPSV07, WLJH10, ZMW<sup>+</sup>18]. **Topic-based** [Din11b, Yan14, YZC<sup>+</sup>19]. **Topic-Biased** [BPSV08, BPSV07]. **Topic-centric** [IR04]. **topic-dependent** [ZMW<sup>+</sup>18]. **topic-level** [Yan14]. **Topic-Sensitive** [ASH07b, ASH07a, Hav02, Hav03, WLJH10]. **Topical** [WG06, ZL08, ZZL08, ZMW<sup>+</sup>18]. **topically** [KCN07]. **TopicLPRank** [LYLz23]. **TopicRank** [LYLz23]. **topics** [PT08]. **TotalRank** [Bol05]. **Tracking** [GCFG10]. **traffic** [WXYM07]. **Train** [MK19]. **Training** [FG07]. **Transformer** [QZLL24]. **Transition** [MCW10]. **transport** [GWR09, LJR09]. **Traps** [BPSV07, BPSV08]. **tree** [QM06]. **Triangle** [PKDM21]. **Truncated** [HW23]. **TruRank** [Vig05]. **Trust** [KP09, CTX11, HCH07b, HCH07a]. **trust-based** [CTX11]. **trusted** [MH05]. **TrustRank** [GGMP04]. **Tucson** [Bah01]. **Twelfth** [HW03]. **Twenty** [LL08]. **Twenty-Seventh** [LL08]. **twitterers** [WLJH10]. **TwitterRank** [WLJH10]. **Two** [KK06, ZW25, GXZ15, LGZ07, PGRC18a, WHS17]. **two-layer** [PGRC18a]. **Two-Level** [KK06]. **two-stage** [LGZ07]. **two-step** [GXZ15, WHS17]. **Type** [WZW13, GG06, GLC22, Kir06]. **types** [CCLL14a].

**Ulam** [SZ10]. **Un-biasing** [RPM07]. **Under-fitting** [MK19]. **Understanding** [BB05, YLB07]. **undirected** [Gro15, ZTYZ23]. **unified** [CTW<sup>+</sup>02, DHH<sup>+</sup>02, DHH<sup>+</sup>03]. **Uniform** [MRM07, McS05]. **Uniqueness** [FLM<sup>+</sup>05, LLVX20, LLNV17]. **Unit** [LSXL17a, LSXL17b]. **Universal** [FGS11].

**University** [IEE07a, J<sup>+</sup>06, M<sup>+</sup>05, Sko05]. **unreliable** [ITB10]. **Unsupervised** [CSLL18]. **updated** [CCLL14b, Wu08, XZ09]. **Updating** [HW23, IK05, LM04b, LM05b, LM06a, IK06, SHL<sup>+</sup>25]. **Updation** [KT08]. **upon** [Wei05]. **urban** [AOTV12, ATV16, BS23]. **URLs** [BYKS09, AHL09]. **USA** [BC07, C<sup>+</sup>03, C<sup>+</sup>01, ZL06, Bah01, IEE05b, IEE07g, IEE09b, L<sup>+</sup>07]. **Usage** [EV05]. **Usage-based** [EV05]. **usages** [MPG<sup>+</sup>13]. **use** [GP06, GP07a]. **Usefulness** [ASH07b]. **User** [MS06, XLC20, ZZZL06, CKS11]. **users** [LGL<sup>+</sup>08]. **Using** [ACL07b, Bau08, CON04, CS06, Chu09, CHH12, CG07, DSZ07, HHY06, LLWH07, LW07, LLYW10, LEA15, MBHG05, MRM07, NWyY07, PRU02, PRU06, QZLL24, RR17, RG12, TP08, WA05, ZWXZ12, ACL06, ACL07a, ACL08, BS23, CGL<sup>+</sup>23, GMS05, HCW<sup>+</sup>07, HMC12, IO18, KYK09, KBK05, KL05, KL10, LM05c, MPS12, MH05, MRS<sup>+</sup>01, PWZW15, PCD15, SHH07, WXYM07]. **Utility** [KCN07, ZFCY15]. **Utility-based** [ZFCY15].

**validating** [AGN06]. **validation** [BDR09]. **Valley** [L<sup>+</sup>07]. **Value** [ME11, WQZD25, Ber07]. **Values** [KYO<sup>+</sup>06, BC06, CGS04]. **Vancouver** [IEE06c, LL08]. **variant** [HWH<sup>+</sup>21]. **variants** [MDF25, NJFD14]. **Vector** [Sid08, AOTV12, BRZ06, BRZ07, BRZ08, GGGG07, Guo20, Kir06, Ped07]. **Vectors** [ACL06, CHH12, JW10, LLNV17, Zho12]. **verifiable** [YZC<sup>+</sup>19]. **Version** [SHR14]. **versus** [WW10b]. **Vertical** [ZZB09]. **Vertices** [BGH<sup>+</sup>04]. **via** [BLMP04, BLMP06, CGL<sup>+</sup>23, CWL07, CCLL14a, DGR05b, ILLS09, LSW09, MD19, Men09, MT20, Naz10, YSX<sup>+</sup>20, ZLL<sup>+</sup>21, dKNvD08]. **Video** [SHH07]. **Videos** [SHH07]. **View** [LXY<sup>+</sup>17]. **Vision** [IEE06e]. **Visits** [MS06]. **Visual** [SHH07]. **visualization** [DWH<sup>+</sup>15].

**Visualizing** [MS06]. **VisualRank** [JB08a]. **vote** [LGL<sup>+</sup>08]. **vs** [PKLK09]. **VSM** [ZbXF08].

**Waikiki** [Ano02]. **Wakamatsu** [MPW<sup>+</sup>07]. **Walk** [TFP06, ZZA<sup>+</sup>13, GP07b, LM05c]. **Walking** [LFL<sup>+</sup>15]. **walks** [BS23, FF07, GMS05, JP10]. **Wall** [IEE06c]. **was** [Yu09]. **Washington** [IEE03]. **WAW** [A<sup>+</sup>08, ADL09, BC07, Leo04]. **WCICA** [IEE06k]. **Weak** [SHL<sup>+</sup>25, GvdHL20]. **Web** [ACM01, Ano02, BP12, HW03, IEE07i, L<sup>+</sup>07, L<sup>+</sup>03, MYWL04, N<sup>+</sup>06, OBB07, PBMW98, PBMW99, Sko05, Tom03, W<sup>+</sup>02, YXC<sup>+</sup>11, Z<sup>+</sup>04, A<sup>+</sup>08, AGN06, ALP07, ADL09, BC07, GP06, GGMP04, Hig05, ITBD09, ITB10, JP10, JW03, Leo04, LGL<sup>+</sup>08, LG10, MRS<sup>+</sup>01, NZT07, PRU06, PCD<sup>+</sup>08, Per06, SJY<sup>+</sup>20, Tud08, YKL07, AB06, ANTT02, BFS03, BGS03, BGH<sup>+</sup>04, BP98, CWL07, CC07, CTW<sup>+</sup>02, Cli10, CSLL18, DD06, DMM<sup>+</sup>08, DNB02, DZH<sup>+</sup>04, DLLM07, EV05, EV07, Gle15, Guo07, GRP07, HG11, Hav03, HLF10, IR04, KYO<sup>+</sup>06, KHMG03a, KOK03, KYK09, KBK05, Lev10, LKL06, LZ09, MPS12, Mar97, MRM07, MS06, NNH<sup>+</sup>07, NMP03, OTK06, PRU02, PDMW06, PL06, SHR14, SWT08, TZ03, TP08, Tud08, TMPP05, VDL07, WA05, WL07, XLC20, YWGC11, YC05, YKL06, ZZZL06, ZQL<sup>+</sup>07, ZbXF08, ZQ09, ZWXZ12, dG05].

**Web-Based** [HLF10]. **web-graph** [A<sup>+</sup>08, ADL09, BC07, Leo04]. **web-scale** [SJY<sup>+</sup>20]. **webgraph** [GP07a]. **Webpage** [LM05c]. **Webpages** [SP20]. **Webs** [ZjRZ<sup>+</sup>10]. **Website** [LYX12]. **Weighted** [CG15, XG04, Din11a, PDSR05, PWZW15, SCW<sup>+</sup>24, RCM17]. **Who** [LM12]. **WI** [L<sup>+</sup>07, L<sup>+</sup>03, N<sup>+</sup>06, Z<sup>+</sup>04]. **WIC** [L<sup>+</sup>07, L<sup>+</sup>03, N<sup>+</sup>06, Sko05, Z<sup>+</sup>04]. **WICER** [PDSR05]. **Wide** [ACM01, Ano02, DZH<sup>+</sup>04, HW03, LKL06, Tom03]. **Wikipedia** [WG06, ZWXZ12]. **William** [Dje07]. **winning** [FT17]. **Winter** [C<sup>+</sup>03]. **Wireless**

[BGJ06, WHS<sup>+</sup>06]. **without**  
 [Bol05, KL05, KL10, Lin08]. **WMCS**  
 [WHS<sup>+</sup>06]. **word** [AS09, MTF04].  
**WordNet** [TMF05]. **WordRank** [Mas07].  
**words** [Dje07]. **works** [Lev11b]. **Workshop**  
 [D<sup>+</sup>07, FG07, IEE06b, IEE07e, IEE07i,  
 WHS<sup>+</sup>06, A<sup>+</sup>08, ADL09, BC07, DHX09,  
 Leo04]. **Workshops**  
 [IEE04, IEE07b, BZ06, TLC06].  
**Workshops/Symposia** [IEE07b]. **World**  
 [ACM01, Ano02, HW03, IEE06k, IEE09b,  
 Kru01, MW16, Mol02, Low09, Suz04,  
 DZH<sup>+</sup>04, LKL06, Tom03]. **worst** [BSV04].  
**WRI** [IEE09b]. **Writing** [Pit19]. **Wuhan**  
 [IEE05c, IEE07d]. **WWW**  
 [Ano02, CON04, HCW<sup>+</sup>07].

**Xi** [IEE07h]. **Xi'an** [IEE07h]. **XML**  
 [MBM09]. **XRank** [ZZZL06].

**Zebra** [LSCY23]. **zero** [WTS<sup>+</sup>08]. **zero-one**  
 [WTS<sup>+</sup>08]. **Zhengzhou** [IEE07a].

## References

**Aiello:2008:AMW**

[A<sup>+</sup>08] William Anthony Aiello et al., editors. *Algorithms and models for the web-graph: fourth international workshop, WAW 2006, Banff, Canada, November 30–December 1, 2006: revised papers*, volume 4936 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2008. ISBN 3-540-78808-5, 3-540-78807-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2006.

**Ali:2006:ACC**

[AB06] R. Ali and M. M. S. Beg. Aggregating content and connectivity based techniques for measure of Web search quality. In *IEEE [IEE06f]*, pages 44–49. ISBN 1-4244-0716-8. LCCN QA75.5 .I5745 2006eb. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4289832>. IEEE catalog number 06EX1537C.

**Amodio:2014:RAB**

[AB14] Pierluigi Amodio and Luigi Brugnano. Recent advances in bibliometric indexes and the PaperRank problem. *Journal of Computational and Applied Mathematics*, 267(??):182–194, September 2014. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042714001046>.

**Andersen:2007:LCP**

[ABC<sup>+</sup>07] Reid Andersen, Christian Borgs, Jennifer Chayes, John Hopcraft, Vahab S. Mirrokni, and Shang-Hua Teng. Local computation of PageRank contributions. In Bonato and Chung [BC07], pages 150–165. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.

**Andersen:2008:RPL**

- [ABC<sup>+</sup>08a] Reid Andersen, Christian Borgs, Jennifer Chayes, John Hopcroft, Kamal Jain, Vahab Mirrokni, and Shanghua Teng. Robust PageRank and locally computable spam detection features. In ACM, editor, *AIRWeb; Vol. 295 Proceedings of the 4th international workshop on Adversarial information retrieval on the web*, pages 69–76. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-159-3. LCCN ????

**Andersen:2008:LCP**

- [ABC<sup>+</sup>08b] Reid Andersen, Christian Borgs, Jennifer Chayes, John Hopcroft, Vahab Mirrokni, and Shanghua Teng. Local computation of PageRank contributions. *Internet Mathematics*, 5(1–2):23–45, 2008. CODEN ????. ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1259158586>

**Amodio:2021:IPA**

- [ABS21] Pierluigi Amodio, Luigi Brugnano, and Filippo Scarselli. Implementation of the PaperRank and AuthorRank indices in the Scopus database. *Journal of Informetrics*, 15(4):Article 101206, November 2021. CODEN ????. ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157721000778>

**Andersen:2007:DSD**

- [AC07] Reid Andersen and Fan Chung. Detecting sharp drops in PageRank and a simplified local partitioning algorithm. In yi Cai et al. [yCCZ07], pages 1–12. ISBN 3-540-72503-2 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA267.7.T36 2007. URL <http://www.springerlink.com/openurl.asp?genre=issue&issn=0302-9743&volume=4484>.

**Andersen:2006:LGP**

- [ACL06] Reid Andersen, Fan Chung, and Kevin Lang. Local graph partitioning using PageRank vectors. In IEEE [IEE06d], pages 475–486. ISBN 0-7695-2720-5, 0-7695-2362-5. LCCN QA76.S974 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4031383>. IEEE Computer Society order number P2720.

**Andersen:2007:LPD**

- [ACL07a] Reid Andersen, Fan Chung, and Kevin Lang. Local partitioning for directed graphs using PageRank. In Bonato and Chung [BC07], pages 166–178. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.

**Andersen:2007:UPL**

- [ACL07b] Reid Andersen, Fan Chung, and

- Kevin Lang. Using PageRank to locally partition a graph. *Internet Mathematics*, 4(1):35–64, 2007. CODEN ????? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1243430567>. [ADL09]
- [ACM01] ACM, editor. *Conference proceedings: the Tenth International World Wide Web Conference, Hong Kong, May 1–5, 2001*. ACM Press, New York, NY 10036, USA, 2001. ISBN 1-58113-348-0. LCCN TK5105.888 .I573 2001. URL <http://portal.acm.org/toc.cfm?id=511446>.
- [ACM08] ACM, editor. *Proceedings of the Nineteenth Annual ACM-SIAM Symposium on Discrete Algorithms: [San Francisco, CA, January 20–22, 2008]*. ACM Press, New York, NY 10036, USA, 2008. ISBN 0-89871-647-0. LCCN QA76.9.A43 A34 2008.
- [ACL08] Reid Andersen, Fan Chung, and Kevin Lang. Local partitioning for directed graphs using PageRank. *Internet Mathematics*, 5(1–2):3–22, 2008. CODEN ????? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1259158595>. [ADN<sup>+</sup>08]
- [Avrachenkov:2009:AMW] Konstantin E. Avrachenkov, Debora Donato, and Nelly Litvak, editors. *Algorithms and models for the web-graph: 6th international workshop, WAW 2009 Barcelona, Spain, February 12–13, 2009 proceedings*, volume 5427 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 3-540-95995-5, 3-540-95994-7 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2009.
- [Avrachenkov:2008:PBC] Konstantin Avrachenkov, Vladimir Dobrynin, Danil Nemirovsky, Son Kim Pham, and Elena Smirnova. PageRank based clustering of hypertext document collections. In ACM, editor, *Proceedings of the 31st Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*, pages 873–874. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-164-X. LCCN ?????
- [Al-Eiadeh:2025:PDP] Mohammad Ryiad Al-Eiadeh and Mustafa Abdallah. PR-DRA: PageRank-based defense resource allocation methods for securing interdependent systems modeled by attack graphs. *International Journal of Information Security*, 24(1):??, Febru-

ary 2025. CODEN ???? ISSN 1615-5262 (print), 1615-5270 (electronic). URL <https://link.springer.com/article/10.1007/s10207-024-00964-3>.

**Acharyya:2004:OEP**

- [AG04] Sreangsu Acharyya and Joydeep Ghosh. Outlink estimation for PageRank computation under missing data. In ACM, editor, *International World Wide Web Conference Proceedings of the 13th international World Wide Web conference: Alternate track papers & posters*, pages 486–487. ACM Press, New York, NY 10036, USA, 2004. ISBN 1-58113-912-8. LCCN ????

**Akian:2006:PMS**

- [AGN06] Marianne Akian, Stéphane Gaubert, and Laure Ninove. The  $T$ -PageRank: a model of self-validating effects of web surfing. In Christian Commault and Nicolas Marchand, editors, *Positive systems: proceedings of the second Multidisciplinary International Symposium on Positive Systems: Theory and Applications (POSTA 06), Grenoble, France, Aug. 30-31, Sept. 1, 2006*, volume 341 of *Lecture Notes in Control and Information Science*, pages 239–246. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006. ISBN 3-540-34774-7, 3-540-34771-2. LCCN QA402 .M86 2006.

**Alam:2009:FPC**

- [AHL09] Md. Hijbul Alam, Jongwoo Ha,

and Sangkeun Lee. Fractional PageRank crawler: Prioritizing URLs efficiently for crawling important pages early. In Xiaofang Zhou et al., editors, *Proceedings of the 14th International Conference on Database Systems for Advanced Applications*, volume 5463 of *Lecture Notes in Computer Science*, pages 590–594. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 3-642-00886-0. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.D3 I58 2009.

**Arrigo:2019:NBP**

- [AHN19] Francesca Arrigo, Desmond J. Higham, and Vanni Noferini. Non-backtracking PageRank. *Journal of Scientific Computing*, 80(3):1419–1437, September 2019. CODEN JSCOEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL <https://link.springer.com/article/10.1007/s10915-019-00981-8>; <https://link.springer.com/content/pdf/10.1007/s10915-019-00981-8.pdf>.

**Avrachenkov:2018:MFA**

- [AKL18] Konstantin Avrachenkov, Arun Kadavankandy, and Nelly Litvak. Mean field analysis of personalized PageRank with implications for local graph clustering. *Journal of Statistical Physics*, 173(3–4):895–916, November 2018. CODEN JSTPSB. ISSN 0022-4715 (print), 1572-9613 (electronic).

- [AL06a] **Avrachenkov:2006:PSF**  
Konstantin Avrachenkov and Dmitri Lebedev. PageRank of scale-free growing networks. *Internet Mathematics*, 3(2):207–231, 2006. CODEN [ALP08] ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1204906139>■
- [AL06b] **Avrachenkov:2006:ENL**  
Konstantin Avrachenkov and Nelly Litvak. The effect of new links on Google PageRank. *Stochastic Models*, 22(2):319–331, 2006. CODEN CSSME8. ISSN 1532-6349.
- [ALNO07] **Avrachenkov:2007:MCM**  
K. Avrachenkov, N. Litvak, D. Nemirovsky, and N. Osipova. Monte Carlo methods in PageRank computation: When one iteration is sufficient. *SIAM Journal on Numerical Analysis*, 45(2):890–904, February 2007. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/siamjnumeranal2000.bib>.
- [ALP07] **Avrachenkov:2007:DPM**  
Konstantin Avrachenkov, Nelly Litvak, and Kim Son Pham. Distribution of PageRank mass among principle components of the web. In Bonato and Chung [BC07], pages 16–28. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.
- [ALP08] **Avrachenkov:2008:SPA**  
Konstantin Avrachenkov, Nelly Litvak, and Kim Son Pham. A singular perturbation approach for choosing the PageRank damping factor. *Internet Mathematics*, 5(1–2):47–69, 2008. CODEN [ALP08] ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1259158597>.
- [Alt04] **Altman:2004:RSP**  
Alon Altman. Ranking systems: the PageRank axioms. In [ALNO07], volume 05011 of *Dagstuhl seminar proceedings*. Internat. Begegnungs- und Forschungszentrum für Informatik, 2004.
- [Alt05] **Altman:2005:RSPa**  
Alon Altman, editor. *Ranking systems: the PageRank axioms*, page ?? Dagstuhl seminar proceedings 05011. International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2005. ISBN [ALNO07] LCCN [ALNO07] URL <http://drops.dagstuhl.de/opus/volltexte/2005/197/pdf/05011>■ AltmanAlon.Paper.
- [AM21] **Abadeh:2021:DED**  
Maryam Nooraei Abadeh and Mansooreh Mirzaie. DiffPageRank: an efficient differential PageRank approach in MapRe-



- duce. *The Journal of Supercomputing*, 77(1):188–211, January 2021. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL <https://link.springer.com/article/10.1007/s11227-020-03265-3>.
- [AMM14] Josep Arnal, Héctor Migallón, and Violeta Migallón. Parallel relaxed and extrapolated algorithms for computing PageRank. *The Journal of Supercomputing*, 70(2):637–648, November 2014. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL <http://link.springer.com/article/10.1007/s11227-014-1118-9>.
- [Ano02] Anonymous, editor. *Proceedings of the 11th International World Wide Web Conference: Sheraton Waikiki, Honolulu, Hawaii, 7–11 May 2002. WWW 2002. ????*, Honolulu, HI, USA, 2002. ISBN 1-880672-20-0. LCCN ????
- [Ano04] Anonymous. Biography: The Google boys. A&E Television Networks, December 18, 2004. 1 50-minute VHS videocassette.
- [Ano11] Anonymous. [eigenfactor.org](http://www.eigenfactor.org/): Ranking and mapping science. Web site., 2011. URL <http://www.eigenfactor.org/>. Journal impact ranking.
- [ANTT02] Arvind Arasu, Jasmine Novak, Andrew Tomkins, and John Tomlin. PageRank computation and the structure of the Web: Experiments and algorithms. In Anonymous [Ano02], page ?? ISBN 1-880672-20-0. LCCN ???? URL <https://www.math.utah.edu/pub/tex/bib/master.bib>; <http://www2002.org/CDROM/poster/173.pdf>.
- [AOTV12] Taras Agryzkov, Jose L. Oliver, Leandro Tortosa, and Jose F. Vicent. An algorithm for ranking the nodes of an urban network based on the concept of PageRank vector. *Applied Mathematics and Computation*, 219(4):2186–2193, November 1, 2012. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300312008570>.
- [Arb16] Peter Arbenz. *Lecture Notes on Solving Large Scale Eigenvalue Problems*. Computer Science Department, ETH Zürich, Zürich, Switzerland, 2016. vi + 259 pp. URL <https://people.inf.ethz.ch/arbenz/ewp/Lnotes/lsevp.pdf>.
- [AS09] Eneko Agirre and Aitor Soroa. Personalizing PageRank for

- word sense disambiguation. In Alex Lascarides, Claire Gargent, and Joakim Nivre, editors, *Proceedings of the 12th Conference of the European Chapter of the Association for Computational Linguistics: 30 March–3 April 2009, Megaron Athens International Conference Centre, Athens, Greece*, pages 33–41. Association for Computational Linguistics, Morristown, NJ, USA, 2009. ISBN 1-932432-16-7.
- [ASH07a] S. Al-Saffar and G. Heileman. Personalized and topic-sensitive PageRank. In Lin et al. [L<sup>+</sup>07], pages 671–675. ISBN 0-7695-3026-5. LCCN QA76.76.I58; TK5105.888 .I35687 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4427043> IEEE Computer Society order number P3026.
- [ASH07b] Sinan Al-Saffar and Gregory Heileman. Experimental bounds on the usefulness of personalized and topic-sensitive PageRank. In IEEE, editor, *IEEE/WIC/ACM International Conference on Web Intelligence*, pages 671–675. pub-IEEE, pub-IEEE:adr, 2007. ISBN 0-7695-3026-5. LCCN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4427171>.
- [AT05] A. Altman and M. Tennenholtz. Ranking systems: the PageRank axioms. In *EC '05: proceedings of the 6th ACM Conference on Electronic Commerce, Vancouver, Canada, June 5–8, 2005*, pages 1–8. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-049-3. LCCN HF5548.32 .A26 2005.
- [AT10] Alon Altman and Moshe Tennenholtz. An axiomatic approach to personalized ranking systems. *Journal of the ACM*, 57(4):26:1–26:35, April 2010. CODEN JACOAH. ISSN 0004-5411 (print), 1557-735X (electronic).
- [ATV16] Taras Agryzkov, Leandro Tortosa, and Jose F. Vicent. New highlights and a new centrality measure based on the Adapted PageRank Algorithm for urban networks. *Applied Mathematics and Computation*, 291(??):14–29, December 1, 2016. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300316304076>
- [Aug08] Christopher J. Augeri. *On graph isomorphism and the PageRank algorithm*. Ph.D. dissertation, Air Force Institute of Technology, Wright–Patterson Air Force Base, OH, USA, September 2008. xiv + 137 pp. Order Number AAI3338375.

- [Bah01] Terry Bahill, editor. **Bahill:2001:IIC** *2001 IEEE International Conference on Systems, Man and Cybernetics: October 7–10, 2001, Tucson Convention Center, Tucson, Arizona, USA*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2001. ISBN 0-7803-7087-2, 0-7803-7088-0 (microfiche), 0-7803-7089-9 (CD-ROM). LCCN TA168 .I18 2001. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=7658>. IEEE catalog number 01CH37236.
- [Bah12] Zhong-Zhi Bai. On convergence of the inner–outer iteration method for computing PageRank. *Numerical Algebra, Control and Optimization*, 2(4):855–862, 2012. CODEN 2012. ISSN 2155-3289 (print), 2155-3297 (electronic). URL <http://aimsciences.org/article/doi/10.3934/naco.2012.2.855>. **Bai:2012:CIO**
- [Bar03] Daniel Barbará, editor. **Barbara:2003:PTS** *Proceedings of the Third SIAM International Conference on Data Mining: [San Francisco, CA, May 1–3, 2003]*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 2003. ISBN 0-89871-545-8. LCCN QA76.9.D343. URL <http://www.gbv.de/dms/bowker/toc/9780898715453>; <http://www.zentralblatt-math.org/zmath/en/search/?an=1076.68524>.
- [Bar04] Leonard Barolli, editor. **Barolli:2004:ICA** *18th International Conference on Advanced Information Networking and Applications, 2004. AINA 2004, 29–31 March 2004, [Fukuoka, Japan. Proceedings]*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. ISBN 0-7695-2051-0. LCCN TK5105.5 .I5616 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9028>. IEEE Computer Society Order Number P2051.
- [Bau08] Christian Bauckhage. Image tagging using PageRank over bipartite graphs. In Gerhard Rigoll, editor, *Proceedings of the 30th DAGM Symposium on Pattern Recognition*, volume 5096 of *Lecture Notes in Computer Science*, pages 426–435. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2008. ISBN 3-540-69320-3. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN TA1650 .D35 2008. **Bauckhage:2008:ITU**
- [BB05] Michael W. Berry and Murray Browne. **Berry:2005:USE** *Understanding search engines: mathematical modeling and text retrieval*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, sec-

ond edition, 2005. ISBN 0-89871-581-4. xvii + 117 pp. LCCN TK5105.884 .B47 2005.

**Bailyn:2011:OG**

- [BB11] Evan Bailyn and Brad Bailyn. *Outsmarting Google*. Que Corporation, Indianapolis, IN, USA, 2011. ISBN 0-7897-4103-2. xi + 226 pp. LCCN HD9696.8.U64 G6627 2011.

**Borgs:2012:STA**

- [BB12] Christian Borgs and Michael Brautbar. A sublinear time algorithm for PageRank computations. *Lecture Notes in Computer Science*, 7323:41–53, 2012. CODEN LNCS9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL [http://link.springer.com/accesspage/chapter/10.1007/978-3-642-30541-2\\_3](http://link.springer.com/accesspage/chapter/10.1007/978-3-642-30541-2_3); [http://link.springer.com/chapter/10.1007/978-3-642-30541-2\\_4/](http://link.springer.com/chapter/10.1007/978-3-642-30541-2_4/); [http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2\\_4](http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2_4).

**Bentbib:2025:EMM**

- [BBJ25] Abdeslem Hafid Bentbib, Maryam Boubekraoui, and Khalide Jbilou. Extrapolation methods for multilinear PageRank. *Numerical Algorithms*, 98(2):1013–1043, February 2025. CODEN NUALEG. ISSN 1017-1398 (print), 1572-9265 (electronic). URL <https://link.springer.com/article/10.1007/s11075-024-01823-x>.

**Becchetti:2006:DPF**

- [BC06] Luca Becchetti and Carlos Castillo. The distribution of PageRank follows a power-law only for particular values of the damping factor. In ACM, editor, *International World Wide Web Conference Proceedings of the 15th international conference on World Wide Web*, pages 941–942. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-323-9. LCCN ????

**Bonato:2007:AMW**

- [BC07] Anthony Bonato and Fan R. K. Chung, editors. *Algorithms and models for the web-graph: 5th international workshop, WAW 2007, San Diego, CA, USA, December 11-12, 2007: proceedings*, Lecture Notes in Computer Science. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.

**Bahmani:2010:FIP**

- [BCG10] Bahman Bahmani, Abdur Chowdhury, and Ashish Goel. Fast incremental and personalized PageRank. *Proceedings of the VLDB Endowment*, 4(3):173–184, December 2010. CODEN ????. ISSN 2150-8097.

- [BCS05] András A. Benczúr, Károly Csalogány, and Tamás Sarlós. On the feasibility of low-rank approximation for personalized PageRank. In ACM, editor, *Special interest tracks and posters of the 14th international conference on World Wide Web*, pages 972–973. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-051-5. LCCN ????
- [Ber05] Pavel Berkhin. A survey on PageRank computing. *Internet Mathematics*, 2(1):73–120, 2005. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1128530802>.
- [Ber06] Pavel Berkhin. Bookmark-coloring algorithm for personalized PageRank computing. *Internet Mathematics*, 3(1):41–62, 2006. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1175266367>.
- [Ber07] C. Bergstrom. Eigenfactor: Measuring the value and prestige of scholarly journals. *College & Research Libraries News*, 68(??): 5–??, ???? 2007.
- [BDR09] Dario A. Bini, Gianna M. Del Corso, and Francesco Romani. Evaluating scientific products by means of citation-based models: a first analysis and validation. *Electronic Transactions on Numerical Analysis (ETNA)*, 33:1–16, 2008/2009. CODEN ???? ISSN 1068-9613 (print), 1097-4067 (electronic). URL <http://etna.mcs.kent.edu/vol.33.2008-2009/pp1-16.dir/pp1-16.pdf>.
- [BDR10] Dario A. Bini, Gianna M. Del Corso, and F. Romani. A combined approach for evaluating papers, authors and scientific journals. *Journal of Computational and Applied Mathematics*, 234(11):3104–3121, October 1, 2010. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042710000749>.
- [BFS03] Pierre Baldi, Paolo Frasconi, and Padhraic Smyth. *Modeling the Internet and the Web: probabilistic methods and algorithms*. Wiley, New York, NY, USA, 2003. ISBN 0-470-86492-3 (e-book), 0-470-84906-1. xix + 285 pp. LCCN TK5105.875.I57 B35 2003eb.
- [BGH<sup>+</sup>04] Vincent D. Blondel, Anahí Gajardo, Maureen Heymans, Pierre Senellart, and Paul Van Dooren.

- A measure of similarity between graph vertices: Applications to synonym extraction and Web searching. *SIAM Review*, 46(4): 647–666, December 2004. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41596>. [BHP04]
- Bansal:2006:ADC**
- [BGJ06] T. Bansal, P. Ghanshani, and R. C. Joshi. An application dependent communication protocol for wireless sensor networks. In *IEEE [IEE06h]*, page 120. ISBN 0-7695-2552-0. LCCN See. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10841>. IEEE Computer Society order number P2552.
- Bianchini:2003:PWC**
- [BGS03] M. Bianchini, M. Gori, and F. Scarselli. PageRank and Web communities. In Liu et al. [L<sup>+</sup>03], pages 365–371. ISBN 0-7695-1932-6. LCCN QA75.5 .I345 2003. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1241217>
- Bianchini:2005:IP**
- [BGS05] Monica Bianchini, Marco Gori, and Franco Scarselli. Inside PageRank. *ACM Transactions on Internet Technology (TOIT)*, 5(1):92–128, February 2005. CODEN ???? ISSN 1533-5399 (print), 1557-6051 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/toit.bib>. [BK13]
- Balmin:2004:OAB**
- A. Balmin, V. Hristidis, and Y. Papakonstantinou. ObjectRank: Authority-based keyword search in databases. In Mario A. Nascimento, M. Tamer Özsu, Donald Kossmann, Renée J. Miller, José A. Blakeley, and K. Bernhard Schiefer, editors, *Proceedings of the Thirtieth International Conference on Very Large Data Bases: VLDB '04. Toronto, Canada, Aug. 31–Sept. 3, 2004*, pages 564–575. Morgan Kaufmann Publishers, Los Altos, CA 94022, USA, 2004. ISBN 0-12-088469-0 (paperback). LCCN QA76.9.D3 I559 2004.
- Banky:2013:EOL**
- [BIG13] Dániel Bánky, Gábor Iván, and Vince Grolmusz. Equal opportunity for low-degree network nodes: A PageRank-based method for protein target identification in metabolic graphs. *PLoS One*, 8(1): e54204:1–e54204:7, January 2013. CODEN POLNCL. ISSN 1932-6203. URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0054204>.
- Benzi:2013:CAG**
- Michele Benzi and Verena Kulemann. Chebyshev acceleration of the GeneRank algorithm. *Electronic Transactions on Numerical Analysis (ETNA)*, 40:311–320, 2013. CODEN ???? ISSN 1068-9613 (print), 1097-4067 (electronic). URL

<http://etna.mcs.kent.edu/vol.40.2013/pp311-320.dir/pp311-320.pdf>.

**Bao:2006:LPD**

- [BL06a] Ying Bao and Yong Liu. Limit of PageRank with damping factor. *Dynamics of Continuous, Discrete & Impulsive Systems. Series B. Applications & Algorithms*, 13(3-4):497–504, 2006. CODEN DCDIS4. ISSN 1492-8760.

**Bryan:2006:ELA**

- [BL06b] Kurt Bryan and Tanya Leise. The \$25,000,000,000 eigenvector: The linear algebra behind Google. *SIAM Review*, 48(3):569–581, 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/siamreview.bib>.

**Broder:2004:EPA**

- [BLMP04] Andrei Z. Broder, Ronny Lempel, Farzin Maghoul, and Jan Pedersen. Efficient PageRank approximation via graph aggregation. In ACM, editor, *International World Wide Web Conference Proceedings of the 13th international World Wide Web conference: Alternate track papers & posters*, pages 484–485. ACM Press, New York, NY 10036, USA, 2004. ISBN 1-58113-912-8. LCCN ????

**Broder:2006:EPA**

- [BLMP06] A. Z. Broder, R. Lempel, F. Maghoul, and J. Pedersen. Ef-

ficient PageRank approximation via graph aggregation. *Information Retrieval*, 9(2):123–138, March 2006. CODEN IFRTFY. ISSN 1386-4564 (print), 1573-7659 (electronic).

**Boldi:2006:GFG**

- [BLSV06] Paolo Boldi, Violetta Lonati, Massimo Santini, and Sebastiano Vigna. Graph fibrations, graph isomorphism, and PageRank. *Informatique théorique et applications := Theoretical informatics and applications*, 40(2):227–253, 2006. CODEN RSITD7, RI-TAE4. ISSN 0988-3754 (print), 1290-385X (electronic).

**Boldi:2018:BMC**

- [BMSV18] Paolo Boldi, Andrea Marino, Massimo Santini, and Sebastiano Vigna. BUBiNG: Massive crawling for the masses. *ACM Transactions on the Web (TWEB)*, 12(2):12:1–12:26, June 2018. CODEN ????. ISSN 1559-1131 (print), 1559-114X (electronic). URL <https://dl.acm.org/citation.cfm?doid=3176641.3160017>.

**Barolli:2005:ICP**

- [BMY05] Leonard Barolli, Jianhua Ma, and Laurence Tianruo Yang, editors. *11th International Conference on Parallel and Distributed Systems, July 20–22, 2005, Fukuoka Institute of Technology (FIT), Fukuoka, Japan: proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD

- 20910, USA, 2005. ISBN 0-7695-2281-5. LCCN QA76.58 .I576 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10248>. IEEE Computer Society order number P2281. [Bou25]
- [BMZ07] D. Bickson, D. Malkhi, and Lidong Zhou. Peer-to-peer rating. In Hauswirth et al. [H<sup>+</sup>07], pages 211–218. ISBN 0-7695-2986-0. LCCN TK5105.525 .I58 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4343447>. IEEE catalog number PR2986. [BP98]
- [BOC22] Sayan Banerjee and Mariana Olvera-Cravioto. PageRank asymptotics on directed preferential attachment networks. *Annals of Applied Probability*, 32(4):3060–3084, August 2022. CODEN ????? ISSN 1050-5164 (print), 2168-8737 (electronic). URL <https://projecteuclid.org/journals/annals-of-applied-probability/volume-32/issue-4/PageRank-asymptotics-on-directed-preferential-attachment-networks/10.1214/21-AAP1757.full>. [BP12]
- [Bol05] P. Boldi. Totalrank: Ranking without damping. In *Poster Proceedings of the 14th International Conference on the World Wide Web (WWW2005)*, pages 898–899. ACM Press, New York, NY 10036, USA, 2005. [BP22]
- Boubekraoui:2025:ESM**  
Maryam Boubekraoui. Extrapolated splitting methods for multilinear PageRank computations. *Applied Numerical Mathematics: Transactions of IMACS*, 208 (part A)(?):92–103, February 2025. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). URL <https://www.sciencedirect.com/science/article/pii/S0168927423002982>.
- Bickson:2007:PPR**
- Brin:1998:ALS**  
Sergey Brin and Lawrence Page. The anatomy of a large-scale hypertextual Web search engine. *Computer Networks and ISDN Systems*, 30(1–7):107–117, April 1, 1998. CODEN CNISE9. ISSN 0169-7552 (print), 1879-2324 (electronic). URL <http://www.elsevier.com/cas/tree/store/comnet/sub/1998/30/1-7/1921.pdf>.
- Brin:2012:RAL**  
Sergey Brin and Lawrence Page. Reprint of: The anatomy of a large-scale hypertextual Web search engine. *Computer Networks (Amsterdam, Netherlands: 1999)*, 56(18):3825–3833, December 17, 2012. CODEN ????? ISSN 1389-1286 (print), 1872-7069 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1389128612003611>.
- Banerjee:2022:PAD**
- Boldi:2005:TRD**
- Bucci:2022:CMC**  
Alberto Bucci and Federico Poloni. A continuation method



for computing the multilinear PageRank. *Numerical Linear Algebra with Applications*, 29(4): e2432:1–e2432:??, August 2022. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Boldi:2007:TPT**

[BPSV07]

Paolo Boldi, Roberto Posenato, Massimo Santini, and Sebastiano Vigna. Traps and pitfalls of topic-biased PageRank. In David Hutchison, William Aiello, Andrei Broder, Jeannette Janssen, Takeo Kanade, Josef Kittler, Jon M. Kleinberg, Friedemann Mattern, Evangelos Milios, John C. Mitchell, Moni Naor, Oscar Nierstrasz, C. Pandu Rangan, Bernhard Steffen, Madhu Sudan, Demetri Terzopoulos, Doug Tygar, Moshe Y. Vardi, and Gerhard Weikum, editors, *Algorithms and Models for the Web-Graph \$h\$ [Elektronische Ressource]: Fourth International Workshop, WAW 2006, Banff, Canada, November 30–December 1, 2006. Revised Papers*, volume 4936 of *Lecture Notes in Computer Science*, pages 107–116. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-78808-5. URL [http://link.springer.com/chapter/10.1007/978-3-540-78808-9\\_10](http://link.springer.com/chapter/10.1007/978-3-540-78808-9_10).

**Boldi:2008:TPT**

[BPSV08]

Paolo Boldi, Roberto Posenato, Massimo Santini, and Sebastiano Vigna. Traps and pitfalls of

topic-biased PageRank. In Aiello et al. [A<sup>+</sup>08], pages 107–116. ISBN 3-540-78807-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ????

**Brinkmeier:2006:PR**

[Bri06]

Michael Brinkmeier. PageRank revisited. *ACM Transactions on Internet Technology (TOIT)*, 6(3):282–301, August 2006. CODEN ????. ISSN 1533-5399 (print), 1557-6051 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/toit.bib>.

**Bollen:2006:JS**

[BRV06]

Johan Bollen, Marko A. Rodriguez, and Herbert Van de Sompel. Journal status. *Scientometrics*, 69(3):669–687, December 2006. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-006-0176-z>.

**Brezinski:2006:PVP**

[BRZ06]

Claude Brezinski and Michela Redivo-Zaglia. The PageRank vector: properties, computation, approximation, and acceleration. *SIAM Journal on Matrix Analysis and Applications*, 28(2):551–575, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

**Brezinski:2007:EMP**

[BRZ07]

Claude Brezinski and Michela Redivo-Zaglia. Extrapolation and minimization procedures for

- the PageRank vector. In Andreas Frommer, Michael W. Mahoney, and Daniel B. Szyld, editors, *Web Information Retrieval and Linear Algebra Algorithms*, volume 07071 of *Dagstuhl seminar proceedings*, pages 1862–???? International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2007. ISBN ???? URL <http://drops.dagstuhl.de/opus/volltexte/2007/1068/pdf/07071.RedivoZagliaMichela.> Paper.1068. [BS23]
- [BRZ08] C. Brezinski and M. Redivo-Zaglia. Rational extrapolation for the PageRank vector. *Mathematics of Computation*, 77(263):1585–1598, July 2008. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic). URL <http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3/home.html>; [http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.dvi](http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3/S0025-5718-08-02086-3.dvi); [http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.pdf](http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3/S0025-5718-08-02086-3.pdf); [http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.ps](http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3/S0025-5718-08-02086-3.ps); <https://www.math.utah.edu/pub/tex/bib/mathcomp2000.> bib. [BSV04]
- [BRZSC05] Claude Brezinski, Michela Redivo-Zaglia, and Stefano Serra- **Brezinski:2008:REP** Capizzano. Extrapolation methods for PageRank computations. *Comptes Rendus Mathématique. Académie des Sciences. Paris*, 340(5):393–397, 2005. CODEN ???? ISSN 1631-073X. **Bowater:2023:EAP** David Bowater and Emmanuel Stefanakis. Extending the Adapted PageRank Algorithm centrality model for urban street networks using non-local random walks. *Applied Mathematics and Computation*, 446(??):??, June 1, 2023. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300323000577> **Boldi:2004:DYW** Paolo Boldi, Massimo Santini, and Sebastiano Vigna. Do your worst to make the best: Paradoxical effects in PageRank incremental computations. In Leonardi [Leo04], pages 168–180. ISBN 3-540-23427-6. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W695 2004. URL <http://library.ust.hk/cgi/db/springer.scr?0302-9743/3243>; <http://www.loc.gov/catdir/enhancements/fy0823/2004113291-d.html>. **Boldi:2005:PFD** Paolo Boldi, Massimo Santini, and Sebastiano Vigna. PageRank as a function of the damping
- [BRZ08] C. Brezinski and M. Redivo-Zaglia. Rational extrapolation for the PageRank vector. *Mathematics of Computation*, 77(263):1585–1598, July 2008. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic). URL <http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3/home.html>; <http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.dvi>; <http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.pdf>; <http://www.ams.org/mcom/2008-77-263/S0025-5718-08-02086-3.ps>; <https://www.math.utah.edu/pub/tex/bib/mathcomp2000.> bib. **Brezinski:2005:EMP** [BSV05a]

- factor. In ACM, editor, *International World Wide Web Conference Proceedings of the 14th international conference on World Wide Web*, pages 557–566. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-046-9. LCCN ????
- [BSV05b] Paolo Boldi, Massimo Santini, and Sebastiano Vigna. Paradoxical effects in PageRank incremental computations. *Internet Mathematics*, 2(3): 387–404, 2005. CODEN ????. ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1150474888>■
- [BSV07] Paolo Boldi, Massimo Santini, and Sebastiano Vigna. *A deeper investigation of PageRank as a function of the damping factor*, volume 07071 of *Dagstuhl seminar proceedings*, page ????. International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2007. ISBN ????. URL <http://drops.dagstuhl.de/opus/volltexte/2007/1072/pdf/07071.VignaSebastiano.Paper.1072>.
- [BSV09] Paolo Boldi, Massimo Santini, and Sebastiano Vigna. PageRank: Functional dependencies. *ACM Transactions on Information Systems*, 27(4):19:1–19:??, November 2009. CODEN ATISSET. ISSN 1046-8188.
- Baeza-Yates:2006:GPD**
- [BYBC06] Ricardo Baeza-Yates, Paolo Boldi, and Carlos Castillo. Generalizing PageRank: damping functions for link-based ranking algorithms. In ACM, editor, *Annual ACM Conference on Research and Development in Information Retrieval Proceedings of the 29th annual international ACM SIGIR conference on Research and development in information retrieval*, pages 308–315. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-369-7. LCCN ????
- Bidoki:2007:FFI**
- [BYG07] A. M. Z. Bidoki, N. Yazdani, and P. Ghodsnia. FICA: a fast intelligent crawling algorithm. In Lin et al. [L<sup>+</sup>07], pages 635–641. ISBN 0-7695-3026-5. LCCN QA76.76.I58; TK5105.888 .I35687 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4427043>■ IEEE Computer Society order number P3026.
- Bar-Yossef:2009:DCD**
- [BYKS09] Ziv Bar-Yossef, Idit Keidar, and Uri Schonfeld. Do not crawl in the DUST: Different URLs with Similar Text. *ACM Transactions on the Web (TWEB)*, 3(1):3:1–3:??, January 2009. CODEN ????. ISSN 1559-1131 (print), 1559-114X (electronic). URL <https://www.math.utah.edu/pub/tex/bib/tweb.bib>.
- Boldi:2005:PEP**
- Boldi:2007:DIP**
- Boldi:2009:PFD**

- Bar-Yossef:2008:LAPa**
- [BYM08a] Ziv Bar-Yossef and Li-Tal Mashlach. Local approximation of PageRank and reverse PageRank. In ACM, editor, *Proceedings of the 31st annual international ACM SIGIR conference on Research and development in information retrieval*, pages 865–866. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-164-X. LCCN ????
- Bar-Yossef:2008:LAPb**
- [BYM08b] Ziv Bar-Yossef and Li-Tal Mashlach. Local approximation of PageRank and Reverse PageRank. In ACM, editor, *Conference on Information and Knowledge Management Proceeding of the 17th ACM conference on Information and knowledge management*, pages 279–288. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-59593-991-1. LCCN ????
- Barga:2006:IPI**
- [BZ06] Roger S. Barga and Xiaofang Zhou, editors. *ICDE '06: proceedings: 22nd International Conference on Data Engineering workshops: 3–7 April, 2006, Atlanta, Georgia*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2571-7. LCCN QA76.9.D3 I5582 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10810>.
- Croft:2001:PAI**
- [C<sup>+</sup>01] W. Bruce Croft et al., editors. *Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval: New Orleans, Louisiana, USA, September 9–13, 2001*. ACM Press, New York, NY 10036, USA, 2001. ISBN 1-58113-331-6. LCCN QA76.9.D3 I552 2001. ACM order number 606010. Special issue of the SIGIR Forum, **24** (2001).
- Chick:2003:PWS**
- [C<sup>+</sup>03] Stephen E. Chick et al., editors. *Proceedings of the 2003 Winter Simulation Conference: Fairmont Hotel, New Orleans, LA, USA, December 7–10, 2003*. ACM Press, New York, NY 10036, USA, 2003. ISBN 0-7803-8131-9. LCCN QA76.5 .56 2003; QA76.9.C65 .W56 2003. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8912>. ACM Order Number 578030. IEEE catalog number 03CH37499.
- Clifton:2006:SIC**
- [C<sup>+</sup>06] Christopher Wade Clifton et al., editors. *Sixth International Conference on Data Mining: ICDM 2006: proceedings: 18–22 December, 2006, Hong Kong*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2702-7. LCCN QA76.9.D343

- I133 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4053012>. IEEE Computer Society order number P2701.
- [CATC11] Ali Cevahir, Cevdet Aykanat, Ata Turk, and B. Barla Cambazoglu. Site-based partitioning and repartitioning techniques for parallel PageRank computation. *IEEE Transactions on Parallel and Distributed Systems*, 22(5):786–802, May 2011. CODEN ITDSEO. ISSN 1045-9219 (print), 1588-2183 (electronic). URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5482570>
- [CC07] M. Chau and H. Chen. Incorporating Web analysis into neural networks: An example in Hopfield net searching. *IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews*, 37(3):352–358, May 2007. CODEN ???? ISSN 1094-6977.
- [CCLL14a] Brenda Cheang, Samuel Kai Wah Chu, Chongshou Li, and Andrew Lim. A multidimensional approach to evaluating management journals: Refining PageRank via the differentiation of citation types and identifying the roles that management journals play. *Journal of the Association for Information Science and Technology*, 65(12):2581–2591, December 2014. CODEN ???? ISSN 2330-1643 (print), 2330-1643 (electronic).
- [CCLL14b] Brenda Cheang, Samuel Kai Wah Chu, Chongshou Li, and Andrew Lim. OR/MS journals evaluation based on a refined PageRank method: an updated and more comprehensive review. *Scientometrics*, 100(2):339–361, August 2014. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-014-1272-0>.
- [CG07] Paul G. Constantine and David F. Gleich. Using polynomial chaos to compute the influence of multiple random surfers in the PageRank model. In Bonato and Chung [BC07], pages 82–95. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.
- [CG10] P. G. Constantine and D. F. Gleich. Random alpha PageRank. *Internet Mathematics*, 6(2):189–236, ???? 2010. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/euclid.im/1285339073>.

**Chen:2015:AAS**

- [CG15] Hung-Hsuan Chen and C. Lee Giles. ASCOS++: an asymmetric similarity measure for weighted networks to address the problem of SimRank. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 10(2):15:1–15:??, October 2015. CODEN ????? ISSN 1556-4681 (print), 1556-472X (electronic).

**Carchiolo:2023:ENP**

- [CGL<sup>+</sup>23] Vincenza Carchiolo, Marco Grassia, Alessandro Longheu, Michele Malgeri, and Giuseppe Mangioni. Efficient node PageRank improvement via link-building using geometric deep learning. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 17(3):38:1–38:??, April 2023. CODEN ????? ISSN 1556-4681 (print), 1556-472X (electronic). URL <https://dl.acm.org/doi/10.1145/3551642>.

**Chen:2002:ETC**

- [CGS02] Yen-Yu Chen, Qingqing Gan, and Torsten Suel. I/O-efficient techniques for computing PageRank. In ACM, editor, *Conference on Information and Knowledge Management Proceedings of the eleventh international conference on Information and knowledge management*, pages 549–557. ACM Press, New York, NY 10036, USA, 2002. ISBN 1-58113-492-4. LCCN ????

**Chen:2004:LME**

- [CGS04] Yen-Yu Chen, Qingqing Gan, and Torsten Suel. Local methods for estimating PageRank values. In ACM, editor, *Conference on Information and Knowledge Management Proceedings of the thirteenth ACM international conference on Information and knowledge management*, pages 381–389. ACM Press, New York, NY 10036, USA, 2004. ISBN 1-58113-874-1. LCCN ????

**Chen:2009:IPA**

- [CGW09] Xiaoyun Chen, Baojun Gao, and Ping Wen. An improved PageRank algorithm based on latent semantic model. In Xin Li, Wenbin Hu, et al., editors, *Proceedings, 2009 International Conference on Information Engineering and Computer Science: ICIECS 2009, Wuhan China 19–20 December 2009*, pages 1–4. pub-IEEE, pub-IEEE:adr, 2009. ISBN 1-4244-4994-4. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5364637>. IEEE catalog number CFP0990H.

**Chakrabarti:2007:DPP**

- [Cha07] Soumen Chakrabarti. Dynamic personalized PageRank in entity-relation graphs. In ACM, editor, *Proceedings of the 16th international conference on World Wide Web*, pages 571–580. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-654-8. LCCN ????

- [CHH12] **Chung:2012:MCA** Fan Chung, Paul Horn, and Jacob Hughes. Multi-commodity allocation for dynamic demands using PageRank vectors. *Lecture Notes in Computer Science*, 7323:138–152, 2012. CODEN LNCS9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL [http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2\\_11](http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2_11).
- [Chu07] **Chung:2007:HKP** Fan Chung. The heat kernel as the pagerank of a graph. *Proceedings of the National Academy of Sciences of the United States of America*, 104(50):19735–19740, December 11, 2007. CODEN PNASA6. ISSN 0027-8424 (print), 1091-6490 (electronic). URL <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2148367>.
- [Chu09] **Chung:2009:LGP** Fan Chung. A local graph partitioning algorithm using heat kernel PageRank. In Avrachenkov et al. [ADL09], pages 62–75. ISBN 3-540-95994-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ????
- [CKS11] **Cailan:2011:IPA** Zhou Cailan, Chen Kai, and Li Shasha. Improved PageRank algorithm based on feedback of user clicks. In *2011 International Conference on Computer Science and Service System (CSSS)*, pages 3949–3952. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5974627>.
- [CLC24] **Chen:2024:MLP** Yannan Chen, Wen Li, and Jingya Chang. Multi-linear pseudo-PageRank for hypergraph partitioning. *Journal of Scientific Computing*, 99(1):??, April 2024. CODEN JS-COEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL <https://link.springer.com/article/10.1007/s10915-024-02460-1>.
- [Cli10] **Clifton:2010:AWM** Brian Clifton. *Advanced Web metrics with Google Analytics*. Wiley, New York, NY, USA, second edition, 2010. ISBN 0-470-56231-5. xxv + 501 pp. LCCN TK5105.885.G66 C55 2010eb.
- [CM08] **Chebolu:2008:PRS** Prasad Chebolu and Páll Melsted. PageRank and the random surfer model. In ACM [ACM08], pages 1010–1018. ISBN 0-89871-647-0. LCCN QA76.9.A43 A34 2008.
- [CMS10] **Croft:2010:SEI** W. Bruce Croft, Donald Metzler, and Trevor Strohman. *Search engines: information retrieval in practice*. Pearson Education, Boston, MA, USA, 2010. ISBN

- 0-13-136489-8 (paperback). xxv + 524 pp. LCCN TK5105.884 CRO 2010.
- [CNP07] Stefania Costache, Wolfgang Nejdl, and Raluca Paiu. Personalizing PageRank-based ranking over distributed collections. In Anonymous, editor, *Proceedings of the 19th International Conference on Advanced Information Systems Engineering, Lecture Notes in Computer Science*, pages 111–126. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 0-7918-4804-3. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN TA174 .D4623 2007.
- [CON04] **Chirita:2004:FRP**  
P. Chirita, D. Olmedilla, and W. Nejdl. Finding related pages using the link structure of the WWW. In Zhong et al. [Z<sup>+</sup>04], pages 632–635. ISBN 0-7695-2100-2. LCCN QA75.5 .I345 2004 .I429 2004; Q334 .I429 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9689>. IEEE Computer Society order number P2100.
- [Col02] **Colley:2002:CBF**  
W. N. Colley. Colley’s bias free college football ranking method: The Colley matrix explained. Technical report, Princeton University, Princeton, NJ, USA, 2002. URL <http://www.colleyrankings.com/matrate.pdf>.
- [CON03] **Chirita:2003:FRH**  
P.-A. Chirita, D. Olmedilla, and W. Nejdl. Finding related hubs and authorities. In *First Latin American Web Congress, 2003. LA-WEB 2003, Santiago, Chile, November 10–12, 2003. Proceedings*, pages 214–215. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7695-2058-8. LCCN ????
- [CPG11] **Chakrabarti:2011:IDQ**  
Soumen Chakrabarti, Amit Pathak, and Manish Gupta. Index design and query processing for graph conductance search. *VLDB Journal: Very Large Data Bases*, 20(3):445–470, June 2011. CODEN VLDBFR. ISSN 1066-8888 (print), 0949-877X (electronic).
- [CRZT20] **Cipolla:2020:EMF**  
Stefano Cipolla, Michela Redivo-Zaglia, and Francesco Tudisco. Extrapolation methods for fixed-point multilinear PageRank computations. *Numerical Linear Algebra with Applications*, 27(2):e2280:1–e2280:??, March 2020. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).
- [CS06] **Chongsuntornsri:2006:ATT**  
Aekkasit Chongsuntornsri and Ohm Sornil. An automatic Thai text summarization using topic sensitive PageRank. In IEEE [IEE06g], pages 547–552.



- ISBN 0-7803-9741-X. LCCN TK5105; TK5105eb; Internet. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4141445>.
- [CSC10] Antonio Cicone and Stefano Serra-Capizzano. Google PageRanking problem: the model and the analysis. *Journal of Computational and Applied Mathematics*, 234(11): 3140–3169, October 1, 2010. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042710000762>.
- [CSLL18] Yi Cui, Clint Sparkman, Hsin-Tsang Lee, and Dmitri Loguinov. Unsupervised domain ranking in large-scale Web crawls. *ACM Transactions on the Web (TWEB)*, 12(4):26:1–26:??, November 2018. CODEN ???? ISSN 1559-1131 (print), 1559-114X (electronic).
- [CTW<sup>+</sup>02] Zheng Chen, Li Tao, Jidong Wang, Liu Wenyin, and Wei-Ying Ma. A unified framework for Web link analysis. In Wang Ling et al. [W<sup>+</sup>02], pages 63–70. ISBN 0-7695-1766-8. LCCN TA168 .I583 200. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8419>. IEEE Computer Society order number PR01768.
- [CTWZ09] Wei Chen, Shang-Hua Teng, Yajun Wang, and Yuan Zhou. On the  $\alpha$ -sensitivity of Nash equilibria in PageRank-based network reputation games. In Deng et al. [DHX09], pages 63–73. ISBN 3-642-02269-3. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ???? URL <http://www.springerlink.com/content/p1040n9jt618>; <http://www.zentralblatt-math.org/zmath/en/search/?an=1166.68003>.
- [CTX11] Fan Chung, Alexander Tsiatas, and Wensong Xu. Dirichlet PageRank and trust-based ranking algorithms. *Lecture Notes in Computer Science*, 6732:103–114, 2011. CODEN LNCS D9. ISBN 3-642-21285-9 (print), 3-642-21286-7 (electronic). ISSN 0302-9743 (print), 1611-3349 (electronic).
- [Cut09] Matt Cutts. PageRank sculpting. Gadgets, Google, and SEO blog., 2009. URL <http://www.matcutts.com/blog/pagerank-sculpting/>.
- [CWL07] J. Caverlee, S. Webb, and L. Liu. Spam-resilient Web rankings via influence throttling. In IEEE [IEE07g], pages 1–10. ISBN 1-4244-0909-8 (paperback), 1-4244-0910-1 (CD-ROM). LCCN QA76.58

.I586 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4203121>. IEEE catalog number 07TH8938. [D<sup>+</sup>07]

**Chen:2010:PSC**

[CXLH10] Yao Chen, Wenjun Xiong, Jinhu Lu, and D. W. C. Ho. Pinning scheme for complex networks based on PageRank algorithm. In *2010 International Conference on Intelligent Computing and Integrated Systems (ICISS)*, pages 709–712. pub-IEEE, pub-IEEE:adr, 2010. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5657148>.

**Chen:2007:FSG**

[CXMR07] P. Chen, H. Xie, S. Maslov, and S. Redner. Finding scientific gems with Google’s PageRank algorithm. *Journal of Informetrics*, 1(1):8–15, January 2007. ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157706000034>. [DD06]

**Chen:2020:TSM**

[CZR20] Fan Chen, Yini Zhang, and Karl Rohe. Targeted sampling from massive block model graphs with personalized PageRank. *Journal of the Royal Statistical Society. Series B (Statistical Methodology)*, 82(1):99–126, February 2020. CODEN JST-BAJ. ISSN 1369-7412 (print), 1467-9868 (electronic). [dG05]

**Dini:2007:SIC**

Oana Dini et al., editors. *Second International Conference on Systems and Networks Communications: ICSNC 2007, 25–31 August 2007. HPC-Bio 2007: the First International Workshop on High Performance Computing Applied to Medical Data and Bioinformatics*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2938-0. LCCN TK5105.5 I5727 2006e. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4299965>. IEEE Computer Society order number P2938.

**Davis:2006:EGP**

Jason V. Davis and Inderjit S. Dhillon. Estimating the global PageRank of Web communities. In ACM, editor, *International Conference on Knowledge Discovery and Data Mining Proceedings of the 12th ACM SIGKDD international conference on Knowledge discovery and data mining*, pages 116–125. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-339-5. LCCN ????

**daCosta:2005:WSM**

M. G. da Costa, Jr. and Zhiguo Gong. Web structure mining: an introduction. In Meng et al. [M<sup>+</sup>05], page ?? ISBN 0-7803-9303-1. LCCN TA165 .I57 2005. URL <http://ieeexplore.ieee.org/servlet/>

opac?punumber=10894. IEEE catalog number 05EX1134.

**DelCorso:2005:CKS**

- [DGR05a] Gianna M. Del Corso, Antonio Gullí, and Francesco Romani. Comparison of Krylov subspace methods on the PageRank problem. Technical Report TR-05-20, University of Pisa, Pisa, Italy, 2005. ??? pp.

**DelCorso:2005:FPC**

- [DGR05b] Gianna M. Del Corso, Antonio Gullí, and Francesco Romani. Fast PageRank computation via a sparse linear system. *Internet Mathematics*, 2(3):251–273, 2005. CODEN ??? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1150474883>■

**DelCorso:2007:CKS**

- [DGR07] Gianna M. Del Corso, Antonio Gullí, and Francesco Romani. Comparison of Krylov subspace methods on the PageRank problem. *Journal of Computational and Applied Mathematics*, 210(1–2):159–166, 2007. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic).

**Ding:2002:PHU**

- [DHH<sup>+</sup>02] Chris Ding, Xiaofeng He, Parry Husbands, Hongyuan Zha, and Horst D. Simon. Pagerank, HITS and a unified framework for link analysis. In ACM, editor, *Annual ACM Conference on Research and Development in In-*

*formation Retrieval Proceedings of the 25th annual international ACM SIGIR conference on Research and development in information retrieval*, pages 353–354. ACM Press, New York, NY 10036, USA, 2002. ISBN 1-58113-561-0. LCCN ???

**Ding:2003:PHU**

- [DHH<sup>+</sup>03] C. H. Q. Ding, X. He, P. Husbands, H. Zha, and H. D. Simon. PageRank: HITS and a unified framework for link analysis. In Barbará [Bar03], pages 353–354. ISBN 0-89871-545-8. LCCN QA76.9.D343. URL <http://www.gbv.de/dms/bowker/toc/9780898715453>; <http://www.zentralblatt-math.org/zmath/en/search/?an=1076.68524>.

**Deng:2009:FAT**

- [DHX09] Xiaotie Deng, John E. Hopcroft, and Jinyun Xue, editors. *Frontiers in algorithmics. Third international workshop, FAW 2009, Hefei, China, June 20–23, 2009. Proceedings*, volume 5598 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 3-642-02270-7, 3-642-02269-3. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 F39 2009. URL <http://www.springerlink.com/content/p1040n9jt618>; <http://www.zentralblatt-math.org/zmath/en/search/?an=1166.68003>■

- [DIL<sup>+</sup>19] **DiBucchianico:2019:MBD**  
Alessandro Di Bucchianico, Laura Iapichino, Nelly Litvak, Frank van der Meulen, and Ron Wehrens. Mathematics for big data. In Pitici [Pit19], pages 120–131. ISBN 0-691-19835-7, 0-691-19867-5. LCCN QA8.6 .B337 2019.
- [Din11a] **Ding:2011:AWP**  
Ying Ding. Applying weighted PageRank to author citation networks. *Journal of the American Society for Information Science and Technology: JASIST*, 62(2): 236–245, February 2011. CODEN JASIEF. ISSN 1532-2882 (print), 1532-2890 (electronic).
- [Din11b] **Ding:2011:TBP**  
Ying Ding. Topic-based PageRank on author cocitation networks. *Journal of the American Society for Information Science and Technology: JASIST*, 62(3):449–466, March 2011. CODEN JASIEF. ISSN 1532-2882 (print), 1532-2890 (electronic).
- [Din14] **Ding:2014:MSI**  
Ying Ding. *Measuring Scholarly Impact: Methods and Practice*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2014. ISBN 3-319-10376-8 (paperback), 3-319-10377-6 (e-book). xiv + 346 pp. LCCN Z669.8 .M43 2014. URL <http://www.loc.gov/catdir/enhancements/fy1501/2014950682-d.html>; <http://www.loc.gov/catdir/enhancements/fy1501/2014950682-t.html>.
- [Dje07] **Djerassi:2007:BRW**  
Carl Djerassi. Book reviews: When acting speaks louder than words: Science on stage: *From ‘Doctor Faustus’ to ‘Copenhagen’*, by Kirsten Shepherd-Barr. *Google’s PageRank and Beyond: The Science of Search Engine Rankings*, by Amy N. Langville and Carl D. Meyer. *Broken Genius The Rise and Fall of William Shockley, Creator of the Electronic Age*, by Joel N. Shurkin. *Physics Today*, 60(2):63–64, 2007. CODEN PHTOAD. ISSN 0031-9228 (print), 1945-0699 (electronic). URL <http://link.aip.org/link/phtoad/v60/i2/p63/s1>.
- [dKNvD08] **deKerchove:2008:MPO**  
Cristobald de Kerchove, Laure Ninove, and Paul van Dooren. Maximizing PageRank via outlinks. *Linear Algebra and its Applications*, 429(5–6):1254–1276, September 1, 2008. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic).
- [DLL12] **Du:2012:SDS**  
Donglei Du, Connie F. Lee, and Xiu-Qing Li. Systematic differences in signal emitting and receiving revealed by PageRank analysis of a human protein interactome. *PLoS One*, 7(9):e44872:1–e44872:9, September 2012. CODEN POLNCL. ISSN 1932-6203.

URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0044872>.

**Donato:2007:WGH**

- [DLLM07] Debora Donato, Luigi Laura, Stefano Leonardi, and Stefano Millozzi. The Web as a graph: How far we are. *ACM Transactions on Internet Technology (TOIT)*, 7(1):4:1–4:??, February 2007. CODEN ????? ISSN 1533-5399 (print), 1557-6051 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/toit.bib>.

**Leung:2008:PNM**

- [DLS08] Ye Du, James Leung, and Yaoyun Shi. PerturbationRank: A non-monotone ranking algorithm. Technology report, University of Michigan, Ann Arbor, MI, USA, 2008. 10 pp. URL <http://web.eecs.umich.edu/~shiyi/mypapers/DLS08.pdf>.

**DeSterck:2008:MAA**

- [DMM<sup>+</sup>08] H. De Sterck, Thomas A. Mantuffel, Stephen F. McCormick, Quoc Nguyen, and John Ruge. Multilevel adaptive aggregation for Markov chains, with application to Web ranking. *SIAM Journal on Scientific Computing*, 30(5):2235–2262, 2008. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

**DeLong:2006:CAR**

- [DMS06] Colin DeLong, Sandeep Mane, and Jaideep Srivastava. Concept-aware ranking: Teaching an old

graph new moves. In Clifton et al. [C<sup>+</sup>06], pages 80–88. ISBN 0-7695-2702-7. LCCN QA76.9.D343 I133 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4053012>. IEEE Computer Society order number P2701.

**Dayar:2011:SSA**

- [DN11] Tugrul Dayar and Gökçe N. Noyan. Steady-state analysis of Google-like stochastic matrices with block iterative methods. *Electronic Transactions on Numerical Analysis (ETNA)*, 38:69–97, 2011. CODEN ????? ISSN 1068-9613 (print), 1097-4067 (electronic).

**Dhyani:2002:SWM**

- [DNB02] Devanshu Dhyani, Wee Keong Ng, and Sourav S. Bhowmick. A survey of Web metrics. *ACM Computing Surveys*, 34(4):469–503, December 2002. CODEN CMSVAN. ISSN 0360-0300 (print), 1557-7341 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/compsurv.bib>.

**Douglis:2007:ECW**

- [Dou07] Fred Douglis. From the Editor in Chief: What’s your PageRank? *IEEE Internet Computing*, 11(4):3–4, July/August 2007. CODEN IICOFX. ISSN 1089-7801. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4270541>.

- Desikan:2006:DCA**
- [DPSK06] Prasanna Kumar Desikan, Nishith Pathak, Jaideep Srivastava, and Vipin Kumar. Divide and conquer approach for efficient PageRank computation. In ACM, editor, *Proceedings of the 6th international conference on Web engineering*, volume 263, pages 233–240. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-352-2. LCCN ????
- Dominich:2005:PII**
- [DS05] Sándor Dominich and Adrienn Skrop. PageRank and interaction information retrieval: Research articles. *Journal of the American Society for Information Science and Technology*, 56(1):63–69, January 2005. CODEN JASIEF. ISSN 1532-2882 (print), 1532-2890 (electronic).
- DSilva:2023:ISM**
- [DS23] Jovi D’Silva and Uzzal Sharma. Impact of similarity measures in graph-based automatic text summarization of Konkani texts. *ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP)*, 22(2):51:1–51:??, February 2023. CODEN ????. ISSN 2375-4699 (print), 2375-4702 (electronic). URL <https://dl.acm.org/doi/10.1145/3554943>.
- Deng:2009:GEF**
- [DSD09] Kaiying Deng, Tieli Sun, and Jingwei Deng. The general extrapolation formula for acceleration PageRank computa-
- Du:2007:USF**
- [DSZ07] Ye Du, Yaoyun Shi, and Xin Zhao. Using spam farm to boost PageRank. In ACM, editor, *AIRWeb; Vol. 215 Proceedings of the 3rd international workshop on Adversarial information retrieval on the web*, pages 29–36. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-732-3. LCCN ????
- Dong:2015:APP**
- [DWH<sup>+</sup>15] Wenqiang Dong, Fulai Wang, Yu Huang, Guangluan Xu, Zhi Guo, Xingyu Fu, and Kun Fu. An advanced pre-positioning method for the force-directed graph visualization based on PageRank algorithm. *Computers and Graphics*, 47(??): 24–33, April 2015. CODEN COGRD2. ISSN 0097-8493 (print), 1873-7684 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0097849314001277>
- Ding:2009:PRA**
- [DYFC09] Ying Ding, Erjia Yan, Arthur Frazho, and James Caverlee. PageRank for ranking authors
- tions. In IEEE, editor, *FSKD ’09: Sixth International Conference on Fuzzy Systems and Knowledge Discovery (2009)*, volume 7, pages 590–594. pub-IEEE, pub-IEEE:adr, 2009. ISBN 0-7695-3735-9. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5360078>.

- in co-citation networks. *Journal of the American Society for Information Science and Technology*, 60(11):2229–2243, November 2009. CODEN JASIEF. ISSN 1532-2882 (print), 1532-2890 (electronic).
- [DZH<sup>+</sup>04] Chris H. Q. Ding, Hongyuan Zha, Xiaofeng He, Parry Husbands, and Horst D. Simon. Link analysis: Hubs and authorities on the World Wide Web. *SIAM Review*, 46(2):256–268, June 2004. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/38921>.
- [EKU22] Hemalatha Eedi, Sahith Karra, and Rahul Uttoor. An improved/optimized practical non-blocking PageRank algorithm for massive graphs\*. *International Journal of Parallel Programming*, 50(3-4):381–404, August 2022. CODEN IJPPE5. ISSN 0885-7458 (print), 1573-7640 (electronic). URL <https://link.springer.com/article/10.1007/s10766-022-00725-6>.
- [EV05] Magdalini Eirinaki and Michalis Vazirgiannis. Usage-based PageRank for Web personalization. In Han et al. [H<sup>+</sup>05a], pages 130–137. ISBN 0-7695-2278-5. ISSN 1550-4786. LCCN QA76.9.D343 I133 2005. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1565671>. IEEE Computer Society Order Number P2278.
- [EV07] Magdalini Eirinaki and Michalis Vazirgiannis. Web site personalization based on link analysis and navigational patterns. *ACM Transactions on Internet Technology (TOIT)*, 7(4):21:1–21:??, October 2007. CODEN ???? ISSN 1533-5399 (print), 1557-6051 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/toit.bib>.
- [FBFM07] Santo Fortunato, Marián Boguñá, Alessandro Flammini, and Filippo Menczer. On local estimations of PageRank: a mean field approach. *Internet Mathematics*, 4(2–3):245–266, 2007. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1243430608>.
- [FBFM08] Santo Fortunato, Marián Boguñá, Alessandro Flammini, and Filippo Menczer. Approximating PageRank from in-degree. In Aiello et al. [A<sup>+</sup>08], pages 59–71. ISBN 3-540-78807-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ????.
- [FCS12] K. M. Frahm, A. D. Chelianskii, and D. L. Shep-

- elyansky. PageRank of integers. *Journal of Physics A: Mathematical and Theoretical*, 45(40):405101:1–405101:20, October 12, 2012. CODEN JPAMB5. ISSN 1751-8113 (print), 1751-8121 (electronic). URL <http://iopscience.iop.org/1751-8121/45/40/405101>.
- [FF07] Santo Fortunato and Alessandro Flammini. Random walks on directed networks: the case of PageRank. *International journal of bifurcation and chaos in applied sciences and engineering*, 17(7):2343–2353, 2007. CODEN IJBEE4. ISSN 0218-1274.
- [FG07] Wenying Feng and Feng Gao, editors. *Eighth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing: SNPD 2007: [in conjunction with 3rd [i.e. 8th] ACIS International Workshop on Self-Assembling Networks: SAWN 2007]: proceedings: 30 July–1 August 2007, Haier International Training Center, Qingdao, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2909-7. LCCN QA76.758 .I573155. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4287452>. IEEE Computer Society order number P2909.
- [FGM<sup>+</sup>01] Lev Finkelstein, Evgeniy Gabrilovich, Yossi Matias, Ehud Rivlin, Zach Solan, Gadi Wolfman, and Eytan Ruppín. Placing search in context: the concept revisited. In ACM [ACM01], pages 406–414. ISBN 1-58113-348-0. LCCN TK5105.888 .I573 2001. URL <http://portal.acm.org/toc.cfm?id=511446>.
- [FGS11] K. M. Frahm, .B Georgeot, and D. L. Shepelyansky. Universal emergence of PageRank. *Journal of Physics A: Mathematical and Theoretical*, 44(46):465101:1–465101:17, November 18, 2011. CODEN JPAMB5. ISSN 1751-8113 (print), 1751-8121 (electronic). URL <http://stacks.iop.org/1751-8121/44/i=46/a=465101>.
- [Fia12] Dalibor Fiala. Time-aware PageRank for bibliographic networks. *Journal of Informetrics*, 6(3):370–388, July 2012. CODEN ???? ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157712000119>.
- [FLM<sup>+</sup>05] Ayman Farahat, Thomas LoFaro, Joel C. Miller, Gregory Rae, and Lesley A. Ward. Authority rankings from HITS, PageRank, and SALSA: Existence, uniqueness, and effect of



initialization. *SIAM Journal on Scientific Computing*, 27(4): 1181–1201, July 2005. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL [http://epubs.siam.org/volume-27/art\\_41287.html](http://epubs.siam.org/volume-27/art_41287.html).

**Franceschet:2010:PSS**

[Fra10] Massimo Franceschet. PageRank: Stand on the shoulders of giants. Report, Department of Mathematics and Computer Science, University of Udine, Via delle Scienze 206, 33100 Udine, Italy, 2010. 21 pp. URL <http://arxiv.org/pdf/1002.2858>.

**Franceschet:2011:PSS**

[Fra11] Massimo Franceschet. PageRank: standing on the shoulders of giants. *Communications of the ACM*, 54(6):92–101, June 2011. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Fogaras:2005:TSF**

[FRCS05] Dániel Fogaras, Balázs Rácz, Károly Csalogány, and Tamás Sarlós. Towards scaling fully personalized PageRank: algorithms, lower bounds, and experiments. *Internet Mathematics*, 2(3):333–358, 2005. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1150474886>■

**Fiala:2008:PBN**

[FRJ08] Dalibor Fiala, François Rousset, and Karel Ježek. PageRank

for bibliographic networks. *Scientometrics*, 76(1):135–158, May 2008. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-007-1908-4>.

**Fiala:2015:DPB**

[FSZB15] Dalibor Fiala, Lovro Subelj, Slavko Zitnik, and Marko Bajec. Do PageRank-based author rankings outperform simple citation counts? *Journal of Informetrics*, 9(2):334–348, April 2015. CODEN ???? ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157715000267>■

**Fiala:2017:PBP**

[FT17] Dalibor Fiala and Gabriel Tutočky. PageRank-based prediction of award-winning researchers and the impact of citations. *Journal of Informetrics*, 11(4):1044–1068, November 2017. CODEN ???? ISSN 1751-1577 (print), 1875-5879 (electronic). URL <https://www.sciencedirect.com/science/article/pii/S175115771730038X>■

**Feng:2006:IMM**

[FYZ06] Huamin Feng, Shiqiang Yang, and Yueting Zhuang, editors. *The 12th International Multi-Media Modeling Conference proceedings: MMM2006, 4–6 January 2006, Beijing, China*. IEEE Computer Society Press, 1109 Spring Street,

Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0028-7. LCCN QA76.575 .I6526 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10988>. IEEE catalog number: 06EX1249.

**Grutzmacher:2020:APC**

- [GCF<sup>+</sup>20] Thomas Grützmacher, Terry Cojean, Goran Flegar, Hartwig Anzt, and Enrique S. Quintana-Ortí. Acceleration of PageRank with customized precision based on mantissa segmentation. *ACM Transactions on Parallel Computing (TOPC)*, 7(1):4:1–4:19, April 2020. CODEN ???? ISSN 2329-4949 (print), 2329-4957 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3380934>.

**Gleich:2010:TRS**

- [GCFG10] David F. Gleich, Paul G. Constantine, Abraham Flaxman, and Asela Gunawardana. Tracking the random surfer: Empirically measured teleportation parameters in PageRank. In Michael Rappa and Paul Jones, editors, *Proceedings of the 19th International Conference on World Wide Web: Raleigh, North Carolina, USA, April 26–30, 2010*, pages 381–390. ACM Press, New York, NY 10036, USA, 2010. ISBN 1-60558-799-0. LCCN TK5105.888 .I573 2010eb.

**Golub:2006:ATA**

- [GG06] G. H. Golub and C. Greif. An Arnoldi-type algorithm for com-

puting PageRank. *BIT (Nordisk tidskrift for informationsbehandling)*, 46(4):759–771, 2006. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic).

**Gleich:2007:TRP**

- [GGGG07] David Gleich, Peter Glynn, Gene Golub, and Chen Greif. Three results on the PageRank vector: eigenstructure, sensitivity, and the derivative. In A. Frommer, M. W. Mahoney, and D. B. Szyld, editors, *Internationales Begegnungs- und Forschungszentrum für Informatik (IBFI), Schloss Dagstuhl, Germany, Dagstuhl seminar proceedings 07071*, page ???? International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2007. ISBN ???? LCCN ???? URL <http://drops.dagstuhl.de/opus/volltexte/2007/1061/pdf/07071.GleichDavid.Paper.1061>.

**Gleich:2010:IOI**

- [GGGL10] David F. Gleich, Andrew P. Gray, Chen Greif, and Tracy Lau. An inner-outer iteration for computing PageRank. *SIAM Journal on Scientific Computing*, 32(1):349–371, ???? 2010. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

**Gray:2007:IOS**

- [GGL07] Andrew P. Gray, Chen Greif, and Tracy Lau. *An inner,*

- outer stationary iteration for computing PageRank*, volume 07071 of *Dagstuhl seminar proceedings*, page ????. International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2007. ISBN ????. LCCN ????. URL <http://drops.dagstuhl.de/opus/volltexte/2007/1062/pdf/07071.GreifChen.Paper.1062>.
- [GGMP04] Z. Gyöngyi, H. Garcia-Molina, and J. Pedersen. Combating web spam with TrustRank. In Mario A. Nascimento, M. Tamer Özsu, Donald Kossmann, Renée J. Miller, José A. Blakeley, and K. Bernhard Schiefer, editors, *Proceedings of the Thirtieth International Conference on Very Large Data Bases: VLDB '04. Toronto, Canada, Aug. 31–Sept. 3, 2004*, pages 576–587. Morgan Kaufmann Publishers, Los Altos, CA 94022, USA, 2004. ISBN 0-12-088469-0 (paperback), 0-12-722442-4, 0-08-053979-3 (e-book). LCCN QA76.9.D3 I559 2004. URL <http://www.sciencedirect.com/science/article/pii/B9780120884698500528>.
- [Ghorbani:2004:PAC] Ali A. Ghorbani, editor. *Proceedings of the 2nd Annual Communication Networks and Services Research Conference, 19–21 May 2004, Fredericton, New Brunswick*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. ISBN 0-7695-2096-0. LCCN TK5101.A1. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9316>; <http://www.gbv.de/dms/bowker/toc/9780769520964>.
- [GJNC18] Chuanqing Gu, Xianglong Jiang, Ying Nie, and Zhibing Chen. A preprocessed multi-step splitting iteration for computing PageRank. *Applied Mathematics and Computation*, 338(??): 72–86, December 1, 2018. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300318304429>.
- [GJSC18] Chuanqing Gu, Xianglong Jiang, Chenchen Shao, and Zhibing Chen. A GMRES-Power algorithm for computing PageRank problems. *Journal of Computational and Applied Mathematics*, 343(??):113–123, December 1, 2018. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042718301638>.
- [Gho04] Ali A. Ghorbani, editor. *Proceedings of the 2nd Annual Communication Networks and Services Research Conference, 19–21 May 2004, Fredericton, New Brunswick*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. ISBN 0-7695-2096-0. LCCN TK5101.A1. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9316>; <http://www.gbv.de/dms/bowker/toc/9780769520964>.
- [GK11] Chen Greif and David Kurokawa. A note on the convergence of SOR for the PageRank problem. *SIAM Journal on Scientific Computing*, 33(6):3201–3209, ????. 2011. CO-

- DEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL [http://epubs.siam.org/sisc/resource/1/sjoc3/v33/i6/p3201\\_s1](http://epubs.siam.org/sisc/resource/1/sjoc3/v33/i6/p3201_s1). [GLY15]
- Gu:2022:HTA**
- [GLC22] Xian-Ming Gu, Siu-Long Lei, and Bruno Carpentieri. A Hessenberg-type algorithm for computing PageRank problems. *Numerical Algorithms*, 89(4):1845–1863, April 2022. CODEN NUALEG. ISSN 1017-1398 (print), 1572-9265 (electronic). URL <https://link.springer.com/article/10.1007/s11075-021-01175-w>.
- Gleich:2015:PBW**
- [Gle15] David F. Gleich. PageRank beyond the Web. *SIAM Review*, 57(3):321–363, 2015. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).
- Guo:2017:PPP**
- [GLST17] Wentian Guo, Yuchen Li, Mo Sha, and Kian-Lee Tan. Parallel personalized pagerank on dynamic graphs. *Proceedings of the VLDB Endowment*, 11(1):93–106, September 2017. CODEN 2150-8097.
- Gleich:2014:MP**
- [GLY14] D. F. Gleich, L.-H. Lim, and Y. Yu. Multilinear pagerank. *arxiv.org*, arXiv:1409.1465 [cs.NA]:1–33, 2014. URL <http://arxiv.org/pdf/1409.1465v1.pdf>. [GP06]
- Gleich:2015:MP**
- David F. Gleich, Lek-Heng Lim, and Yongyang Yu. Multilinear PageRank. *SIAM Journal on Matrix Analysis and Applications*, 36(4):1507–1541, 2015. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- Govan:2008:GGP**
- [GMA08] Anjela Y. Govan, Carl D. Meyer, and Russell Albright. Generalizing Google’s PageRank to rank national football league teams. In *Proceedings of the SAS Global Forum 2008: March 16–19, 2008, Henry B. Gonzalez Convention Center, San Antonio, Texas*, page ?? SAS Institute, SAS Circle, Box 8000, Cary, NC 27512-8000, USA, 2008. URL <http://www2.sas.com/proceedings/forum2008/151-2008.pdf>. SAS paper 151-2008.
- Gori:2005:EAG**
- [GMS05] M. Gori, M. Maggini, and L. Sarti. Exact and approximate graph matching using random walks. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 27(7):1100–1111, July 2005. CODEN IT-PIDJ. ISSN 0162-8828.
- Gleich:2006:APP**
- David Gleich and Marzia Polito. Approximating personalized PageRank with minimal use of web graph data. *Internet Mathematics*, 3(3):257–294, 2006. CODEN

- ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1204906158> **Gleich:2007:APP**
- [GP07a] D. F. Gleich and M. Polito. Approximating personalized PageRank with minimal use of web-graph data. *Internet Mathematics*, 3(3):257–294, 2007. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/euclid.im/1204906158>. **Gleich:2007:APP** [GPR13]
- [GP07b] Marco Gori and Augusto Pucci. ItemRank: A random-walk based scoring algorithm for recommender engines. In Manuela M. Veloso, editor, *IJCAI-07, proceedings of the Twentieth International Joint Conference on Artificial Intelligence: Hyderabad, India, 6-12 January, 2007*, pages 2766–2771. AAAI Press, Menlo Park, CA, USA, 2007. ISBN 1-57735-298-X. LCCN Q335.5 .I55 2007. URL <http://ijcai.org/papers07/Papers/IJCAI07-444.pdf>. **Gori:2007:IRW** [Gro15]
- [GPC08] Manish Gupta, Amit Pathak, and Soumen Chakrabarti. Fast algorithms for top- $k$  personalized PageRank queries. In ACM, editor, *International World Wide Web Conference Proceeding of the 17th international conference on World Wide Web*, pages 1225–1226. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-085-6. LCCN ???? **Garcia:2013:LPP**
- E. García, F. Pedroche, and M. Romance. On the localization of the personalized PageRank of complex networks. *Linear Algebra and its Applications*, 439(3):640–652, August 1, 2013. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0024379512007835> **Garcia:2013:LPP**
- Vince Grolmusz. A note on the PageRank of undirected graphs. *Information Processing Letters*, 115(6–8):633–634, June/August 2015. CODEN IFPLAT. ISSN 0020-0190 (print), 1872-6119 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0020019015000381> **Grolmusz:2015:NPU**
- [GRP07] Yong Zhen Guo, Kotagiri Ramamohanarao, and Laurence A. F. Park. Personalized PageRank for Web page prediction based on access time-length and frequency. In Lin et al. [L<sup>+</sup>07], pages 687–690. ISBN 0-7695-3026-5. LCCN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4427174>. IEEE Computer Society order number P3026. **Guo:2007:PPW**

**Guo:2007:MAC**

- [Guo07] Ye Guo. MixPR — an approach of combining content and links of Web page[s]. In Lei et al. [LYZ07], pages 456–460. ISBN 1-4244-1210-2, 0-7695-2874-0. LCCN TJ212.2 .I143 2007. URL <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4405869&isYear=2007> (vol. 1); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406026&isYear=2007> (vol. 2); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406182&isYear=2007> (vol. 3); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406334&isYear=2007> (vol. 4). Four volumes. IEEE Computer Society order number P2874.

**Guo:2020:RBE**

- [Guo20] Pei-Chang Guo. A residual-based error bound for the multilinear PageRank vector. *Linear Multilinear Algebra*, 68(3): 568–574, 2020. CODEN LNM-LAZ. ISSN 0308-1087 (print), 1563-5139 (electronic).

**Garavaglia:2020:LWC**

- [GvdHL20] Alessandro Garavaglia, Remco van der Hofstad, and Nelly Litvak. Local weak convergence for PageRank. *Annals of Applied Probability*, 30(1): 40–79, February 2020. CODEN ???? ISSN 1050-5164 (print), 2168-8737 (electronic).

URL <https://projecteuclid.org/euclid.aoap/1582621219>.

**Gu:2017:AIA**

[GW17] Chuanqing Gu and Wenwen Wang. An Arnoldi–Inout algorithm for computing PageRank problems. *Journal of Computational and Applied Mathematics*, 309(??):219–229, January 1, 2017. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042716302606>

**Gao:2009:KNM**

[GVR09] Lianxiong Gao, Jianping Wu, and Liu Rui. Key nodes mining in transport networks based in PageRank algorithm. In *CCDC '09: Chinese Control and Decision Conference (2009)*, pages 4413–4416. pub-IEEE, pub-IEEE:adr, 2009. ISBN ????? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5192339>.

**Gu:2015:TSM**

- [GXZ15] Chuanqing Gu, Fei Xie, and Ke Zhang. A two-step matrix splitting iteration for computing PageRank. *Journal of Computational and Applied Mathematics*, 278(??):19–28, April 15, 2015. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042714004294>

- Guo:2008:IBM**
- [GZ08] Chonghui Guo and Liang Zhang. An improved BA model based on the PageRank algorithm. In IEEE, editor, *WiCOM '08. 4th International Conference on (Online) Wireless Communications, Networking and Mobile Computing, Dalian, China, 12-17 October 2008*, pages 1-4. pub-IEEE, pub-IEEE:adr, 2008. ISBN 1-4244-2107-1. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4680864>.
- Gleich:2004:FPP**
- [GZB04] D. Gleich, L. Zhukov, and P. Berkhin. Fast parallel PageRank: a linear system approach. Technical Report YRL-2004-038, Yahoo! Research, ????, 2004. URL <http://research.yahoo.com/publication/YRL-2004-035.pdf>.
- Helal:2003:SAI**
- [H<sup>+</sup>03] Abdelsalam A. Helal et al., editors. *2003 Symposium on Applications and the Internet: proceedings: Orlando, Florida, January 27-31, 2003. SAINT 2003*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7695-1872-9. LCCN TK5105.875.I57 S95 2003. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8426>.
- Han:2005:FII**
- [H<sup>+</sup>05a] Jiawei Han et al., editors. *Fifth IEEE International Conference on Data Mining. ICDM 2005. 27-30 November 2005, Houston, Texas. Proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2278-5. ISSN 1550-4786. LCCN QA76.9.D343 I133 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10470>. IEEE Computer Society Order Number P2278.
- He:2005:TIC**
- [H<sup>+</sup>05b] Xiangjian He et al., editors. *Third International Conference on Information Technology and Applications (ICITA 2005): 4-7 July 2005, Sydney, Australia: proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2316-1. LCCN T58.5 .I545 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9966>. IEEE Computer Society Order Number P2316.
- Hauswirth:2007:SII**
- [H<sup>+</sup>07] Manfred Hauswirth et al., editors. *Seventh IEEE International Conference on Peer-to-Peer Computing, 2007. P2P 2007. 2-5 Sept. 2007, Galway, Ireland. Proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring,

- MD 20910, USA, 2007. ISBN 0-7695-2986-0. LCCN TK5105.525 .I58 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4343447>. IEEE catalog number PR2986. [HCH07b]
- [Hav02] Taher H. Haveliwala. Topic-sensitive PageRank. In ACM, editor, *International World Wide Web Conference Proceedings of the 11th international conference on World Wide Web*, pages 517–526. ACM Press, New York, NY 10036, USA, 2002. ISBN 1-58113-449-5. LCCN ????. [HCH07a]
- [Hav03] Taher H. Haveliwala. Topic-sensitive PageRank: a context-sensitive ranking algorithm for Web search. *IEEE Transactions on Knowledge and Data Engineering*, 15(4):784–796, July 2003. CODEN ITKEEH. ISSN 1041-4347. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1208999>. [HCH07a]
- [HCH07a] F. K. Hussain, E. Chang, and O. K. Hussain. State of the art review of the existing PageRank based algorithms for trust and reputation computation. In Ramakrishnan et al. [R<sup>+</sup>07], page 43. ISBN 0-7695-3018-4. LCCN QA76.9.D343 I133 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4470209>. IEEE Computer Society order number P3018. [HCH07a]
- [Hussain:2007:SARa] F. K. Hussain, E. Chang, and O. K. Hussain. State of the art review of the existing PageRank based algorithms for trust computation. In Dini et al. [D<sup>+</sup>07], page 75. ISBN 0-7695-2938-0. LCCN TK5105.5 I5727 2006e. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4299965>. IEEE Computer Society order number P2938. [Hussain:2007:SARa]
- [He:2007:CSW] Xiaofei He, Deng Cai, Ji-Rong Wen, Wei-Ying Ma, and Hong-Jiang Zhang. Clustering and searching WWW images using link and page layout analysis. *ACM Transactions on Multimedia Computing, Communications, and Applications*, 3(2):10:1–10:??, May 2007. CODEN ????. ISSN 1551-6857 (print), 1551-6865 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/tomccap.bib>. [He:2007:CSW]
- [Hou:2021:MPA] Guanhao Hou, Xingguang Chen, Sibow Wang, and Zhewei Wei. Massively parallel algorithms for Personalized PageRank. *Proceedings of the VLDB Endowment*, 14(9):1668–1680, May 2021. CODEN ????. ISSN 2150-8097. URL <https://dl.acm.org/doi/10.14778/3461535.3461554>. [Hou:2021:MPA]
- [Hareshkumar:2011:RWS] Navadiya Hareshkumar and [HG11]



- Deepak Garg. Random Web surfer PageRank algorithm. *International Journal of Computer Applications*, 35(??):36–41, December 2011. CODEN ????? ISSN 0975-8887. URL <https://www.ijcaonline.org/archives/volume35/number11/4448-6214/>.
- [HGW24] Qian-Ying Hu, Xian-Ming Gu, and Chun Wen. Application of an extrapolation method in the Hessenberg algorithm for computing PageRank. *The Journal of Supercomputing*, 80(15):22836–22859, October 2024. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL <https://link.springer.com/article/10.1007/s11227-024-06327-y>.
- [HHP08] Vagelis Hristidis, Heasoo Hwang, and Yannis Papakonstantinou. Authority-based keyword search in databases. *ACM Transactions on Database Systems*, 33(1):1:1–1:??, March 2008. CODEN ATDSD3. ISSN 0362-5915 (print), 1557-4644 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/tods.bib>.
- [HHY06] Noorisyam Hamid, Fazilah Haron, and Chan Huah Yong. Resource discovery using PageRank technique in grid environment. In Turner et al. [TLC06], pages 135–140. ISBN 0-7695-2585-7. LCCN QA76.9.C58 I133 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1630807>. IEEE Computer Society Order Number P2585.
- [Hig05] Desmond J. Higham. Google PageRank as mean playing time for pinball on the reverse web. *Applied Mathematics Letters*, 18(12):1359–1362, 2005. CODEN AMLEEL. ISSN 0893-9659 (print), 1873-5452 (electronic).
- [HKJ03] Tamer Haveliwala, Sepandar Kamvar, and Glen Jeh. An analytical comparison of approaches to personalizing PageRank. Technical report 2003-32, Stanford InfoLab, Stanford University, Stanford, CA, USA, June 2003. 4 pp. URL <http://ilpubs.stanford.edu:8090/596/>.
- [HLF10] Xiaojun He, Yibing Li, and Chunxiao Fan. Web-based links and authoritative content Pagerank improvement. In *2010 International Conference on E-Business and E-Government (ICEE)*, pages 5016–5019. pub-IEEE, pub-IEEE:adr, 2010. ISBN 0-7695-3997-1. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5592871>.

**Hu:2024:AEM****Higham:2005:GPM****Hristidis:2008:ABK****Haveliwala:2003:ACA****Hamid:2006:RDU****He:2010:WBL**

- [hLqL07] Cun he Li and Ke qiang Lu. Hyperlink classification: a new approach to improve PageRank. In Tjoa and Wagner [TW07], pages 274–277. ISBN 0-7695-2932-1, 0-7695-2932-1. LCCN QA76.9.D3. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4312900> [HLYfZ06] IEEE Computer Society order number P2932.
- [HM15] Na Huang and Chang-Feng Ma. Parallel multisplitting iteration methods based on  $M$ -splitting for the PageRank problem. *Applied Mathematics and Computation*, 271(??):337–343, November 15, 2015. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300315012345> [HSC07]
- [HMC12] Matthew Hudelson, Barbara Logan Mooney, and Aurora E. Clark. Determining polyhedral arrangements of atoms using PageRank. *Journal of Mathematical Chemistry*, 50(9):2342–2350, October 2012. CODEN JMCHEG. ISSN 0259-9791 (print), 1572-8897 (electronic). URL <http://link.springer.com/article/10.1007/s10910-012-0033-7>.
- [HMPB13] Arda Halu, Raúl J. Mondragón, Pietro Panzarasa, and Ginestra Bianconi. Multiplex PageRank. *PLoS One*, 8(??):e78293:1–e78293:10, ????. 2013. CODEN POLNCL. ISSN 1932-6203. URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078293>.
- [Huang:2006:TPA] Decai Huang, Huachun Qi, Yuan Yuan, and Yue feng Zheng. TC-PageRank algorithm based on topic correlation. In IEEE [IEE06k], pages 5943–5946. ISBN 1-4244-0332-4. LCCN TJ217.5 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1714219> IEEE catalog number 06EX1358C.
- [Horn:2007:GSP] Roger A. Horn and Stefano Serra-Capizzano. A general setting for the parametric Google matrix. *Internet Mathematics*, 3(4):385–411, ????. 2007. CODEN ????. ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/euclid.im/1227025007>.
- [Hencsey:2003:PTI] Gusztáv Hencsey and Bebo White, editors. *Proceedings of the Twelfth International Conference on World Wide Web: Budapest, Hungary, May 20–24, 2003*. ACM Press, New York, NY 10036, USA, 2003. ISBN 1-58113-680-3. LCCN TK5105.888 .I58 2003. URL <http://portal.acm.org/toc.cfm?id=775152>.

**Huang:2021:CFP**

- [HW21] Jun Huang and Gang Wu. Convergence of the fixed-point iteration for multilinear PageRank. *Numerical Linear Algebra with Applications*, 28(5): e2379:1–e2379:??, October 2021. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Huang:2023:TSP**

- [HW23] Jun Huang and Gang Wu. Truncated and sparse power methods with partially updating for large and sparse higher-order PageRank problems. *Journal of Scientific Computing*, 95(1):??, April 2023. CODEN JSCOEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL <https://link.springer.com/article/10.1007/s10915-023-02146-0>.

**Hu:2021:VPA**

- [HWH<sup>+</sup>21] Qian-Ying Hu, Chun Wen, Ting-Zhu Huang, Zhao-Li Shen, and Xian-Ming Gu. A variant of the Power–Arnoldi algorithm for computing PageRank. *Journal of Computational and Applied Mathematics*, 381(??): Article 113034, January 1, 2021. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042720303253>

**IEEE:2003:IIS**

- [IEE03] IEEE, editor. *12th IEEE International Symposium on High*

*Performance Distributed Computing: proceedings: 22–24 June, 2003, Seattle, Washington*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7695-1965-2. LCCN QA76.9.D5 I157 2003. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8591>. IEEE Computer Society order number PR01965.

**IEEE:2004:SWI**

- [IEE04] IEEE, editor. *SAINT 2004 Workshops: 2004 International Symposium on Applications and the Internet: Workshops: proceedings: 26–30 January, 2004, Tokyo, Japan*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. ISBN 0-7695-2050-2. LCCN TK5105.875.I57 S95 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8957>. IEEE Computer Society order number PR02050.

**IEEE:2005:EIC**

- [IEE05a] IEEE, editor. *14th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing: proceedings: 15–17 February 2006: Montbéliard-Sochaux, France*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2513-X. LCCN QA76.58 .E95 2006.

IEEE Computer Society order number P2513.

**IEEE:2005:ICD**

- [IEE05b] IEEE, editor. *25th International Conference on Distributed Computing Systems: proceedings: 6–10 June, 2005, Columbus, Ohio, USA*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2331-5. LCCN QA76.9.D5 I57 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9816>. IEEE Computer Society order number P2331.

**IEEE:2005:PII**

- [IEE05c] IEEE, editor. *Proceedings of 2005 IEEE International Conference on Natural Language Processing and Knowledge Engineering: (IEEE NLP-KE'05): October 30–November 1, 2005, Wuhan, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7803-9361-9. LCCN QA76.9.N38 I563 2005. IEEE Catalog Number: 05EX1156.

**IEEE:2006:ASE**

- [IEE06a] IEEE, editor. *2006 Australian Software Engineering Conference: ASWEC 2006: 18–21 April, 2006, Sydney, Australia*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2551-2. LCCN QA76.758

.A89 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10753>. IEEE Computer Society order number P2251.

**IEEE:2006:ISL**

- [IEE06b] IEEE, editor. *2006 IEEE Spoken Language Technology Workshop: Palm Beach, Aruba, 10–13 December 2006*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0872-5 (softbound edition). LCCN TK7895.S65. IEEE catalog number 06EX1646.

**IEEE:2006:IJC**

- [IEE06c] IEEE, editor. *2006 International Joint Conference on Neural Networks, Sheraton Vancouver Wall Centre Hotel, Vancouver, BC, Canada, July 16–21, 2006*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7803-9490-9. LCCN QA76.87 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=11216>.

**IEEE:2006:AIS**

- [IEE06d] IEEE, editor. *47th Annual IEEE Symposium on Foundations of Computer Science: FOCS 2006: 21–24 October, 2006, Berkeley, California*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2720-5, 0-7695-2362-5. LCCN QA76 .S974 2006. URL <http://>

ieeexplore.ieee.org/servlet/opac?punumber=4031329. IEEE Computer Society order number P2720.

**IEEE:2006:ICC**

[IEE06e]

IEEE, editor. *9th International Conference on Control, Automation, Robotics and Vision, 2006. ICARCV '06. 5-8 December 2006, Singapore*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0341-3. LCCN TJ212.2 .I5474 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4149990>. IEEE catalog number 06EX1361.

**IEEE:2006:AAC**

[IEE06f]

IEEE, editor. *ADCOM 2006: autonomic computing: proceedings: 2006 (14th) International Conference on Advanced Computing and Communications: December 20-23, 2006, National Institute of Technology Karnataka, Surathkal, India*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0716-8. LCCN QA75.5 .I5745 2006eb. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4289832>. IEEE catalog number 06EX1537C.

**IEEE:2006:CIT**

[IEE06g]

IEEE, editor. *Communications and Information Technologies, 2006. ISCIT '06, International Symposium on:*

*Oct. 18 2006-Sept. 20 2006, [Bangkok, Thailand]*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7803-9741-X. LCCN TK5105; TK5105eb; Internet. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4141327>.

**IEEE:2006:IIM**

[IEE06h]

IEEE, editor. *ICN 2006, ICONS 2006, MCL 2006: proceedings, Morne, Mauritius, 23-29 April, 2006*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2552-0. LCCN See. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10841>. IEEE Computer Society order number P2552.

**IEEE:2006:ISP**

[IEE06i]

IEEE, editor. *International Symposium on Parallel Computing in Electrical Engineering, 2006. PARELEC 2006. 13-17 September 2006, Bialystok, Poland. Proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2554-7. LCCN QA76.58. I578 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=11156>. IEEE Computer Society order number P2554.

**IEEE:2006:SIC**

[IEE06j]

IEEE, editor. *Sixth Inter-*

- national Conference on Advanced Learning Technologies, 2006. ICALT 2006 5-7 July 2006, Kerkrade, The Netherlands. Proceedings.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-3075-5. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10997>. [IEE07b]
- IEEE:2006:WSW**
- [IEE06k] IEEE, editor. *WCICA 2006: Six World Congress on Intelligent Control and Automation: June 21-23, 2006, Dalian, China.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0332-4. LCCN TJ217.5 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=11210>. IEEE catalog number 06EX1358C.
- IEEE:2007:SICa**
- [IEE07a] IEEE, editor. *2007 Second International Conference on Bio-Inspired Computing: Theories and Applications: (BIC-TA 2007); Zhengzhou University of Light Industry, China, 14-17 September 2007.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-4105-6. LCCN QA76.87. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4801442>. IEEE catalog number CFP0701F-PRT.
- IEEE:2007:ICA**
- IEEE, editor. *21st International Conference on Advanced Networking and Applications Workshops/Symposia: proceedings: Niagara Falls, Ontario, Canada: 21-23 May, 2007. AINA '07.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2847-3. LCCN TK5105.5 2007; TK5105.5 .I5616 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4221005>. IEEE Computer Society order number P2847.
- IEEE:2007:ICC**
- [IEE07c] IEEE, editor. *2nd International Conference on Communication Systems Software and Middleware, 2007. COM-SWARE 2007. 7-12 January 2007, Bangalore, India.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-0614-5, 1-4244-0613-7. LCCN TK5101.A1 I479696 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4267954>. IEEE catalog number 07EX1518.
- IEEE:2007:BBE**
- [IEE07d] IEEE, editor. *Bioinformatics and Biomedical Engineering, 2007: ICBBE 2007: The 1st International Conference, 6-8*

July 2007, Wuhan, China. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-1120-3. LCCN QH324.2 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4272484>. IEEE catalog number 07EX1744.

**IEEE:2007:IWM**

- [IEEE07e] IEEE, editor. *IEEE 9th Workshop on Multimedia Signal Processing, 2007. MMSP 2007. 1-3 October 2007, Chania, Crete, Greece. Proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-1273-0. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4412795>. IEEE catalog number 07EX1807.

**IEEE:2007:ICN**

- [IEEE07f] IEEE, editor. *International Conference on Natural Language Processing and Knowledge Engineering, 2007. NLP-KE 2007. August 30-September 1, 2007, Beijing, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-1611-6. LCCN ????.

**IEEE:2007:ICI**

- [IEEE07g] IEEE, editor. *IPDPS 2007 California: International Parallel and Distributed Processing Symposium: proceedings: 21st International Parallel and*

*Distributed Processing Symposium: March 26-30, 2007, Long Beach, California, USA*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-0909-8 (paperback), 1-4244-0910-1 (CD-ROM). LCCN QA76.58 .I586 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4203121>. IEEE catalog number 07TH8938.

**IEEE:2007:PTI**

- [IEEE07h] IEEE, editor. *Proceedings, Third International Conference on Semantics, Knowledge and Grid: SKG 2007: Xi'an, Shan Xi, China, 29-31 October 2007*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-3007-9. LCCN TK5105.88815 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4438492>. IEEE Computer Society order number P3007.

**IEEE:2007:SICb**

- [IEEE07i] IEEE, editor. *Second International Conference on Internet and Web Applications and Services: ICIW 2007: May 13-19, 2007, Morne, Mauritius: EN-SYS 2007, the Second Workshop on Entertainment Systems: P2PSA 2007, the Second International Workshop on P2P Systems and Applications: ONLINE 2007, the Second International Workshop on Online*

- Communications, Collaborative Systems, and Social Network.: Internet and Web Applications and Services, 2007, ICIW '07, Second International Conference on.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2844-9. LCCN TK5105.888 .I563 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4222895>. IEEE Computer Society order number E2844. **IEEE:2008:PIC**
- [IEE08c] IEEE, editor. *Proceedings of the International Conference on Computer Science and Information Technology: August 29–September 2, 2008, Singapore. ICCSIT '08.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2008. ISBN 0-7695-3308-6. LCCN QA75.5 2008. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4624812>. IEEE Computer Society order number P3308.
- IEEE:2008:ICD**
- [IEE08a] IEEE, editor. *47th IEEE Conference on Decision and Control, 2008. CDC 2008. 9–11 December 2008, Cancun, Mexico.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2008. ISBN 1-4244-3123-9. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4721212>. [IEE09a]
- IEEE:2009:IIC**
- [IEE09a] IEEE, editor. *IEEE International Conference on Fuzzy Systems, 2009: FUZZ-IEEE 2009. 20–24 Aug. 2009, ICC Jeju, Jeju Island, Korea.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 1-4244-3596-X. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=5247842>. **IEEE:2009:PII**
- IEEE:2008:PII**
- [IEE08b] IEEE, editor. *Proceedings of 2008 IEEE International Conference on Networking, Sensing, and Control: Sanya, China, April 6–8, 2008.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2008. ISBN 1-4244-1685-X. LCCN TK5105.5 2008. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4489617>. IEEE catalog number CFP08NSC-PRT. [IEE09b]
- IEEE:2009:PWW**
- [IEE09b] IEEE, editor. *Proceedings of the 2009 WRI World Congress on Computer Science and Information Engineering: 31 March–2 April 2009, Los Angeles, California USA.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 0-7695-3507-0. LCCN QA75.5 2009. URL <http://>



- ieeexplore.ieee.org/servlet/opac?punumber=5170260. IEEE Computer Society order number P3507.
- Ipsen:2005:CAP**
- [IK05] Ilse C. F. Ipsen and Steve Kirkland. Convergence analysis of a PageRank updating algorithm by Langville and Meyer. *SIAM Journal on Matrix Analysis and Applications*, 27(4):952–967, 2005. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- Ipsen:2006:CAP**
- [IK06] Ilse C. F. Ipsen and Steve Kirkland. Convergence analysis of a PageRank updating algorithm by Langville and Meyer. *SIAM Journal on Matrix Analysis and Applications*, 27(4):952–967, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- Imran:2009:ERP**
- [ILLS09] Naveed Imran, Jingen Liu, Jiebo Luo, and Mubarak Shah. Event recognition from photo collections via pagerank. In ACM, editor, *International Multimedia Conference Proceedings of the seventeen ACM international conference on Multimedia*, pages 621–624. ACM Press, New York, NY 10036, USA, 2009. ISBN 1-60558-608-0. LCCN ????
- Ikegami:2018:PTM**
- [IO18] Kenshin Ikegami and Yukio Oh-sawa. PageRank topic model: Estimation of multinomial distributions using network structure analysis methods. *Fundamenta Informaticae*, 159(3):257–277, 2018. CODEN FU-MAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).
- Ingongngam:2004:TCA**
- [IR04] P. Ingongngam and A. Rung-sawang. Topic-centric algorithm: a novel approach to Web link analysis. In Barolli [Bar04], pages 299–301. ISBN 0-7695-2051-0. LCCN TK5105.5 .I5616 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9028>. IEEE Computer Society Order Number P2051.
- Ipsen:2007:PCS**
- [IS07] Ilse C. F. Ipsen and Teresa M. Selee. PageRank computation, with special attention to dangling nodes. *SIAM Journal on Matrix Analysis and Applications*, 29(4):1281–1296, November 2007. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- Ipsen:2008:PCS**
- [IS08] Ilse C. F. Ipsen and Teresa M. Selee. PageRank computation, with special attention to dangling nodes. *SIAM Journal on Matrix Analysis and Applications*, 29(4):1281–1296, 2008. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

- Ishii:2008:DRAa**
- [IT08a] H. Ishii and R. Tempo. A distributed randomized approach for the PageRank computation: Part 1. In IEEE [IEE08a], pages 3523–3528. ISBN 1-4244-3123-9. LCCN ??? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4739020>. [IT10]
- Ishii:2008:DRAb**
- [IT08b] H. Ishii and R. Tempo. A distributed randomized approach for the PageRank computation: Part 2. In IEEE [IEE08a], pages 3529–3534. ISBN 1-4244-3123-9. LCCN ??? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4739022>.
- Ishii:2009:FLS**
- [IT09a] H. Ishii and R. Tempo. Fragile link structure in PageRank computation. In *CDC/CCC 2009: Proceedings of the 48th IEEE Conference on Decision and Control [held jointly with the 2009 28th Chinese Control Conference]*, pages 121–126. pub-IEEE, pub-IEEE:adr, 2009. ISBN ??? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5399501> [ITBD09]
- Ishii:2009:DPC**
- [IT09b] Hideaki Ishii and Roberto Tempo. Distributed PageRank computation with link failures. In IEEE, editor, *ACC '09: American Control Conference (2009)*, pages 1976–1981. pub-IEEE, pub-IEEE:adr, 2009. ISBN ??? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5160351>.
- Ishii:2010:DRA**
- [IT10] H. Ishii and R. Tempo. Distributed randomized algorithms for the PageRank computation. *IEEE Transactions on Automatic Control*, 55(9):1987–2002, ??? 2010. CODEN IETAA9. ISSN 0018-9286. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5411738> [ITB10]
- Ishii:2010:DRP**
- [ITB10] H. Ishii, R. Tempo, and E. Bai. Distributed randomized pagerank algorithms based on web aggregation over unreliable channels. In *2010 49th IEEE Conference on Decision and Control (CDC)*, pages 6602–6607. pub-IEEE, pub-IEEE:adr, 2010. ISBN ??? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5718041>.
- Ishii:2009:DRP**
- [ITBD09] H. Ishii, R. Tempo, Er-Wei Bai, and F. Dabbene. Distributed randomized PageRank computation based on web aggregation. In *CDC/CCC 2009: Proceedings of the 48th IEEE Conference on Decision and Control [held jointly with the 2009 28th Chinese Control Conference]*, pages 3026–3031. pub-IEEE,

- pub-IEEE:adr, 2009. ISBN  
 ????? URL [http://ieeexplore.  
 ieee.org/stamp/stamp.jsp?  
 tp=&arnumber=5399514](http://ieeexplore.<br/>
  ieee.org/stamp/stamp.jsp?<br/>
  tp=&arnumber=5399514). [JB08b]
- Ipsen:2006:MPA**
- [IW06] Ilse C. F. Ipsen and Rebecca S. Wills. Mathematical properties and analysis of Google's PageRank. *Bol. Soc. Esp. Mat. Apl. SĒMA*, 34:191–196, 2006. CODEN ????? ISSN 1575-9822.
- Jeong:2006:SII** [JB09]
- [J<sup>+</sup>06] Chang-Sung Jeong et al., editors. *Sixth IEEE International Conference on Computer and Information Technology: CIT 2006. 20–22 September 2006, Korea University, Seoul, Korea*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2687-X. LCCN T58.5 .I5662 2006. URL <http://ieeexplore.ieee.org/xpl/RecentCon.jsp?punumber=4019822>. IEEE Computer Society order number E2687.
- Jing:2008:VAP**
- [JB08a] Yushi Jing and S. Baluja. VisualRank: Applying PageRank to large-scale image search. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 30(11):1877–1890, November 2008. CODEN ITPIDJ. ISSN 0162-8828. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4522561>
- Jing:2008:PPI**
- Yushi Jing and Shumeet Baluja. PageRank for product image search. In ACM, editor, *International World Wide Web Conference Proceeding of the 17th international conference on World Wide Web*, pages 307–316. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-085-6. LCCN ?????
- Jager:2009:PSH**
- Douglas V. Jager and Jeremy T. Bradley. PageRank: Splitting homogeneous singular linear systems of index one. In Leif Azopardi et al., editors, *Advances in information retrieval theory: second International Conference on the Theory of Information Retrieval, ICTIR 2009, Cambridge, UK, September 10–12, 2009: proceedings*, volume 5766 of *Lecture Notes in Computer Science*, pages 17–28. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 3-642-04416-6. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.D3 I55887 2009.
- Jain:2010:FRW**
- [JP10] Alpa Jain and Patrick Pantel. FactRank: Random walks on a web of facts. In Chu-Ren Huang and Dan Jurafsky, editors, *COLING'10: 23rd International Conference on Computational Linguistics, Proceedings, 23–27 August 2010, Beijing International Convention Center, Bei-*

- jing, China*, pages 501–509. Tsinghua University Press, Block A, Xue Yan Building, Tsinghua University, Beijing, 100084, China, August 2010. ISBN ????? LCCN ????? URL <http://delivery.acm.org/10.1145/1880000/1873838/p501-jain.pdf>.
- [JWSG22] **Jin:2022:SGA** Yu Jin, Chun Wen, Zhao-Li Shen, and Xian-Ming Gu. A simpler GMRES algorithm accelerated by Chebyshev polynomials for computing PageRank. *Journal of Computational and Applied Mathematics*, 413 (??):??, October 15, 2022. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0898122110003913>.
- [JW02] **Jeh:2002:SMS** Glen Jeh and Jennifer Widom. SimRank: A measure of structural-context similarity. In *Proceedings of the Eighth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD'02: July 23–26, 2002, Edmonton, Alberta, Canada*, pages 538–543. ACM Press, New York, NY 10036, USA, 2002. ISBN 1-58113-567-X. LCCN QA76.9.D3 I58 2002.
- [JW03] **Jeh:2003:SPW** Glen Jeh and Jennifer Widom. Scaling personalized web search. In Hencsey and White [HW03], pages xx + 752. ISBN 1-58113-680-3. LCCN TK5105.888 .I58 2003. URL <http://portal.acm.org/toc.cfm?id=775152>.
- [JW10] **Jiang:2010:TRB** Wei Jiang and Gang Wu. A thick-restarted block Arnoldi algorithm with modified Ritz vectors for large eigenproblems. *Computers and Mathematics with Applications*, 60(3): 873–889, August 2010. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042722001819>.
- [JZ07] **Jiang:2007:SBC** Qiancheng Jiang and Yan Zhang. SiteRank-based crawling ordering strategy for search engines. In Miyazaki et al. [MPW<sup>+</sup>07], pages 259–263. ISBN 0-7695-2983-6. LCCN T58.5 .I56624 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4385040>. IEEE Computer Society order number P2983.
- [JZM<sup>+</sup>09] **Jin:2009:APA** Ying Jin, Jing Zhang, Pengfei Ma, Weiping Hao, Shutong Luo, and Zepeng Li. Applying PageRank algorithm in requirement concern impact analysis. In IEEE, editor, *COMP-SAC '09: 33rd Annual IEEE International Computer Software and Applications Conference*,

- 2009, volume 1, pages 361–366. pub-IEEE, pub-IEEE:adr, 2009. ISBN 0-7695-3726-X. LCCN [KBK05] **Kolda:2005:HOW** <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5254238>. T. G. Kolda, B. W. Bader, and J. P. Kenny. Higher-order Web link analysis using multilinear algebra. In Han et al. [H<sup>+</sup>05a], page ?? ISBN 0-7695-2278-5. ISSN 1550-4786. LCCN QA76.9.D343 I133 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10470>. IEEE Computer Society Order Number P2278.
- [KA11] **Keong:2011:PMR** Boo Vooi Keong and Patricia Anthony. PageRank: a modified random surfer model. In *2011 7th International Conference on Information Technology in Asia (CITA 11)*, pages 1–6. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5998269> [KCN07]
- [Kam10] **Kamvar:2010:NAP** Sep Kamvar. *Numerical algorithms for personalized search in self-organizing information networks*. Princeton University Press, Princeton, NJ, USA, 2010. ISBN 0-691-14503-2 (hardcover). xiv + 139 pp. LCCN ZA4460 .K36 2010.
- [Kap08] **Kaplan:2008:BRB** Daniel T. Kaplan. Book review: *Google’s PageRank and Beyond: The Science of Search Engine Rankings*, by Amy N. Langville; Carl D. Meyer. *American Mathematical Monthly*, 115 (8):765–768, October 2008. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). URL <http://www.jstor.org/stable/27642602> [KG07] **Kohlschutter:2007:UAT** Christian Kohlschütter, Paul-Alexandru Chirita, and Wolfgang Nejdl. Utility analysis for topically biased PageRank. In ACM, editor, *International World Wide Web Conference Proceedings of the 16th international conference on World Wide Web*, pages 1211–1212. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-654-8. LCCN ????
- [Kollias:2007:APC] **Kollias:2007:APC** Giorgos Kollias and Efstratios Gallopoulos. *Asynchronous PageRank computation in an interactive multithreading environment*, volume 07071 of *Dagstuhl seminar proceedings*, page ????. International Begegnungs- und Forschungszentrum für Informatik, Wadern, Germany, 2007. ISBN ????. URL <http://drops.dagstuhl.de/opus/volltexte/2007/1065/pdf/07071.KolliasGiorgios.Paper.1065>.

**Kamvar:2004:AMC**

- [KHG04a] Sepandar Kamvar, Taher Haveliwala, and Gene Golub. Adaptive methods for the computation of PageRank. *Linear Algebra and its Applications*, 386 (1):51–65, July 15, 2004. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <https://www.math.utah.edu/pub/bibnet/authors/g/golub-gene-h.bib>; <https://www.math.utah.edu/pub/tex/bib/linala2000.bib>.

**Kamvar:2004:ACR**

- [KHG04b] Sepandar D. Kamvar, Taher H. Haveliwala, and Gene H. Golub. Adaptive computation of ranking. US Patent 7,028,029., August 23, 2004. URL <http://patft.uspto.gov/netah/html/PTO/srchnum.htm>.

**Kamvar:2003:EBS**

- [KHM03a] Sepandar D. Kamvar, Taher H. Haveliwala, Christopher D. Manning, and Gene H. Golub. Exploiting the block structure of the Web for computing PageRank. Technical Report 2003-17, Stanford InfoLab, Stanford University, Stanford, CA, USA, 2003. ??? pp.

**Kamvar:2003:EMA**

- [KHM03b] Sepandar D. Kamvar, Taher H. Haveliwala, Christopher D. Manning, and Gene H. Golub. Extrapolation methods for accelerating PageRank computations. In Hencsey and White

[HW03], pages 261–270. ISBN 1-58113-680-3. LCCN TK5105.888 .I58 2003. URL <http://dbpubs.stanford.edu:8090/pub/2003-16>; <http://www.stanford.edu/~sdkamvar/papers/extrapolation.pdf>.

**Kirkland:2006:CES**

- [Kir06] S. Kirkland. Conditioning of the entries in the stationary vector of a Google-type matrix. *Linear Algebra and its Applications*, 418 (2–3):665–681, October 15, 2006. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic).

**Kozakiewicz:2006:TLA**

- [KK06] A. Kozakiewicz and A. Karbowski. A two-level approach to building a campus grid. In IEEE [IEE06i], pages 121–126. ISBN 0-7695-2554-7. LCCN QA76.58. I578 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=11156>. IEEE Computer Society order number P2554.

**Kim:2002:ICP**

- [KL02] Sung Jin Kim and Sang Ho Lee. An improved computation of the PageRank algorithm. *Lecture Notes in Computer Science*, 2291:73–85, 2002. CODEN LNCSD9. ISBN 3-540-43343-0. ISSN 0302-9743 (print), 1611-3349 (electronic). URL <http://link.springer-ny.com/link/service/series/0558/bibs/2291/22910073.htm>; <http://link.springer-ny.com/link/>

- service/series/0558/papers/2291/22910073.pdf.
- [KL05] **Kurland:2005:PHS**  
Oren Kurland and Lillian Lee. PageRank without hyperlinks: structural re-ranking using links induced by language models. In ACM, editor, *Proceedings of the 28th annual international ACM SIGIR conference on Research and development in information retrieval*, pages 306–313. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-034-5. LCCN ????
- [KL07] **Kao:2007:FPC**  
Hung-Yu Kao and Seng-Feng Lin. A fast PageRank convergence method based on the cluster prediction. In Lin et al. [L<sup>+</sup>07], pages 593–599. ISBN 0-7695-3026-5. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4427158>. IEEE Computer Society order number P3026.
- [KL10] **Kurland:2010:PHS**  
Oren Kurland and Lillian Lee. PageRank without hyperlinks: Structural reranking using links induced by language models. *ACM Transactions on Information Systems*, 28(4):18:1–18:??, November 2010. CODEN ATISSET. ISSN 1046-8188.
- [KOK03] **Kang:2003:IPN**  
In-Ho Kang, Eun-Jung Oh, and Gil Chang Kim. Incremental PageRanking for newly crawled
- Web pages. *International Journal of Computer Processing of Oriental Languages (IJCPOL)*, 16(1):87–??, March 2003. CODEN ????. ISSN 0219-4279. URL <https://www.math.utah.edu/pub/tex/bib/ijcpol.bib>.
- [KP09] **Kolda:2009:GBG**  
Tamara G. Kolda and Michel J. Procopio. Generalized BadRank with graduated trust. Technical Report SAND2009-6670, Sandia National Laboratories, Albuquerque, NM, USA, October 2009. 27 pp. URL <http://www.ca.sandia.gov/~tgkolda/pubs/bibtgkfiles/SAND2009-6670%20BadRank.pdf>.
- [Kru01] **Kruschwitz:2001:WKD**  
U. Kruschwitz. World knowledge for the domain of your choice. In Bahill [Bah01], pages 555–560. ISBN 0-7803-7087-2, 0-7803-7088-0 (microfiche), 0-7803-7089-9 (CD-ROM). LCCN TA168 .I18 2001. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=7658>. IEEE catalog number 01CH37236.
- [KSM12] **Kumar:2012:PPM**  
Tarun Kumar, Parikshit Sondhi, and Ankush Mittal. Parallelization of PageRank on multicore processors. *Lecture Notes in Computer Science*, 7154:129–140, 2012. CODEN LNCSD9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL <http://link>.

- springer.com/content/pdf/10.1007/978-3-642-28073-3\_12.
- [KT08] M. Kale and P. S. Thilagam. DYNA-RANK: Efficient calculation and updation of PageRank. In IEEE [IEE08c], pages 808–812. ISBN 0-7695-3308-6. LCCN QA75.5 .I345 2008. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4624979> [Kale:2008:DRE] IEEE Computer Society order number P3308. [L<sup>+</sup>07]
- [KYK09] Rohit Kaul, Yeogirl Yun, and Seong-Gon Kim. Ranking billions of Web pages using diodes. *Communications of the ACM*, 52 (8):132–136, August 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/cacm2000.bib>. [Kaul:2009:RBW]
- [KYO<sup>+</sup>06] Yutaka Kabutoya, Takayuki Yumoto, Satoshi Oyama, Keishi Tajima, and Katsumi Tanaka. Quality estimation of local contents based on PageRank values of Web pages. In Barga and Zhou [BZ06], page x134. ISBN 0-7695-2571-7. LCCN QA76.9.D3 I5582 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1623929> [Kabutoya:2006:QEL]
- [L<sup>+</sup>03] Jiming Liu et al., editors. *IEEE /WIC International Conference on Web Intelligence, 2003. Halifax, NS, Canada. WI 2003. Proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7695-1932-6. LCCN QA75.5 .I345 2003. URL <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=8792>. [Lin:2007:PIW]
- [LCY09] Tsau Y. Lin et al., editors. *Proceedings of the IEEE/WIC/ACM International Conference on Web Intelligence (WI 2007): November 2–5, 2007, Fremont Marriott Hotel, Silicon Valley, USA*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-3026-5. LCCN QA76.76.I58; TK5105.888 .I35687 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4427043> [Liu:2009:ERE] IEEE Computer Society order number P3026.
- [Liu:2003:ISW] Yaqing Liu, Rong Chen, and Hong Yang. Entity-relation extraction for Chinese based on pattern evolution and PageRank. In *ICIECS 2009: International Conference on Information Engineering and Computer Science*, pages 1–4. pub-IEEE, pub-IEEE:adr, 2009. ISBN 1-4244-4994-4. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5364487>



- [LEA15] **Liu:2015:PCU**  
 Zifan Liu, Nahid Emad, and Soufian Ben Amor. PageRank computation using a multiple implicitly restarted Arnoldi method for modeling epidemic spread. *International Journal of Parallel Programming*, 43(6):1028–1053, December 2015. CODEN IJPPE5. ISSN 0885-7458 (print), 1573-7640 (electronic). URL <http://link.springer.com/article/10.1007/s10766-014-0344-3>.
- [Leo41] **Leontief:1941:SAE**  
 Wassily W. Leontief. *The Structure of American Economy, 1919–1929: an empirical application of equilibrium analysis*. Harvard University Press, Cambridge, MA, USA, 1941. xi + 181 pp. LCCN ????. URL [http://nobelprize.org/nobel\\_prizes/economics/laureates/1973/](http://nobelprize.org/nobel_prizes/economics/laureates/1973/).
- [Leo04] **Leonardi:2004:AMW**  
 S. (Stefano) Leonardi, editor. *Algorithms and models for the web-graph: third international workshop, WAW 2004, Rome, Italy, October 16, 2004: proceedings*, volume 3243 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2004. ISBN 3-540-23427-6. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W695 2004. URL <http://library.ust.hk/cgi/db/springer.scr?0302-9743/>
- [Lev10] **Levy:2010:HGA**  
 Steven Levy. How Google’s algorithm rules the Web. *Wired*, 17:??, February 2, 2010. CODEN WREDEM. ISSN 1059-1028 (print), 1078-3148 (electronic). URL [http://www.wired.com/2010/02/ff\\_google\\_algorithm/](http://www.wired.com/2010/02/ff_google_algorithm/).
- [Lev11a] **Levene:2011:BRS**  
 Mark Levene. Book review: Search Engines: Information Retrieval in Practice. *The Computer Journal*, 54(5):831–832, May 2011. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/54/5/831.full.pdf+html>. See [CMS10].
- [Lev11b] **Levy:2011:PHG**  
 Steven Levy. *In the plex: how Google thinks, works, and shapes our lives*. Simon and Schuster, New York, NY, USA, 2011. ISBN 1-4165-9658-5. v + 424 pp. LCCN HD9696.8.U64 G6657 2011.
- [LFL<sup>+</sup>15] **Li:2015:WCP**  
 Zhenguo Li, Yixiang Fang, Qin Liu, Jiefeng Cheng, Reynold Cheng, and John C. S. Lui. Walking in the cloud: parallel SimRank at scale. *Proceedings of the VLDB Endowment*, 9(1):24–35, September 2015. CODEN ????. ISSN 2150-8097.
- 3243; <http://www.loc.gov/catdir/enhancements/fy0823/2004113291-d.html>.

- [LG10] **Liu:2010:OMP**  
 Dongfei Liu and Yong Gong. Optimal methods of PageRank algorithm on the bilingual web page. In *2010 2nd International Conference on Computer Engineering and Technology (IC-CET)*, volume 1, pages V1–689–V1–691. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-6347-5. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5485388>
- [LGL<sup>+</sup>08] **Liu:2008:BLW**  
 Y. Liu, B. Gao, T.-Y. Liu, Y. Zhang, Z. Ma, S. He, and H. Li. BrowseRank: Letting web users vote for page importance. In Sung Hyon Myaeng, Douglas W. Oard, Fabrizio Sebastiani, T. S. (Tat-Seng) Chua, and Mun-Kew Leong, editors, *ACM SIGIR 2008: proceedings of the thirty-first annual International ACM SIGIR Conference on Research and Development in Information Retrieval: July 20–24, 2008, Singapore*, pages 451–458. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-164-X. LCCN QA76.9.D3. URL <http://dl.acm.org/citation.cfm?id=1390334>.
- [LGZ07] **Lee:2007:TSA**  
 Chris P. Lee, Gene H. Golub, and Stefanos A. Zenios. A two-stage algorithm for computing PageRank and multistage generalizations. *Internet Mathematics*, 4(4):299–327, 2007. CODEN
- ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1243430809>
- [Lin08] **Lin:2008:PHR**  
 Jimmy Lin. PageRank without hyperlinks: Reranking with PubMed related article networks for biomedical text retrieval. *BMC Bioinformatics*, 9:270–271, 2008. CODEN BB-MIC4. ISSN 1471-2105. URL <http://www.biomedcentral.com/1471-2105/9/270>; <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2442104/>.
- [LJR09] **Lianxiong:2009:KNM**  
 Gao Lianxiong, Wu Jianping, and Liu Rui. Key nodes mining in transport networks based on PageRank algorithm. In IEEE, editor, *Proceedings of the 21st annual international conference on Chinese control and decision conference*, pages 4449–4452. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 1-4244-2722-3. LCCN ????
- [LKL06] **Lin:2006:PNL**  
 Zhenjiang Lin, I. King, and M. R. Lyu. PageSim: a novel link-based similarity measure for the World Wide Web. In Nishida et al. [N<sup>+</sup>06], pages 687–693. ISBN 0-7695-2747-7. LCCN TK5105.888 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4061321>. IEEE

Computer Society order number P2747.

**Lenzerini:2008:PTS**

- [LL08] Maurizio Lenzerini and Domenico Lembo, editors. *Proceedings of the Twenty-Seventh ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems: PODS'08, Vancouver, BC, Canada, June 9–11, 2008*. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-59593-685-8. LCCN ????

**Liu:2024:BEA**

- [LL24] Haoyu Liu and Siqiang Luo. BIRD: Efficient approximation of bidirectional hidden personalized PageRank. *Proceedings of the VLDB Endowment*, 17(9): 2255–2268, May 2024. CODEN ????. ISSN 2150-8097. URL <https://dl.acm.org/doi/10.14778/3665844.3665855>.

**Li:2017:UMP**

- [LLNV17] Wen Li, Dongdong Liu, Michael K. Ng, and Seak-Weng Vong. The uniqueness of multilinear PageRank vectors. *Numerical Linear Algebra with Applications*, 24(6):??, December 2017. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Lai:2023:AAF**

- [LLPC23] Fuqi Lai, Wen Li, Xiaofei Peng, and Yannan Chen. Anderson accelerated fixed-point iteration for multilinear PageRank. *Numerical Linear Algebra with Applications*, 30(5):

e2499:1–e2499:??, October 2023. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Li:2020:MPU**

Wen Li, Dongdong Liu, Seak-Weng Vong, and Mingqing Xiao. Multilinear PageRank: Uniqueness, error bound and perturbation analysis. *Applied Numerical Mathematics: Transactions of IMACS*, 156(??): 584–607, October 2020. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0168927420301665>.

**Liu:2007:EBE**

- [LLWH07] Maofu Liu, Wenjie Li, Mingli Wu, and Hujun Hu. Event-based extractive summarization using event semantic relevance from external linguistic resource. In Ock et al. [OBB07], pages 117–122. ISBN 0-7695-2930-5. LCCN QA76.9.S88 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4460594>.

**Liu:2010:KEU**

- [LLYW10] Zhengyang Liu, Jianyi Liu, Wenbin Yao, and Cong Wang. Keyword extraction using PageRank on synonym networks. In *2010 International Conference on E-Product E-Service and E-Entertainment (ICEEE)*, pages 1–4. pub-IEEE, pub-IEEE:adr, 2010. ISBN ????. URL <http://>

- ieeexplore.ieee.org/stamp/  
stamp.jsp?tp=&arnumber=5660630
- [LM04a] Amy N. Langville and Carl D. Meyer. Deeper inside PageRank. *Internet Mathematics*, 1(3):335–380, 2004. CODEN ????? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1109190965>
- [LM04b] Amy Nicole Langville and Carl Dean Meyer. Updating PageRank with iterative aggregation. In ACM, editor, *Proceedings of the 13th international World Wide Web conference: Alternate track papers & posters*, pages 392–393. ACM Press, New York, NY 10036, USA, 2004. ISBN 1-58113-912-8. LCCN ????
- [LM05a] Amy N. Langville and Carl D. Meyer. A reordering for the PageRank problem. *SIAM Journal on Scientific Computing*, 27(6):2112–2120, November 2005. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL [http://epubs.siam.org/volume-27/art\\_60755.html](http://epubs.siam.org/volume-27/art_60755.html); <https://www.math.utah.edu/pub/tex/bib/siamjscicomput.bib>.
- [LM05b] Amy N. Langville and Carl D. Meyer. Updating Markov chains with an eye on Google’s PageRank. *SIAM Journal on Matrix Analysis and Applications*, 27(4):968–987, 2005. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- [LM05c] Tie-Yan Liu and Wei-Ying Ma. Webpage importance analysis using conditional Markov random walk. In Skowron [Sko05], pages 515–521. ISBN 0-7695-2415-X. LCCN TK5105.888.I37 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10179>; <http://www.gbv.de/dms/bowker/toc/9780769524153>. IEEE Computer Society Order Number P2415.
- [LM06a] Amy N. Langville and Carl D. Meyer. Updating Markov chains with an eye on Google’s PageRank. *SIAM Journal on Matrix Analysis and Applications*, 27(4):968–987, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- [LM06b] Amy N. Langville and Carl D. (Carl Dean) Meyer. *Google’s PageRank and beyond: the science of search engine rankings*. Princeton University Press, Princeton, NJ, USA, 2006. ISBN 0-691-12202-4 (hardcover). x + 224 pp. LCCN TK5105.885.G66 L36 2006. URL <http://www.loc.gov/catdir/enhancements/fy0654/2005938841-b.html>; <http://www.loc.gov>.

- gov/catdir/enhancements/fy0654/2005938841-d.html; <http://www.loc.gov/catdir/enhancements/fy0668/2005938841-t.html>.
- [LM12] Amy N. Langville and C. D. (Carl Dean) Meyer. *Who's number one?: the science of rating and ranking*. Princeton University Press, Princeton, NJ, USA, 2012. ISBN 0-691-15422-8. xvi + 247 pp. LCCN QA278.75 .L36 2012.
- [Lof14] Peter Lofgren. On the complexity of the Monte Carlo method for incremental PageRank. *Information Processing Letters*, 114(3):104–106, March 2014. CODEN IFPLAT. ISSN 0020-0190 (print), 1872-6119 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0020019013002743>.
- [Low09] Janet Lowe. *Google speaks: secrets of the world's greatest billionaire entrepreneurs, Sergey Brin and Larry Page*. Wiley, New York, NY, USA, 2009. ISBN 0-470-50122-7 (e-book), 0-470-50124-3 (e-book: Adobe Digital Editions), 0-470-50123-5 (e-book: Mobipocket Reader), 0-470-39854-X (cloth). xiii + 315 pp. LCCN QA76.2.A2 L69 2009eb.
- [LRU14] Jurij Leskovec, Anand Rajaraman, and Jeffrey D. Ullman. *Mining of massive datasets*. Cambridge University Press, Cambridge, UK, second edition, 2014. ISBN 1-107-07723-0 (hardcover), 1-316-14731-2 (e-book), 1-139-92480-X (e-book). xii + 467 pp. LCCN QA76.9.D343 R35 2014eb.
- [LS07] Vesna Luzar-Stiffler, editor. *Proceedings of the ITI 2007, 29th International Conference on Information Technology Interfaces, June 25–28, 2007, Cavtat/Dubrovnik, Croatia*. SRCE University Computing Centre, University of Zagreb, Zagreb, Croatia, 2007. ISBN 953-7138-10-0. LCCN ????
- [LSCY23] Yiming Li, Yanyan Shen, Lei Chen, and Mingxuan Yuan. Zebra: When temporal graph neural networks meet temporal personalized PageRank. *Proceedings of the VLDB Endowment*, 16(6):1332–1345, February 2023. CODEN ????. ISSN 2150-8097. URL <https://dl.acm.org/doi/10.14778/3583140.3583150>.
- [LSV07] N. Litvak, W. R. W. Scheinhardt, and Y. Volkovich. In-Degree and PageRank: why do they follow similar power laws? *Internet Mathematics*, 4(2-3):175–198, 2007. CODEN ????. ISSN 1542-7951 (print), 1944-9488 (electronic). URL

<http://projecteuclid.org/getRecord?id=euclid.im/1243430605>■

**Litvak:2008:PRB**

- [LSV08] Nelly Litvak, Werner R. W. Scheinhardt, and Yana Volkovich. Probabilistic relation between in-degree and PageRank. In Aiello et al. [A<sup>+</sup>08], pages 72–83. ISBN 3-540-78808-5, 3-540-78807-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2006.

**Litvak:2009:CTD**

- [LSVZ09] Nelly Litvak, Werner Scheinhardt, Yana Volkovich, and Bert Zwart. Characterization of tail dependence for in-degree and PageRank. In Avrachenkov et al. [ADL09], pages 90–103. ISBN 3-540-95994-7. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ????

**Lin:2009:CPL**

- [LSW09] Yiqin Lin, Xinghua Shi, and Yimin Wei. On computing PageRank via lumping the Google matrix. *Journal of Computational and Applied Mathematics*, 224(2):702–708, February 2009. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic).

**Lai:2017:PCL**

- [LSXL17a] Siyan Lai, Bo Shao, Ying Xu, and Xiaola Lin. Parallel computations of local PageRank problem based on Graphics Processing Unit. *Concurrency and Computation: Practice and Experience*, 29(24):??, December

25, 2017. CODEN CCPEBO. ISSN 1532-0626 (print), 1532-0634 (electronic).

**Lai:2017:SIP**

[LSXL17b] Siyan Lai, Bo Shao, Ying Xu, and Xiaola Lin. Parallel computations of local PageRank problem based on Graphics Processing Unit. *Concurrency and Computation: Practice and Experience*, 29(24):??, December 25, 2017. CODEN CCPEBO. ISSN 1532-0626 (print), 1532-0634 (electronic).

**Ledford:2010:GA**

- [LTT10] Jerri L. Ledford, Joe Teixeira, and Mary E. Tyler. *Google Analytics*. Wiley, New York, NY, USA, third edition, 2010. ISBN 0-470-53128-2, 0-470-87400-7. xxvii + 404 pp. LCCN TK5105.885.G66 L43 2010eb.

**Liu:2007:KEU**

- [LW07] Jianyi Liu and Jinghua Wang. Keyword extraction using language network. In IEEE [IEE07f], pages 129–134. ISBN 1-4244-1611-6. LCCN ????

**Liu:2008:PPB**

- [LWZX08] Yong Liu, Xiaolei Wang, Jin Zhang, and Hongbo Xu. Personalized PageRank based multi-document summarization. In IEEE, editor, *WSCS '08: IEEE International Workshop on Semantic Computing and Systems (2008)*, pages 169–173. pub-IEEE, pub-IEEE:adr, 2008. ISBN 0-7695-3316-7. LCCN

- ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4570834>.
- [LXY<sup>+</sup>17] Qi Liu, Biao Xiang, Nicholas Jing Yuan, Enhong Chen, Hui Xiong, Yi Zheng, and Yu Yang. An influence propagation view of PageRank. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 11(3):30:1–30:??, April 2017. CODEN ???? ISSN 1556-4681 (print), 1556-472X (electronic).
- [LY08] Fagui Li and Tong Yi. Apply PageRank algorithm to measuring relationship's complexity. In IEEE, editor, *PACIA '08: Pacific-Asia Workshop on Computational Intelligence and Industrial Application (2008)*, volume 1, pages 914–917. pub-IEEE, pub-IEEE:adr, 2008. ISBN 0-7695-3490-2. LCCN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4756692>.
- [LYLz23] Shengbin Liao, Zongkai Yang, Qingzhou Liao, and Zhangxiong zheng. TopicLPRank: a keyphrase extraction method based on improved TopicRank. *The Journal of Supercomputing*, 79(8):9073–9092, May 2023. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL <https://link.springer.com/article/10.1007/s11227-022-05022-0>.
- [LYX12] Dian-Xing Liu, Xia Yan, and Wei Xie. Improved PageRank algorithm based on the residence time of the Website. *Lecture Notes in Computer Science*, 7390:601–607, 2012. CODEN LNCSD9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL [http://link.springer.com/content/pdf/10.1007/978-3-642-31576-3\\_76](http://link.springer.com/content/pdf/10.1007/978-3-642-31576-3_76).
- [LYZ07] Jingsheng Lei, Jian Yu, and Shuigeng Zhou, editors. *FSKD 2007: proceedings: Fourth International Conference on Fuzzy Systems and Knowledge Discovery: 24–27 August, 2007: Haikou, Hainan, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 1-4244-1210-2, 0-7695-2874-0. LCCN TJ212.2 .I143 2007. URL <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4405869&isYear=2007> (vol. 1); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406026&isYear=2007> (vol. 2); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406182&isYear=2007> (vol. 3); <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4406334&isYear=2007> (vol. 4). Four volumes. IEEE Com-

puter Society order number P2874.

**Ling:2009:IPW**

- [LZ09] Zhang Ling and Qin Zheng. The improved PageRank in Web crawler. In IEEE, editor, *ICISE Proceedings of the 2009 First IEEE International Conference on Information Science and Engineering*, pages 1889–1892. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 0-7695-3887-8. LCCN ????

**Meng:2005:IIC**

- [M<sup>+</sup>05] Max Meng et al., editors. *IEEE International Conference on Information Acquisition, 2005. 27 June–3 July 2005, [the Chinese University of Hong Kong and the University of Macau]*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7803-9303-1. LCCN TA165 .I57 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10894>. IEEE catalog number 05EX1134.

**Ma:2008:FFI**

- [M<sup>+</sup>08] Jun Ma et al., editors. *FSKD 2008: Fifth International Conference on Fuzzy Systems and Knowledge Discovery: 18–20 October, 2008: Jinan, Shandong, China. FSKD '08*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2008. ISBN 0-7695-3305-1.

LCCN QA248 2008; TJ212.2 .I143 2008. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4665920>. Five volumes. IEEE Computer Society order number P3305.

**MacCormick:2012:NAC**

- [Mac12] John MacCormick. *Nine Algorithms That Changed the Future: the Ingenious Ideas That Drive Today's Computers*. Princeton University Press, Princeton, NJ, USA, 2012. ISBN 0-691-14714-0 (hardcover), 0-691-15819-3 (paperback). x + 2 + 219 pp. LCCN QA76 .M21453 2012. URL <http://press.princeton.edu/chapters/s9528.pdf>; <http://www.jstor.org/stable/10.2307/j.ctt7t71s>. With a foreword by Christopher M. Bishop.

**Maehara:2014:CPP**

- [MAIiK14] Takanori Maehara, Takuya Akiba, Yoichi Iwata, and Ken ichi Kawarabayashi. Computing personalized PageRank quickly by exploiting graph structures. *Proceedings of the VLDB Endowment*, 7(12):1023–1034, August 2014. CODEN ????. ISSN 2150-8097.

**Marchiori:1997:QCI**

- [Mar97] Massimo Marchiori. The quest for correct information on the Web: Hyper search engines. *Computer Networks and ISDN Systems*, 29(8–13):1225–1236, September 30, 1997. CODEN CNISE9.



- ISSN 0169-7552 (print), 1879-2324 (electronic). URL [http://www.computerworld.com/s/article/9222018/Italian\\_mathematician\\_prepares\\_to\\_challenge\\_Google](http://www.computerworld.com/s/article/9222018/Italian_mathematician_prepares_to_challenge_Google); [http://www.elsevier.com/cgi-bin/cas/tree/store/comnet/cas\\_sub/browse/browse.cgi?year=1997&volume=29&issue=08-13&aid=1711](http://www.elsevier.com/cgi-bin/cas/tree/store/comnet/cas_sub/browse/browse.cgi?year=1997&volume=29&issue=08-13&aid=1711).
- [Mas05] Kahn Mason. *Detecting colluders in PageRank finding slow mixing states in a Markov chain*. Thesis (Ph.D.), Stanford University, Stanford, CA, USA, 2005. 75 pp. URL <http://wwwlib.umi.com/dissertations/fullcit/3187317>. Order number AAI3187317.
- [Mas07] Zachary Mason. WordRank: a method for finding search-ad keywords for Internet merchants. In Clifton et al. [C<sup>+</sup>06], page 12. ISBN 0-7695-2702-7. LCCN QA76.9.D343 I133 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4053012>. IEEE Computer Society order number P2701.
- [MBDC15] Ioannis Mitliagkas, Michael Borokhovich, Alexandros G. Dimakis, and Constantine Caramanis. FrogWild!: fast PageRank approximations on graph engines. *Proceedings of the VLDB Endowment*, 8(8):874–885, April 2015. CODEN ????? ISSN 2150-8097.
- [MBHG05] Julie L. Morrison, Rainer Breitling, Desmond J. Higham, and David R. Gilbert. GeneRank: Using search engine technology for the analysis of microarray experiments. *BMC Bioinformatics*, 6(??):233–239, ?? 2005. CODEN BBMIC4. ISSN 1471-2105. URL <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1261158/>.
- [MBM09] M. Mataoui, M. Boughanem, and M. Mezghiche. Experiments on PageRank algorithm in the XML information retrieval context. In *ICADIWT '09: Second International Conference on the Applications of Digital Information and Web Technologies (2009)*, pages 393–398. pub-IEEE, pub-IEEE:adr, 2009. ISBN 1-4244-4456-X. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5273944>.
- [McS05] Frank McSherry. A uniform approach to accelerated PageRank computation. In ACM, editor, *International World Wide Web Conference Proceedings of the 14th international conference on World Wide Web*, pages 575–582. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-046-9. LCCN ?????

**Ma:2010:RPA**

- [MCW10] Haibo Ma, Shiyong Chen, and Deguang Wang. Research of PageRank algorithm based on transition probability. In *2010 International Conference on Web Information Systems and Mining (WISM)*, volume 1, pages 153–155. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-8438-3. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5662302>.

**Massucci:2019:MAR**

- [MD19] Francesco Alessandro Massucci and Domingo Docampo. Measuring the academic reputation through citation networks via PageRank. *Journal of Informetrics*, 13(1):185–201, February 2019. CODEN ????? ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S175115771830110X>.

**Meng:2025:MMS**

- [MDF25] Guang-Cong Meng, Yong-Xin Dong, and Yue-Hua Feng. A modified multi-step splitting iteration and its variants for computing PageRank. *The Journal of Supercomputing*, 81(1):??, January 2025. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL <https://link.springer.com/article/10.1007/s11227-024-06669-7>.

**Menon:2011:FAA**

[ME11] Aditya Krishna Menon and Charles Elkan. Fast algorithms for approximating the singular value decomposition. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 5(2):13:1–13:??, February 2011. CODEN ????? ISSN 1556-4681 (print), 1556-472X (electronic).

**Meng:2009:CBS**

[Men09] X. Meng. Computing BookRank via social cataloging. Web slides for CADS 2010 conference., February 22, 2009. URL <http://cads.stanford.edu/projects/presentations/2009visit/bookrank.pdf>.

**McGettrick:2010:HCP**

[MG10] S. McGettrick and D. Geraghty. Hardware computation of the PageRank eigenvector. In *2010 International Conference on Reconfigurable Computing and FPGAs (ReConFig)*, pages 256–261. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-9523-7. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5695315>.

**McGettrick:2008:FAP**

[MGM08a] S. McGettrick, D. Geraghty, and C. McElroy. An FPGA architecture for the PageRank eigenvector problem. In Udo Keschull, Marco Platzner, and Jürgen Teich, editors, *FPL 2008: International Conference on Field-Programmable*

- Logic and Applications: Heidelberg, Germany, September 8–10, 2008*, pages 523–526. pub-IEEE, pub-IEEE:adr, 2008. ISBN 1-4244-1961-1, 1-4244-1960-3 (set). URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4629999> IEEE catalog number CFP08623
- [MGM08b] Séamas McGettrick, Dermot Geraghty, and Ciarán McElroy. Towards an FPGA solver for the PageRank eigenvector problem. In Christian Bischof et al., editors, *Parallel computing: Architectures, algorithms and applications. Selected papers based on the presentations at the international parallel computing conference (ParCo 2007), Aachen, Germany, September 4–7, 2007*, volume 15 of *Advances in Parallel Computing*, pages 793–800. IOS Press, Amsterdam, The Netherlands, 2008. ISBN 1-58603-796-X. LCCN ????
- [MGZ08] Nan Ma, Jiancheng Guan, and Yi Zhao. Bringing PageRank to the citation analysis. *Information Processing and Management: an International Journal*, 44(2):800–810, March 2008. CODEN ????? ISSN ?????
- [MH05] P. Massa and C. Hayes. PageRank: using trusted links to re-rank authority. In Skowron [Sko05], pages 614–617. ISBN 0-7695-2415-X. LCCN
- TK5105.888 .I37 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10179>; <http://www.gbv.de/dms/bowker/toc/9780769524153>. IEEE Computer Society Order Number P2415.
- [Miy18] **Miyata:2018:HSA** Takafumi Miyata. A heuristic search algorithm based on subspaces for PageRank computation. *The Journal of Supercomputing*, 74(7):3278–3294, July 2018. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic).
- [MK19] **Makkar:2019:CSF** Aaisha Makkar and Neeraj Kumar. Cognitive spammer: a framework for PageRank analysis with split by over-sampling and train by under-fitting. *Future Generation Computer Systems*, 90(??):381–404, January 2019. CODEN FGSEVI. ISSN 0167-739X (print), 1872-7115 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0167739X18305703>
- [MLZ<sup>+</sup>24] **Ma:2024:PPP** Ke Ma, Jiawei Li, Mengyuan Zhao, Ibrahim Zamit, Bin Lin, Fei Guo, and Jijun Tang. PPRTGI: a personalized PageRank graph neural network for TF-target gene interaction detection. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 21(3):480–491, May 2024. CO-
- McGettrick:2008:TFS**
- Ma:2008:BPC**
- Massa:2005:PRU**

DEN ITCBCY. ISSN 1545-5963 (print), 1557-9964 (electronic). URL <https://dl.acm.org/doi/10.1109/TCBB.2024.3374430>.

**Markarian:2004:IEN**

- [MM04] Roberto Markarian and Nelson Möller. The importance of each node in a structure of links: Google PageRank. *Bol. Asoc. Mat. Venez.*, 11(2):233–252, 2004. CODEN ????? ISSN 1315-4125.

**MadridellaVega:2006:NLA**

- [MOG06] Humberto Madrid de la Vega, Valia Guerra Ones, and Marisol Flores Garrido. The numerical linear algebra of Google’s PageRank. In *Papers of the Mexican Mathematical Society (Spanish)*, volume 36 of *Aportaciones Mat. Comun.*, pages 33–52. Soc. Mat. Mexicana, México, 2006. ISBN ?????

**Moler:2002:CCW**

- [Mol02] Cleve B. Moler. Cleve’s corner: The world’s largest matrix computation: Google’s PageRank is an eigenvector of a matrix of order 2.7 billion. Technical note, The MathWorks, Inc., 3 Apple Hill Drive, Natick, MA 01760-2098, USA, October 2002. 1 pp. URL [http://www.mathworks.com/company/newsletter/clevescorner/oct02\\_cleve.shtml](http://www.mathworks.com/company/newsletter/clevescorner/oct02_cleve.shtml).

**Melucci:2007:PWO**

- [MP07] Massimo Melucci and Luca Pretto. PageRank: when or-

der changes. In Giambattista Amati, Claudio Carpineto, and Giovanni Romano, editors, *Advances in information retrieval: 29th European Conference on IR Research, ECIR 2007, Rome, Italy, April 2-5, 2007: proceedings*, Lecture Notes in Computer Science, pages 581–588. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-71494-4. ISSN 0302-9743 (print), 1611-3349 (electronic).

**Meini:2018:PBA**

Beatrice Meini and Federico Poloni. Perron-based algorithms for the multilinear PageRank. *Numerical Linear Algebra with Applications*, 25(6):??, December 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Mcmillan:2013:PSR**

- [MPG+13] Collin Mcmillan, Denys Poshyvanyk, Mark Grechanik, Qing Xie, and Chen Fu. Portfolio: Searching for relevant functions and their usages in millions of lines of code. *ACM Transactions on Software Engineering and Methodology*, 22(4):37:1–37:??, October 2013. CODEN ATSMER. ISSN 1049-331X (print), 1557-7392 (electronic).

**Makris:2012:WQD**

- [MPS12] Christos Makris, Yannis Plegas, and Sofia Stamou. Web query disambiguation using PageRank.

*Journal of the American Society for Information Science and Technology: JASIST*, 63(8): 1581–1592, August 2012. CODEN JASIEF. ISSN 1532-2882 (print), 1532-2890 (electronic).

**Miyazaki:2007:CPI**

- [MPW+07] T. (Toshiaki) Miyazaki, Incheon Paik, Daming Wei, et al., editors. *CIT 2007: proceedings: 7th IEEE International Conference on Computer and Information Technology: 16–19 October, 2007, Aizu-Wakamatsu City, Fukushima, Japan*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2983-6. LCCN T58.5.I56624 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4385040>. IEEE Computer Society order number P2983.

**Manaskasemsak:2004:PPC**

- [MR04] Bundit Manaskasemsak and Arnon Rungsawang. Parallel PageRank computation on a gigabit PC cluster. In Barolli [Bar04], pages 273–277. ISBN 0-7695-2051-0. LCCN TK5105.5.I5616 2004. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1283923>. IEEE Computer Society Order Number P2051.

**Manaskasemsak:2005:EPB**

- [MR05] Bundit Manaskasemsak and Arnon Rungsawang. An efficient partition-based parallel PageRank algorithm. In [MS05]

Barolli et al. [BMY05], pages 257–263 Vol. 1. ISBN 0-7695-2281-5. LCCN QA76.58.I576 2005. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1531136>. IEEE Computer Society order number P2281.

**Mousavi:2007:CWU**

- [MRM07] H. Mousavi, M. E. Rafiei, and A. Movaghar. Characterizing the Web using a new uniform sampling approach. In IEEE [IEE07c], pages 1–5. ISBN 1-4244-0614-5, 1-4244-0613-7. LCCN TK5101.A1.I479696 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4267954>. IEEE catalog number 07EX1518.

**Miller:2001:MKH**

- [MRS+01] Joel C. Miller, Gregory Rae, Fred Schaefer, Lesley A. Ward, Thomas LoFaro, and Ayman Farahat. Modifications of Kleinberg’s HITS algorithm using matrix exponentiation and web log records. In Donald H. Kraft, editor, *Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR 01: New Orleans, Louisiana, USA, September 9–13, 2001*, pages 444–445. ACM Press, New York, NY 10036, USA, 2001. ISBN 1-58113-331-6. LCCN QA76.9.D3 I552 2001; Z699.A1.

**Martins:2005:GRA**

- B. Martins and M. J. Silva.

- A graph-ranking algorithm for geo-referencing documents. In Han et al. [H<sup>+</sup>05a], page ?? ISBN 0-7695-2278-5. ISSN 1550-4786. LCCN QA76.9.D343 I133 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10470>. IEEE Computer Society Order Number P2278.
- [MS06] T. Murata and K. Saito. Extracting keywords of Web users' interests and visualizing their routine visits. In IEEE [IEE06e], pages 1–66. ISBN 1-4244-0341-3. LCCN TJ212.2 .I5474 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4149990>. IEEE catalog number 06EX1361.
- [MT20] Cun-Qiang Miao and Xue-Yuan Tan. Accelerating the Arnoldi method via Chebyshev polynomials for computing PageRank. *Journal of Computational and Applied Mathematics*, 377(??):Article 112891, October 15, 2020. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042720301825>.
- [MTF04] Rada Mihalcea, Paul Tarau, and Elizabeth Figa. PageRank on semantic networks, with application to word sense disambiguation. In Margaret King et al., editors, *Coling Geneva 2004: 20th International Conference on Computational Linguistics, August 23rd to 27th, 2004: proceedings*, page ?? Association for Computational Linguistics, Morristown, NJ, USA, 2004. ISBN 1-932432-48-5. URL <http://www.cs.unt.edu/~rada/papers/mihalcea.coling04.pdf>.
- [MV18] I. R. Mendes and P. B. Vasconcelos. PageRank computation with MAAOR and lumping methods. *Mathematics in Computer Science*, 12(2):129–141, June 2018. CODEN ????? ISSN 1661-8270 (print), 1661-8289 (electronic).
- [MW16] Abbas Mehrabian and Nick Wormald. It's a small world for random surfers. *Algorithmica*, 76(2):344–380, October 2016. CODEN ALGOEJ. ISSN 0178-4617 (print), 1432-0541 (electronic). URL <http://link.springer.com/article/10.1007/s00453-015-0034-6>.
- [MYWL04] Tao Meng, Hongfei Yan, Jimin Wang, and Xiaoming Li. The evolution of link-attributes for pages and its implications on web crawling. In Zhong et al. [Z<sup>+</sup>04], pages 578–581. ISBN 0-7695-2100-2. LCCN QA75.5 .I345 2004 .I429 2004; Q334 .I429 2004. URL <http://ieeexplore.ieee.org/servlet/>

opac?punumber=9689. IEEE Computer Society order number P2100.

**Nishida:2006:IWA**

[N<sup>+</sup>06]

T. (Toyoaki) Nishida et al., editors. *2006 IEEE/WIC/ACM International Conference on Web Intelligence: (WI 2006 main conference proceedings) (WI '06): proceedings: 18–22 December 2006, Hong Kong, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2747-7. LCCN TK5105.888 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4061321>. IEEE Computer Society order number P2747.

**Na:2007:IIC**

[N<sup>+</sup>07]

Yun Ji Na et al., editors. *IC-CIT 2007: the 2007 International Conference on Convergence Information Technology: Hyдай Hotel, Gyeongju, Korea, 21–23 November, 2007*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-3038-9. LCCN ???? URL <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4420217&isYear=2007>. IEEE Computer Society order number E3038.

**Nazin:2010:EPE**

[Naz10]

A. Nazin. Estimating the principal eigenvector of a stochastic matrix: Mirror descent al-

gorithms via game approach with application to PageRank problem. In *2010 49th IEEE Conference on Decision and Control (CDC)*, pages 792–797. pub-IEEE, pub-IEEE:adr, 2010. ISBN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5717923>.

**Nykl:2015:ARB**

[NCJ15]

Michal Nykl, Michal Campr, and Karel Jezek. Author ranking based on personalized PageRank. *Journal of Informetrics*, 9(4):777–799, October 2015. CODEN ???? ISSN 1751-1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157715200181>.

**Neate:2006:CNF**

[NIC06]

B. Neate, W. Irwin, and N. Churcher. CodeRank: a new family of software metrics. In IEEE [IEE06a], pages 369–378 (check?). ISBN 0-7695-2551-2. LCCN QA76.758 .A89 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10753>. IEEE Computer Society order number P2251.

**Nykl:2014:PVE**

[NJFD14]

Michal Nykl, Karel Jezek, Dalibor Fiala, and Martin Dostal. PageRank variants in the evaluation of citation networks. *Journal of Informetrics*, 8(3): 683–692, July 2014. CODEN ???? ISSN 1751-

- 1577 (print), 1875-5879 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S1751157714000583>
- Narayan:2003:TCW**
- [NMP03] B. L. Narayan, C. A. Murthy, and S. K. Pal. Topic continuity for Web document categorization and ranking. In Liu et al. [L<sup>+</sup>03], pages 310–315. ISBN 0-7695-1932-6. LCCN QA75.5 .I345 2003. URL <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=8792>
- Nesi:2005:FIC**
- [NND<sup>+</sup>05] Paolo Nesi, Kia Ng, Jaime Delgado, et al., editors. *First International Conference on Automated Production of Cross Media Content for Multi-channel Distribution: proceedings: Florence, Italy, 30 November–2 December 2005*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2348-X. LCCN QA76.575 .I633 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10605>. IEEE Computer Society order number: P2348.
- Nakakubo:2007:WPS**
- [NNH<sup>+</sup>07] H. Nakakubo, S. Nakajima, K. Hatano, J. Miyazaki, and S. Uemura. Web page scoring based on link analysis of Web page sets. In Tjoa and Wagner [TW07], pages 269–273. ISBN 0-7695-2932-1. LCCN QA76.9.D3 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4312838>. IEEE Computer Society order number P2932.
- Nazin:2009:ARA**
- [NP09a] A. Nazin and B. Polyak. Adaptive randomized algorithm for finding eigenvector of stochastic matrix with application to PageRank. In *CDC/CCC 2009: Proceedings of the 48th IEEE Conference on Decision and Control [held jointly with the 2009 28th Chinese Control Conference]*, pages 127–132. pub-IEEE, pub-IEEE:adr, 2009. ISBN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5400036>.
- Nazin:2009:RAFa**
- [NP09b] A. Nazin and B. Polyak. A randomized algorithm for finding eigenvector of stochastic matrix with application to PageRank problem. In *ISIC 2009: IEEE Control Applications, (CCA) & Intelligent Control*, pages 412–416. pub-IEEE, pub-IEEE:adr, 2009. ISBN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5280707>.
- Nazin:2009:RAFb**
- [NP09c] A. V. Nazin and B. T. Polyak. A randomized algorithm for finding an eigenvector of a stochastic matrix with application to PageRank. *Doklady Akademii nauk SSSR*, 426



(6):734–737, 2009. CODEN DANKAS. ISSN 0869-5652. English translation in *Dokl. Math.* 79(3) 424–427 (2009).

**Nie:2007:CSP**

[NWD07] Lan Nie, Baoning Wu, and Brian D. Davison. A cautious surfer for PageRank. In ACM, editor, *International World Wide Web Conference Proceedings of the 16th international conference on World Wide Web*, pages 1119–1120. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-654-8. LCCN ????

**Nan:2007:ENI**

[NWyY07] He Nan, Gan Wen-yan, and Li De Yi. Evaluate nodes importance in the network using data field theory. In Na et al. [N<sup>+</sup>07], pages 1225–1234. ISBN 0-7695-3038-9. LCCN ????. URL <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4420217&isYear=2007>. IEEE Computer Society order number E3038.

**Ng:2001:SAL**

[NZJ01] Andrew Y. Ng, Alice X. Zheng, and Michael I. Jordan. Stable algorithms for link analysis. In Croft et al. [C<sup>+</sup>01], pages 258–266. ISBN 1-58113-331-6. LCCN QA76.9.D3 I552 2001. ACM order number 606010. Special issue of the SIGIR Forum, **24** (2001).

**Najork:2007:HWH**

[Nzt07] Marc A. Najork, Hugo Zaragoza, and Michael J. Taylor. HITS

on the web: How does it compare? In Wessel Kraaij and Arjen P. de Vries, editors, *Proceedings of the 30th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR2007. Amsterdam (the Netherlands), July 23–27, 2007*, pages 471–478. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-597-5. LCCN Z699.A1.

**Ock:2007:ASI**

[OBB07] CheolYoung Ock, JeongYong Byun, and YuDe Bi, editors. *ALPIT 2007: Sixth International Conference on Advanced Language Processing and Web Information Technology: proceedings: August 22–24, 2007, Luoyang, Henan, China*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2930-5. LCCN QA76.9.S88 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4460594>.

**Olvera-Cravioto:2021:PBU**

[OC21] Mariana Olvera-Cravioto. PageRank’s behavior under degree correlations. *Annals of Applied Probability*, 31(3):1403–1442, June 2021. CODEN ????. ISSN 1050-5164 (print), 2168-8737 (electronic). URL <https://projecteuclid.org/journals/annals-of-applied-probability/volume-31/issue-3/PageRanks-behavior-under->

- degree-correlations/10.1214/20-AAP1623.full.
- Onizuka:2013:OIQ**
- [OKH<sup>+</sup>13] Makoto Onizuka, Hiroyuki Kato, Soichiro Hidaka, Keisuke Nakano, and Zhenjiang Hu. Optimization for iterative queries on MapReduce. *Proceedings of the VLDB Endowment*, 7(4): 241–252, December 2013. CODEN ???? ISSN 2150-8097.
- Ono:2006:IWS**
- [OTK06] H. Ono, M. Toyoda, and M. Kit-  
suregawa. Identifying Web spam  
by densely connected sites and  
its statistics in a Japanese Web  
snapshot. In Barga and Zhou  
[BZ06], page x131. ISBN 0-  
7695-2571-7. LCCN QA76.9.D3  
I5582 2006. URL [http://  
ieeexplore.ieee.org/servlet/  
opac?punumber=10810](http://ieeexplore.ieee.org/servlet/opac?punumber=10810).
- Ohmukai:2003:PPC**
- [OTM03] I. Ohmukai, H. Takeda, and  
M. Miki. A proposal of  
the person-centered approach  
for personal task management.  
In Helal et al. [H<sup>+</sup>03], pages  
234–240. ISBN 0-7695-1872-  
9. LCCN TK5105.875.I57  
S95 2003. URL [http://  
ieeexplore.ieee.org/servlet/  
opac?punumber=8426](http://ieeexplore.ieee.org/servlet/opac?punumber=8426).
- Page:2001:MNR**
- [Pag01] Lawrence Page. Method for node  
ranking in a linked database.  
US Patent 6,285,999, Septem-  
ber 4, 2001. URL [http://  
patft.uspto.gov/netahtml/](http://patft.uspto.gov/netahtml/)
- PTO/srchnum.htm. Filed Jan-  
uary 9, 1998. Expires around  
January 9, 2018.
- Page:1998:PCR**
- [PBMW98] Lawrence Page, Sergey Brin, Ra-  
jeev Motwani, and Terry Wino-  
grad. The PageRank citation  
ranking: Bringing order to the  
web. Technical report, Stan-  
ford Digital Library Technol-  
ogies Project, Stanford Uni-  
versity, Stanford, CA, USA, Novem-  
ber 11, 1998. 17 pp. URL [http://  
dbpubs.stanford.edu/pub/  
1999-66](http://dbpubs.stanford.edu/pub/1999-66); [http://ilpubs.  
Stanford.edu:8090/422/](http://ilpubs.Stanford.edu:8090/422/).
- Page:1999:PCR**
- [PBMW99] Lawrence Page, Sergey Brin, Ra-  
jeev Motwani, and Terry Wino-  
grad. The PageRank citation  
ranking: Bringing order to the  
web. Technical Report 1999-66,  
Stanford Digital Library Tech-  
nologies Project, Stanford Uni-  
versity, Stanford, CA, USA,  
1999.
- Parreira:2008:JAP**
- [PCD<sup>+</sup>08] Josiane Xavier Parreira, Car-  
los Castillo, Debora Donato, Se-  
bastian Michel, and Gerhard  
Weikum. The Juxtaposed ap-  
proximate PageRank method for  
robust PageRank approximation  
in a peer-to-peer web search  
network. *VLDB Journal: Very  
Large Data Bases*, 17(2):291–  
313, March 2008. CODEN  
VLDBFR. ISSN 1066-8888  
(print), 0949-877X (electronic).

**Pop:2015:AMS**

- [PCD15] Florin Pop, Radu-Ioan Ciobanu, and Ciprian Dobre. Adaptive method to support social-based mobile networks using a PageRank approach. *Concurrency and Computation: Practice and Experience*, 27(8):1900–1912, June 10, 2015. CODEN CCPEBO. ISSN 1532-0626 (print), 1532-0634 (electronic).

**Pathak:2008:IDD**

- [PCG08] Amit Pathak, Soumen Chakrabarti, and Manish Gupta. Index design for dynamic personalized PageRank. In IEEE, editor, *ICDE 2008: IEEE 24th International Conference on Data Engineering*, pages 1489–1491. pub-IEEE, pub-IEEE:adr, 2008. ISBN 1-4244-1836-4. LCCN ????? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4497599>.

**Parreira:2006:EDP**

- [PDMW06] Josiane Xavier Parreira, Debora Donato, Sebastian Michel, and Gerhard Weikum. Efficient and decentralized PageRank approximation in a peer-to-peer Web search network. In Umeshwar Dayal et al., editors, *Proceedings of the 32nd International Conference on Very Large Data Bases*, pages 415–426. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-385-9. LCCN QA76.9.D3 I61 2006.

**Padmanabhan:2005:WWI**

- [PDSR05] D. Padmanabhan, P. Desikan, J. Srivastava, and K. Riaz. WICER: a weighted inter-cluster edge ranking for clustered graphs. In Skowron [Sko05], pages 522–528. ISBN 0-7695-2415-X. LCCN TK5105.888 .I37 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10179>; <http://www.gbv.de/dms/bowker/toc/9780769524153>. IEEE Computer Society Order Number P2415.

**Pedroche:2007:MCP**

- [Ped07] Francisco Pedroche. Methods of calculating the PageRank vector. *Bol. Soc. Esp. Mat. Apl. SĒMA*, 39:7–30, 2007. CODEN ???? ISSN 1575-9822.

**Perner:2006:ADM**

- [Per06] Petra Perner, editor. *Advances in data mining: applications in medicine, web mining, marketing, image and signal mining: 6th Industrial Conference on Data Mining, ICDM 2006, Leipzig, Germany, July 14–15, 2006: proceedings*, volume 4065 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006. ISBN 3-540-36036-0. ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.D343.

**Pedroche:2018:STL**

- [PGRC18a] Francisco Pedroche, Esther García, Miguel Romance, and

- Regino Criado. On the spectrum of two-layer approach and Multiplex PageRank. *Journal of Computational and Applied Mathematics*, 344(??):161–172, December 15, 2018. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042718303042> █
- [PGRC18b] Francisco Pedroche, Esther García, Miguel Romance, and Regino Criado. Sharp estimates for the personalized multiplex PageRank. *Journal of Computational and Applied Mathematics*, 330(??):1030–1040, March 1, 2018. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042717300717> █
- [PHW10] Bing-Yuan Pu, Ting-Zhu Huang, and Chun Wen. An improved PageRank algorithm: Immune to spam. In *2010 4th International Conference on Network and System Security (NSS)*, pages 425–429. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-8484-7. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5635820> █
- [Pit19] Mircea Pitici, editor. *The Best Writing On Mathematics: 2019*, volume 2019. Princeton University Press, Princeton, NJ, USA, 2019. ISBN 0-691-19835-7, 0-691-19867-5. xvi + 272 + 16 pp. LCCN QA8.6 .B337 2019.
- [PKDM21] Michel Pelletier, Will Kimmerer, Timothy A. Davis, and Timothy G. Mattson. The GraphBLAS in Julia and Python: the PageRank and triangle centralities. In IEEE, editor, *2021 IEEE High Performance Extreme Computing Conference (HPEC)*, pages 1–7. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2021.
- [PKLK09] Nguyen Quang Phuoc, Sung-Ryul Kim, Han-Ku Lee, and Hyung Seok Kim. PageRank vs. Katz Status Index, a theoretical approach. In Sohn [Soh09], pages 1276–1279. ISBN 0-7695-3896-7. LCCN ????? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5368419>.
- [PL06] Wen-Chih Peng and Yu-Chin Lin. Ranking Web search results from personalized perspective. In Wombacher et al. [WHS+06], page 12. ISBN 0-7695-2511-3. LCCN HF5548.32 .I57 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10920>.

**Pelletier:2021:GJP****Pedroche:2018:SEP****Phuoc:2009:PVK****Pu:2010:IPA****Peng:2006:RWS****Pitici:2019:BWM**

**Pan:2023:PPD**

- [PMKY23] Weifeng Pan, Hua Ming, Dae-Kyoo Kim, and Zijiang Yang. Pride: Prioritizing documentation effort based on a PageRank-like algorithm and simple filtering rules. *IEEE Transactions on Software Engineering*, 49(3): 1118–1151, March 2023. CODEN IESEDJ. ISSN 0098-5589 (print), 1939-3520 (electronic).

**Pradhan:2017:CIP**

- [PPM<sup>+</sup>17] Dinesh Pradhan, Partha Sarathi Paul, Umesh Maheswari, Subrata Nandi, and Tanmoy Chakraborty.  $C^3$ -index: a PageRank based multi-faceted metric for authors' performance measurement. *Scientometrics*, 110(1): 253–273, January 2017. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s11192-016-2168-y>.

**Pretto:2002:TAG**

- [Pre02] Luca Pretto. A theoretical analysis of Google's PageRank. *Lecture Notes in Computer Science*, 2476:131–144, 2002. CODEN LNCSD9. ISBN 3-540-44158-1. ISSN 0302-9743 (print), 1611-3349 (electronic). URL <http://link.springer.de/link/service/series/0558/bibs/2476/24760131.htm>; <http://link.springer.de/link/service/series/0558/papers/2476/24760131.pdf>.

**Pandurangan:2002:UPC**

- [PRU02] Gopal Pandurangan, Prabhakar Raghavan, and Eli Upfal. Using PageRank to characterize Web structure. *Lecture Notes in Computer Science*, 2387:330–339, 2002. CODEN LNCSD9. ISBN 3-540-43996-X. ISSN 0302-9743 (print), 1611-3349 (electronic). URL <http://link.springer-ny.com/link/service/series/0558/bibs/2387/23870330.htm>; <http://link.springer-ny.com/link/service/series/0558/papers/2387/23870330.pdf>.

**Pandurangan:2006:UPC**

- [PRU06] Gopal Pandurangan, Prabhakar Raghavan, and Eli Upfal. Using PageRank to characterize web structure. *Internet Mathematics*, 3(1):1–20, 2006. CODEN ???? ISSN 1542-7951 (print), 1944-9488 (electronic). URL <http://projecteuclid.org/getRecord?id=euclid.im/1175266365>.

**Pan:2008:APA**

- [PT08] Hao Pan and Long-Yuan Tan. Adaptive PageRank algorithm search strategy for specific topics. *J. Comput. Appl.*, 28(9): 2192–2194, 2008. CODEN ???? ISSN ????.

**Peng:2015:IPC**

- [PWZW15] Wei Peng, Jianxin Wang, Bihai Zhao, and Lusheng Wang. Identification of protein complexes using weighted PageRank–Nibble algorithm and core-attachment structure. *IEEE/*

*ACM Transactions on Computational Biology and Bioinformatics*, 12(1):179–192, January 2015. CODEN ITCBCY. ISSN 1545-5963 (print), 1557-9964 (electronic).

**Qiao:2007:EAP**

- [QJT07] Jonathan Qiao, Brittany Jones, and Stacy Thrall. An efficient algorithm and its parallelization for computing PageRank. In Yong Shi et al., editors, *Proceedings of the 7th international conference on Computational Science, Part I: ICCS 2007*, volume 4487–4490 of *Lecture Notes in Computer Science*, pages 237–244. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-72583-0. ISSN 0302-9743 (print), 1611-3349 (electronic).

**Quesada:2006:HIP**

- [QM06] A. Arratia Quesada and C. Marijuán. How to improve the PageRank of a tree. In *Fifth Conference on Discrete Mathematics and Computer Science (Spanish)*, volume 23 of *Ciencias (Valladolid)*, pages 71–78. Universidad Valladolid, Secr. Publ. Intercamb. Ed., Valladolid, Spain, 2006. ISBN ????

**Qin:2010:BRA**

- [QX10] Yongbin Qin and Daoyun Xu. A balanced rank algorithm based on PageRank and page belief recommendation. In *2010 2nd International Work-*

*shop on Intelligent Systems and Applications (ISA)*, pages 1–4. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-5872-2. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5473657>.

**Qin:2024:PTP**

- [QZLL24] Xinyi Qin, Lu Zhang, Min Liu, and Guangzhong Liu. PRFold-TNN: Protein fold recognition with an ensemble feature selection method using PageRank algorithm based on transformer. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 21(6):1740–1751, 2024. CODEN ITCBCY. ISSN 1545-5963 (print), 1557-9964 (electronic). URL <https://dl.acm.org/doi/10.1109/TCBB.2024.3414497>.

**Ramakrishnan:2007:PSI**

- [R<sup>+</sup>07] Naren Ramakrishnan et al., editors. *Proceedings of the Seventh IEEE International Conference on Data Mining: ICDM 2007: 28–31 October, 2007, Omaha, Nebraska*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-3018-4. LCCN QA76.9.D343 I133 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4470209>. IEEE Computer Society order number P3018.

**Radev:2006:GBM**

- [Rad06] D. R. Radev. Graph-based meth-

ods for language processing and information retrieval. In IEEE [IEE06b], page 4. ISBN 1-4244-0872-5 (softbound edition). LCCN TK7895.S65. IEEE catalog number 06EX1646.

**Rafailidis:2017:LSS**

- [RCM17] D. Rafailidis, E. Constantinou, and Y. Manolopoulos. [RG12] Landmark selection for spectral clustering based on Weighted PageRank. *Future Generation Computer Systems*, 68(??): 465–472, March 2017. CODEN FGSEVI. ISSN 0167-739X (print), 1872-7115 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0167739X16300504>

**Rebaza:2012:FCA**

- [Reb12a] Jorge Rebaza. [Rho10] *A first course in applied mathematics*. Wiley, New York, NY, USA, 2012. ISBN 1-118-22962-2. xvi + 439 pp. LCCN TA342 .R43 2012. URL <http://www.loc.gov/catdir/enhancements/fy1201/2011043340-d.html>; <http://www.loc.gov/catdir/enhancements/fy1201/2011043340-t.html>; <http://www.loc.gov/catdir/enhancements/fy1210/2011043340-b.html>. [RM05]

**Rebaza:2012:GPA**

- [Reb12b] Jorge Rebaza. Google’s PageRank algorithm. In *A first course in applied mathematics* [Reb12a], chapter 2.3, page ?? ISBN 1-118-22962-2. LCCN TA342 .R43 2012. URL

<http://www.loc.gov/catdir/enhancements/fy1201/2011043340-d.html>; <http://www.loc.gov/catdir/enhancements/fy1201/2011043340-t.html>; <http://www.loc.gov/catdir/enhancements/fy1210/2011043340-b.html>.

**Rossi:2012:DPU**

Ryan A. Rossi and David F. Gleich. Dynamic PageRank using evolving teleportation. *Lecture Notes in Computer Science*, 7323:126–137, 2012. CODEN LNCSD9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL [http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2\\_10](http://link.springer.com/content/pdf/10.1007/978-3-642-30541-2_10).

**Rhodes:2010:CLB**

Brett D. Rhodes, editor. *Copyright law and a brief look at the Google Library Project*. Laws and legislation. Nova Science Publishers, New York, NY, USA, 2010. ISBN 1-60741-871-1 (hardcover). xi + 166 pp. LCCN KF2994 .C62 2010.

**Rungsawang:2005:PBP**

Arnon Rungsawang and Budit Manaskasemsak. Partition-based parallel PageRank algorithm. In He et al. [H<sup>+</sup>05b], pages 57–62. ISBN 0-7695-2316-1. LCCN T58.5 .I545 2005. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1488928> IEEE Computer Society Order Number P2316.

- [RM06] **Rungsawang:2006:PAT**  
 Arnon Rungsawang and Bundit Manaskasemsak. Parallel adaptive technique for computing PageRank. In IEEE [IEE05a], pages 15–50. ISBN 0-7695-2513-X. LCCN QA76.58 .E95 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1613249> IEEE Computer Society order number P2513.
- [Rob19] **Robertson:2019:BHS**  
 Stephen Robertson. A brief history of search results ranking. *IEEE Annals of the History of Computing*, 41(2):22–28, April 2019. CODEN IAHCEX. ISSN 1058-6180 (print), 1934-1547 (electronic).
- [RPB06] **Richardson:2006:BPM**  
 Matthew Richardson, Amit Prakash, and Eric Brill. Beyond PageRank: machine learning for static ranking. In ACM, editor, *International World Wide Web Conference Proceedings of the 15th international conference on World Wide Web*, pages 707–715. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-323-9. LCCN ????
- [RPM07] **Rungsawang:2007:BLF**  
 Arnon Rungsawang, Komthorn Puntumapon, and Bundit Manaskasemsak. Un-biasing the link farm effect in PageRank computation. In IEEE [IEE07b], pages 924–931. ISBN 0-7695-2847-3. LCCN TK5105.5 2007;
- TK5105.5 .I5616 2007. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4220990>. IEEE Computer Society order number P2847.
- [RR17] **Reinstaller:2017:UPA**  
 Andreas Reinstaller and Peter Reschenhofer. Using PageRank in the analysis of technological progress through patents: an illustration for biotechnological inventions. *Scientometrics*, 113(3):1407–1438, December 2017. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-017-2549-x>.
- [RSA09a] **Rousseau:2009:GAP**  
 Christiane Rousseau and Yvan Saint-Aubin. Google et l’algorithme PageRank. In *Mathématiques et Technologie* [RSA09b], pages 273–297. ISBN 0-387-69213-4. LCCN ????. URL <http://d-nb.info/997902213/34>; <http://nbn-resolving.de/urn:nbn:de:1111-20091103138>; <http://www.springerlink.com/content/r61844>.
- [RSA09b] **Rousseau:2009:MT**  
 Christiane Rousseau and Yvan Saint-Aubin, editors. *Mathématiques et Technologie*. Springer Undergraduate Texts in Mathematics and Technology. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 0-387-69213-4. ????. pp.



- LCCN ????, URL <http://d-nb.info/997902213/34>; <http://nbn-resolving.de/urn:nbn:de:1111-20091103138>; <http://www.springerlink.com/content/r61844>.  
**Sarlos:2006:RRS**
- [SBC<sup>+</sup>06] Tamás Sarlós, Adrás A. Benczúr, Károly Csalogány, Dániel Fogaras, and Balázs Rácz. To randomize or not to randomize: space optimal summaries for hyperlink analysis. In ACM, editor, *Proceedings of the 15th international conference on World Wide Web, Edinburgh, Scotland*, pages 297–306. ACM Press, New York, NY 10036, USA, 2006. ISBN 1-59593-323-9. LCCN ????
- Serra-Capizzano:2005:JCF**
- [SC05] Stefano Serra-Capizzano. Jordan canonical form of the Google matrix: a potential contribution to the PageRank computation. *SIAM Journal on Matrix Analysis and Applications*, 27(2):305–312, April 2005. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/44140>; <https://www.math.utah.edu/pub/tex/bib/siamjmatanaappl.bib>. See comments [WW08].
- Sanderson:2012:HIR**
- [SC12] M. Sanderson and W. B. Croft. The history of information retrieval research. *Proceedings of the IEEE*, 100(Special Centennial Issue):1444–1451, May 2012.
- CODEN IEEPAD. ISSN 0018-9219 (print), 1558-2256 (electronic).  
**Shen:2024:PWF**
- [SCW<sup>+</sup>24] Zhao-Li Shen, Bruno Carpentieri, Chun Wen, Jian-Jun Wang, Stefano Serra-Capizzano, and Shi-Ping Du. Preconditioned weighted full orthogonalization method for solving singular linear systems from PageRank problems. *Numerical Linear Algebra with Applications*, 31(3):e2541:1–e2541:??, May 2024. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).
- Salkuyeh:2014:PPG**
- [SEH14] Davod Khojasteh Salkuyeh, Vahid Edalatpour, and Davod Hezari. Polynomial preconditioning for the GeneRank problem. *Electronic Transactions on Numerical Analysis (ETNA)*, 41:179–189, 2014. CODEN ????. ISSN 1068-9613 (print), 1097-4067 (electronic). URL <http://etna.mcs.kent.edu/vol.41.2014/pp179-189.dir/pp179-189.pdf>; <http://etna.mcs.kent.edu/volumes/2011-2020/vol41/abstract.php?vol=41&pages=179-189>.
- Sarma:2008:EPG**
- [SGP08] Atish Das Sarma, Sreenivas Golapudi, and Rina Panigrahy. Estimating PageRank on graph streams. In Lenzerini and Lembo [LL08], pages 69–78. ISBN 1-59593-685-8. LCCN ????

URL <https://www.math.utah.edu/pub/tex/bib/pods.bib>.

**Sarma:2011:EPG**

- [SGP11] Atish Das Sarma, Sreenivas Golapudi, and Rina Panigrahy. Estimating PageRank on graph streams. *Journal of the ACM*, 58(3):13:1–13:19, May 2011. CODEN JACOA. ISSN 0004-5411 (print), 1557-735X (electronic).

**Shen:2017:EES**

- [SHC<sup>+</sup>17] Zhao-Li Shen, Ting-Zhu Huang, Bruno Carpentieri, Xian-Ming Gu, and Chun Wen. An efficient elimination strategy for solving PageRank problems. *Applied Mathematics and Computation*, 298(??):111–122, April 1, 2017. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300316306385>.

**Shen:2019:DLR**

- [SHC<sup>+</sup>19] Zhao-Li Shen, Ting-Zhu Huang, Bruno Carpentieri, Chun Wen, Xian-Ming Gu, and Xue-Yuan Tan. Off-diagonal low-rank preconditioner for difficult PageRank problems. *Journal of Computational and Applied Mathematics*, 346(??):456–470, January 15, 2019. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042718304357>.

**Shih:2007:VAR**

- [SHH07] Huang-Chia Shih, Chung-Lin Huang, and Jenq-Neng Hwang. Video attention ranking using visual and contextual attention model for content-based sports videos mining. In IEEE [IEE07e], pages 414–417. ISBN 1-4244-1273-0. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4412795>. IEEE catalog number 07EX1807.

**Shen:2025:WDB**

- [SHL<sup>+</sup>25] Zhao-Li Shen, Guo-Liang Han, Yu-Tong Liu, Bruno Carpentieri, Chun Wen, and Jian-Jun Wang. Weak dangling block reordering and multi-step block compression for efficiently computing and updating PageRank solutions. *Journal of Computational and Applied Mathematics*, 458(??):??, April 2025. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042724005806>.

**Setayesh:2014:PEV**

- [SHR14] Sara Setayesh, Ali Harounabadi, and Amir Masoud Rahmani. Presentation of an extended version of the PageRank algorithm to rank Web pages inspired by ant colony algorithm. *International Journal of Computer Applications*, 85(??):7–10, January 2014. CODEN ???? ISSN 0975-8887. URL <https://www.>

- ijcaonline.org/archives/volume85/number17/14931-3357/.
- [Sidi08] Avram Sidi. Vector extrapolation methods with applications to solution of large systems of equations and to PageRank computations. *Computers and Mathematics with Applications*, 56(1):1–24, July 2008. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic).
- [SJY<sup>+</sup>20] Jieming Shi, Tianyuan Jin, Renchi Yang, Xiaokui Xiao, and Yin Yang. Realtime index-free single source SimRank processing on web-scale graphs. *Proceedings of the VLDB Endowment*, 13(7):966–980, March 2020. CODEN ????? ISSN 2150-8097. URL <https://dl.acm.org/doi/abs/10.14778/3384345.3384347>.
- [Sko05] Andrzej Skowron, editor. *Proceedings of the 2005 IEEE/WIC/ACM International Conference on Web Intelligence, 2005. September 19–22, 2005, Compiègne University of Technology, France*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7695-2415-X. LCCN TK5105.888 .I37 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10179>; <http://www.gbv.de/dms/bowker/>
- [Soh09] Sungwon Sohn, editor. *2009 Fourth International Confer-*
- [SLF<sup>+</sup>11] Xiaowei Shen, Xiwei Liu, Dong Fan, Changjian Cheng, and Gang Xiong. A performance appraisal method based on ACP theory and PageRank algorithm. In *2011 IEEE International Conference on Service Operations, Logistics, and Informatics (SOLI)*, pages 197–201. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5986555>
- [SMPU15] Atish Das Sarma, Anisur Rahman Molla, Gopal Pandurangan, and Eli Upfal. Fast distributed PageRank computation. *Theoretical Computer Science*, 561 (part B)(?):113–121, January 4, 2015. CODEN TCSCDI. ISSN 0304-3975 (print), 1879-2294 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0304397514002709>
- [Sob03] M. Sobek. PR0 — Google’s PageRank 0 penalty. Web document., 2003. URL <http://pr.efactory.de/e-pr0.shtml>.
- toc/9780769524153. IEEE Computer Society Order Number P2415.

**Sidi:2008:VEM****Shen:2011:PAM****Shi:2020:RIF****Sarma:2015:FDP****Skowron:2005:PIW****Sobek:2003:PGP****Sohn:2009:FIC**

- ence on Computer Sciences and Convergence Information Technology: (ICCIT 2009). Seoul, Korea, 24–26 November 2009.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 1-4244-5244-9. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=5367867>.
- [SP20] **Sankpal:2020:RRA** [SSB03] Lata Jaywant Sankpal and Suhas H Patil. Rider-rank algorithm-based feature extraction for re-ranking the Web-pages in the search engine. *The Computer Journal*, 63(10): 1479–1489, October 2020. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://academic.oup.com/comjnl/article/63/10/1479/5855737>.
- [SPLW17] **Shao:2017:DSA** [SSCW22] Fei Shao, Rong Peng, Han Lai, and Bangchao Wang. DRank: a semi-automated requirements prioritization method based on preferences and dependencies. *The Journal of Systems and Software*, 126(?):141–156, April 2017. CODEN JSSODM. ISSN 0164-1212 (print), 1873-1228 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0164121216301911>.
- [SPY+09] **Su:2009:PHI** [SSPN08] Cheng Su, YunTao Pan, Jun-Peng Yuan, Hong Guo, ZhengLu Yu, and ZhiYu Hu. PageRank, HITS and impact factor for journal ranking. In IEEE [IEE09b], pages 285–290. ISBN 0-7695-3507-0. LCCN QA75.5 2009. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5170706>. IEEE Computer Society order number P3507.
- Sankaralingam:2003:DPP** Karthikeyan Sankaralingam, Simha Sethumadhavan, and James C. Browne. Distributed PageRank for P2P systems. In IEEE [IEE03], pages 58–68. ISBN 0-7695-1965-2. LCCN QA76.9.D5 I157 2003. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1210016>. IEEE Computer Society order number PR01965.
- Shen:2022:SPG** Zhao-Li Shen, Meng Su, Bruno Carpentieri, and Chun Wen. Shifted power-GMRES method accelerated by extrapolation for solving PageRank with multiple damping factors. *Applied Mathematics and Computation*, 420(?):Article 126799, May 1, 2022. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S009630032100881X>.
- Stringer:2008:EJR** M. J. Stringer, M. Sales-Pardo, and L. S. Nunes Amaral. Effectiveness of journal ranking

schemes as a tool for locating information. *PLoS One*, 3(2):e1683:1–e1683:8, February 27, 2008. CODEN POLNCL. ISSN 1932-6203. URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0001683>.

**Suzuki:2004:HDP**

- [Suz04] K. Suzuki. How does propagational investment currency system change the world? In IEEE [IEE04], pages 9–15. ISBN 0-7695-2050-2. LCCN TK5105.875.I57 S95 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8957>. IEEE Computer Society order number PR02050.

**Sun:2006:NPA**

- [SW06] Huan Sun and Yimin Wei. A note on the PageRank algorithm. *Applied Mathematics and Computation*, 179(2):799–806, August 15, 2006. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <https://www.math.utah.edu/pub/tex/bib/applmathcomput2005.bib>.

**Su:2008:ERR**

- [SWT08] Ja-Hwung Su, Bo-Wen Wang, and Vincent S. Tseng. Effective ranking and recommendation on Web page retrieval by integrating association mining and PageRank. In IEEE, editor, *WI-IAT '08: IEEE/WIC/ACM International Conference on Web Intelligence*

*and Intelligent Agent Technology (2008)*, volume 3, pages 455–458. pub-IEEE, pub-IEEE:adr, 2008. ISBN 0-7695-3496-1. LCCN ????? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4740820>.

**Shi:2019:RTP**

- [SYJ<sup>+</sup>19] Jieming Shi, Renchi Yang, Tianyuan Jin, Xiaokui Xiao, and Yin Yang. Realtime top-*k* Personalized PageRank over large graphs on GPUs. *Proceedings of the VLDB Endowment*, 13(1):15–28, September 2019. CODEN ????? ISSN 2150-8097.

**Sankaralingam:2003:PCK**

- [SYSB03] Karthikeyan Sankaralingam, Madhulika Yalamanchi, Simha Sethumadhavan, and James C. Browne. Pagerank computation and keyword search on distributed systems and P2P networks. *Journal of Grid Computing*, 1(3):291–307, 2003. CODEN ????? ISSN 1570-7873 (print), 1572-9184 (electronic). URL <http://ipsapp008.kluweronline.com/IPS/content/ext/x/J/6160/I/9/A/6/abstract.htm>; <https://www.math.utah.edu/pub/tex/bib/jgridcomp.bib>.

**Shi:2003:DPR**

- [SYYW03] ShuMing Shi, Jin Yu, Guang-Wen Yang, and DingXing Wang. Distributed page ranking in structured P2P networks. In Yang et al. [YS<sup>+</sup>03], pages 179–186. ISBN 0-7695-2017-0. LCCN

- QA76.58 .I55 2003; QA76.6 .I548 2003. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8782>. IEEE Computer Society order number PR02017. **Tudisco:2011:PAP**
- [SZ07] M. Schatten and M. Zugaj. Organizing a fishnet structure. In Luzar-Stiffler [LS07], pages 81–86. ISBN 953-7138-10-0. LCCN ????? **Schatten:2007:OFS**
- [SZ10] D. L. Shepelyansky and O. V. Zhirov. Google matrix, dynamical attractors, and Ulam networks. *Physical Review E (Statistical physics, plasmas, fluids, and related interdisciplinary topics)*, 81(3):036213:1–036213:9, March 2010. CODEN PLEEE8. ISSN 1539-3755 (print), 1550-2376 (electronic). URL <http://journals.aps.org/pre/abstract/10.1103/PhysRevE.81.036213>; <http://link.aps.org/doi/10.1103/PhysRevE.81.036213>. **Shepelyansky:2010:GMD** [TFP06]
- [Tan17] Xueyuan Tan. A new extrapolation method for PageRank computations. *Journal of Computational and Applied Mathematics*, 313(??):383–392, March 15, 2017. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042716304034>. **Tan:2017:NEM**
- Francesco Tudisco and Carmine Di Fiore. A preconditioning approach to the pagerank computation problem. *Linear Algebra and its Applications*, 435(9):2222–2246, November 1, 2011. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). **Tong:2006:FRW**
- Hanghang Tong, C. Faloutsos, and J.-Y. Pan. Fast random walk with restart and its applications. In Clifton et al. [C<sup>+</sup>06], pages 613–622. ISBN 0-7695-2702-7. LCCN QA76.9.D343 I133 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4053012>. IEEE Computer Society order number P2701. **Turner:2006:SII**
- Stephen John Turner, Bu Sung Lee, and Wientong Cai, editors. *Sixth IEEE International Symposium on Cluster Computing and the Grid workshops, 2006: CCGrid 06. 16–19 May 2006, Singapore*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2585-7. LCCN QA76.9.C58 I133 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10857>. IEEE Computer Society Order Number P2585. **Tong:2006:FRW**

- [TLD22] **Tian:2022:CIA**  
 Zhaolu Tian, Zhongyun Liu, and Yinghui Dong. The coupled iteration algorithms for computing PageRank. *Numerical Algorithms*, 89(4):1603–1637, April 2022. CODEN NUALEG. ISSN 1017-1398 (print), 1572-9265 (electronic). URL <https://link.springer.com/article/10.1007/s11075-021-01166-x>.
- [TLZ<sup>+</sup>19] **Tian:2019:GIO**  
 Zhaolu Tian, Yong Liu, Yan Zhang, Zhongyun Liu, and Maoyi Tian. The general inner-outer iteration method based on regular splittings for the PageRank problem. *Applied Mathematics and Computation*, 356(??):479–501, September 1, 2019. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300319301766>.
- [TMF05] **Tarau:2005:SDE**  
 Paul Tarau, Rada Mihalcea, and Elizabeth Figa. Semantic document engineering with WordNet and PageRank. In ACM, editor, *Proceedings of the 2005 ACM Symposium on Applied computing*, pages 782–786. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-58113-964-0. LCCN ????
- [TMPP05] **Tummarello:2005:SAH**  
 G. Tummarello, C. Morbidoni, P. Puliti, and F. Piazza. Semantic audio hyperlinking: a multimedia-semantic Web scenario. In Nesi et al. [NND<sup>+</sup>05], page ?? ISBN 0-7695-2348-X. LCCN QA76.575 .I633 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10605>. IEEE Computer Society order number: P2348.
- [Tom03] **Tomlin:2003:NPR**  
 John A. Tomlin. A new paradigm for ranking pages on the World Wide Web, Budapest, Hungary, May 20–24, 2003. In Bebo White and Guszta Hencsey, editors, *Proceedings of the 12th International Conference on the World Wide Web, WWW '03*, pages 350–355. ACM Press, New York, NY 10036, USA, 2003. ISBN 1-58113-680-3. LCCN TK5105.888 I573 2003.
- [TP08] **Tripathy:2008:WMA**  
 Animesh Tripathy and Prashanta K. Patra. A Web mining architectural model of distributed crawler for Internet searches using PageRank algorithm. In IEEE, editor, *APSCC '08: IEEE Asia-Pacific Services Computing Conference (2008)*, pages 513–518. pub-IEEE, pub-IEEE:adr, 2008. ISBN 0-7695-3473-2. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4780726>.
- [Tud08] **Tudisco:2008:MAN**  
 F. Tudisco. Metodi analitico numerici per il problema del ranking delle pagine web. (Italian) [Numerical analytic method

for the problem of ranking Web pages]. Bachelor thesis, Dipartimento di Matematica, Università degli studi di Roma “Tor Vergata”, Rome, Italy, 2008.

**Tortosa:2021:ARN**

- [TVY21] Leandro Tortosa, Jose F. Vicent, and Gevorg Yeghikyan. An algorithm for ranking the nodes of multiplex networks with data based on the PageRank concept. *Applied Mathematics and Computation*, 392(??): Article 125676, March 1, 2021. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300320306299>

**Tjoa:2007:DIC**

- [TW07] A. Min Tjoa and Roland R. Wagner, editors. *DEXA 2007: 18th International Conference on Database and Expert Systems Applications: proceedings: Regensburg, Germany, 3–7 September, 2007*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2007. ISBN 0-7695-2932-1. LCCN QA76.9.D3 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4312838>. IEEE Computer Society order number P2932.

**Tao:2003:QSS**

- [TZ03] Wen-Xue Tao and Wan-Li Zuo. Query-sensitive self-adaptable Web page ranking algorithm. In

*International Conference on Machine Learning and Cybernetics, 2003*, pages 413–418. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7803-8131-9. LCCN ????

**Tian:2021:SRI**

- [TZWG21] Zhaolu Tian, Yan Zhang, Junxin Wang, and Chuanqing Gu. Several relaxed iteration methods for computing PageRank. *Journal of Computational and Applied Mathematics*, 388(??): Article 113295, May 1, 2021. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042720305860>

**Upstill:2003:PFF**

- [UCH03] Trystan Upstill, Nick Craswell, and David Hawking. Predicting fame and fortune: PageRank or Indegree? In ????, editor, *Proceedings of the 8th Australasian Document Computing Symposium, Canberra, Australia, December 15, 2003 (ADCS 2003)*, pages 31–40. ????, ????, December 2003.

**Volkovich:2007:SMW**

- [VDL07] Y. Volkovich, D. Donato, and N. Litvak. Stochastic models for Web ranking. *ACM SIGMETRICS Performance Evaluation Review*, 35(3):53, December 2007. CODEN ????. ISSN 0163-5999 (print), 1557-9484 (electronic). URL <https://www.>



math.utah.edu/pub/tex/bib/sigmetrics.bib.

**Vigna:2005:TTP**

[Vig05]

Sebastiano Vigna. TruRank: Taking PageRank to the limit. In Tatsuya Hagino and Allan Ellis, editors, *Special Interest Tracks and Posters of the 14th International Conference on the World Wide Web, WWW 05. Chiba, Japan, May 10–14, 2005*, pages 976–977. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-051-5. LCCN TK5105.888 I573 2005.

**Vigna:2009:SR**

[Vig09]

Sebastiano Vigna. Spectral ranking. *arxiv.org*, arXiv:0912.0238 [cs.IR]:1–13, December 1, 2009. URL <http://arxiv.org/abs/0912.0238>.

**Volkovich:2007:DFB**

[VLD07]

Yana Volkovich, Nelly Litvak, and Debora Donato. Determining factors behind the PageRank log-log plot. In Bonato and Chung [BC07], pages 108–123. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.

**Vial:2019:RCP**

[VS19a]

Daniel Vial and Vijay Subramanian. On the role of clustering in personalized PageRank estimation. *ACM Transactions on Modeling and Per-*

*formance Evaluation of Computing Systems (TOMPECS)*, 4 (4):21:1–21:33, December 2019. CODEN ????? ISSN 2376-3639 (print), 2376-3647 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3366635>.

**Vial:2019:SRP**

[VS19b]

Daniel Vial and Vijay Subramanian. A structural result for personalized PageRank and its algorithmic consequences. *ACM SIGMETRICS Performance Evaluation Review*, 47(1):39–40, December 2019. CODEN ????? ISSN 0163-5999 (print), 1557-9484 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3376930.3376956>.

**WangLing:2002:PTI**

[W<sup>+</sup>02]

Tok Wang Ling et al., editors. *Proceedings of the Third International Conference on Web Information Systems Engineering: Singapore, 12–14 December, 2002*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2002. ISBN 0-7695-1766-8. LCCN TA168 .I583 200. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=8419>. IEEE Computer Society order number PR01768.

**Wu:2005:ULM**

[WA05]

Jie Wu and K. Aberer. Using a layered Markov model for distributed Web ranking computation. In IEEE [IEE05b], pages 533–542. ISBN 0-7695-2331-5. LCCN QA76.9.D5

- I57 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9816>. IEEE Computer Society order number P2331.
- [WB09] **Wan:2009:IPA** Jing Wan and Si-Xue Bai. An improvement of PageRank algorithm based on the time-activity-curve. In Zhang and Lin [ZL06], pages 549–552. ISBN 1-4244-0134-8. LCCN QA76.9.S63 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5255060> [G07a] IEEE catalog number 06EX1286.
- [WD04] **Wang:2004:CPD** Yuan Wang and David J. DeWitt. Computing PageRank in a distributed Internet search system. In Mario A. Nascimento, editor, *Proceedings of the thirtieth International Conference on Very Large Data Bases: Toronto, Canada, August 31–September 3, 2004*, volume 30, pages 420–431. Morgan Kaufmann Publishers, Los Altos, CA 94022, USA, 2004. ISBN 0-12-088469-0. LCCN QA76.9.D3 I559 2004.
- [Wei05] **Weingart:2005:IBU** Peter Weingart. Impact of bibliometrics upon the science system: Inadvertent consequences? *Scientometrics*, 62(1):117–131, January 2005. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-005-0007-7>.
- [WG06] **Wissner-Gross:2006:PTR** A. D. Wissner-Gross. Preparation of topical reading lists from the link structure of Wikipedia. In IEEE [IEE06j], pages 825–829. ISBN 1-4244-3075-5. LCCN ???? URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10997>.
- [WG07a] **Wicks:2007:PCP** John Wicks and Amy Greenwald. Parallelizing the computation of PageRank. In Bonato and Chung [BC07], pages 202–208. ISBN 3-540-77003-8 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA76.9.A43 W39 2007; QA76.9.A43 W428 2007; QA76.9.A43 W428 2007; Internet; QA76.9.A43 W63 2007.
- [WG07b] **Wicks:2007:MEP** John R. Wicks and Amy Greenwald. More efficient parallel computation of PageRank. In Wessel Kraaij and Arjen P. de Vries, editors, *Proceedings of the 30th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR2007. Amsterdam (the Netherlands), July 23–27, 2007*, pages 861–862. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-597-5. LCCN Z699.A1.

- Wombacher:2006:JCC**
- [WHS<sup>+</sup>06] Andreas Wombacher, Christian Huemer, Markus Stolze, et al., editors. *Joint Conference: CEC/EEE 2006 Joint Conference: 8th IEEE International Conference on E-Commerce and Technology (CEC 2006): 3rd IEEE International Conference on Enterprise Computing, E-Commerce and E-Services (EEE 2006): 3rd IEEE International Workshop on Mobile Commerce and Wireless Services (WMCS 2006): Joint Workshop: 2nd International Workshop on Business Service Networks (BSN 2006): 2nd International Workshop on Service Oriented Solutions for Cooperative Organizations (SoS4CO ): June 26–29, 2006, San Francisco, California*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7695-2511-3. LCCN HF5548.32 .I57 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10920>.
- Wen:2017:NTS**
- [WHS17] Chun Wen, Ting-Zhu Huang, and Zhao-Li Shen. A note on the two-step matrix splitting iteration for computing PageRank. *Journal of Computational and Applied Mathematics*, 315(??):87–97, May 1, 2017. CODEN JCAMDL. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S037704271630509X>
- Wen:2023:APM**
- [WHS23] Chun Wen, Qian-Ying Hu, and Zhao-Li Shen. An adaptively preconditioned multi-step matrix splitting iteration for computing PageRank. *Numerical Algorithms*, 92(2):1213–1231, February 2023. CODEN NUALEG. ISSN 1017-1398 (print), 1572-9265 (electronic). URL <https://link.springer.com/article/10.1007/s11075-022-01337-4>.
- Wen:2021:APG**
- [WHY<sup>+</sup>21] Chun Wen, Qian-Ying Hu, Guo-Jian Yin, Xian-Ming Gu, and Zhao-Li Shen. An adaptive Power–Arnoldi algorithm for computing PageRank. *Journal of Computational and Applied Mathematics*, 386(??): Article 113209, April 2021. CODEN JCAMDL. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042720305008>
- Wills:2009:ORG**
- [WI09] Rebecca S. Wills and Ilse C. F. Ipsen. Ordinal ranking for Google’s PageRank. *SIAM Journal on Matrix Analysis and Applications*, 30(4):1677–1696, 2009. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).
- Wills:2006:GPM**
- [Wil06] Rebecca S. Wills. Google’s PageRank: the math behind the

search engine. *The Mathematical Intelligencer*, 28(4):6–11, 2006. CODEN MAINDC. ISSN 0343-6993 (print), 1866-7414 (electronic).

**Winter:2012:GGC**

- [WKK<sup>+</sup>12] Christof Winter, Glen Kristiansen, Stephan Kersting, Janine Roy, Daniela Aust, Thomas Knösel, Petra Rümmele, Beatrix Jahnke, Vera Hentrich, Felix Rückert, Marco Niedergethmann, Wilko Weichert, Marcus Bahra, Hans J. Schlitt, Utz Settmacher, Helmut Friess, Markus Büchler, Hans-Detlev Saeger, Michael Schroeder, Christian Pilarsky, and Robert Grützmann. Google goes cancer: Improving outcome prediction for cancer patients by network-based ranking of marker genes. *PLoS Computational Biology*, 8(??):e1002511, July 2012. CODEN PCBLBG. ISSN 1553-734X (print), 1553-7358 (electronic). URL <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1002511>.

**Wu:2007:SAR**

- [WL07] Gang Wu and Juanzi Li. SWRank: An approach for ranking Semantic Web reversely and consistently. In IEEE [IEE07h], pages 116–121. ISBN 0-7695-3007-9. LCCN TK5105.88815 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4438492>. IEEE

Computer Society order number P3007.

**Weng:2010:TFT**

- [WLJH10] Jianshu Weng, Ee-Peng Lim, Jing Jiang, and Qi He. Twitter-Rank: Finding topic-sensitive influential twitterers. In Brian D. Davison and Torsten Suel, editors, *WSDM: proceedings of the third ACM International Conference on Web Search and Data Mining: February 3–6, 2010, New York City, NY, USA*, pages 261–270. ACM Press, New York, NY 10036, USA, 2010. ISBN 1-60558-889-X. LCCN QA76.9.D343 I5838 2010.

**Wang:2007:KEB**

- [WLW07] Jinghua Wang, Jianyi Liu, and Cong Wang. Keyword extraction based on PageRank. In Zhi-Hua Zhou, Hang Li, and Qiang Yang, editors, *PPAKDD'07: Proceedings of the 11th Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining*, Lecture Notes in Artificial Intelligence, pages 857–864. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-71700-5.

**Wang:2008:KIS**

- [WLWZ08] Jinghua Wang, Jianyi Liu, Cong Wang, and Ping Zhang. Keyword indexing system with HowNet and PageRank. In IEEE [IEE08b], pages 389–393. ISBN 1-4244-1685-X. LCCN TK5105.5 2008. URL <http://ieeexplore.ieee.org/stamp/>

- stamp.jsp?tp=&arnumber=4525246  
IEEE catalog number CFP08NSC-  
PRT.
- Wang:2013:PPP**
- [WMC13] William Yang Wang, Kathryn Mazaitis, and William W. Cohen. Programming with personalized PageRank: A locally groundable first-order probabilistic logic. In Qi He, editor, *CIKM'13: proceedings of the 22nd ACM International Conference on Information and Knowledge Management: Oct. 27–Nov. 1, 2013, San Francisco, CA, USA*, pages 2129–2138. ACM Press, New York, NY 10036, USA, 2013. ISBN 1-4503-2263-8. LCCN QA76.9.D3.
- Wang:2008:RDR**
- [WPZ08] Jue Wang, Jian Peng, and Daping Zhang. Research on dynamic reputation management model based on PageRank. In IEEE, editor, *CSSE '08: Proceedings of the 2008 International Conference on Computer Science and Software Engineering*, volume 3, pages 814–817. pub-IEEE, pub-IEEE:adr, 2008. ISBN 0-7695-3336-1. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4722467>.
- Wang:2025:CEL**
- [WQZD25] Pengwei Wang, Junye Qiao, Yuying Zhao, and Zhijun Ding. Cost-effective and low-latency data placement in edge environment based on PageRank-inspired regional value. *IEEE Transactions on Parallel and Distributed Systems*, 36(2):185–196, February 2025. CODEN ITDSEO. ISSN 1045-9219 (print), 1558-2183 (electronic).
- Wang:2005:DP**
- [WST05] Xuanhui Wang, Azadeh Shakery, and Tao Tao. Dirichlet PageRank. In ACM, editor, *Annual ACM Conference on Research and Development in Information Retrieval Proceedings of the 28th annual international ACM SIGIR conference on Research and development in information retrieval*, pages 661–662. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-034-5. LCCN ????
- Wang:2008:DSZ**
- [WTS<sup>+</sup>08] Xuanhui Wang, Tao Tao, Jian-Tao Sun, Azadeh Shakery, and Chengxiang Zhai. DirichletRank: Solving the zero-one gap problem of PageRank. *ACM Transactions on Information Systems*, 26(2):10:1–10:??, March 2008. CODEN ATISSET. ISSN 1046-8188. URL <https://www.math.utah.edu/pub/tex/bib/tois.bib>.
- Wang:2016:HEI**
- [WTX<sup>+</sup>16] Sibow Wang, Youze Tang, Xiaokui Xiao, Yin Yang, and Zengxiang Li. HubPPR: effective indexing for approximate personalized pagerank. *Proceedings of the VLDB Endowment*, 10(3):205–216, November 2016. CODEN ????. ISSN 2150-8097.

- [Wu08] **Wu:2008:EJC** Gang Wu. Eigenvalues and Jordan canonical form of a successively rank-one updated complex matrix with applications to Google’s PageRank problem. *Journal of Computational and Applied Mathematics*, 216(2):364–370, June 2008. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042710000804>
- [WW07] **Wu:2007:PAA** Gang Wu and Yimin Wei. A power-Arnoldi algorithm for computing PageRank. *Numerical Linear Algebra with Applications*, 14(7):521–546, 2007. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).
- [WW08] **Wu:2008:CJC** Gang Wu and Yimin Wei. Comments on: “Jordan canonical form of the Google matrix: a potential contribution to the PageRank computation” [SIAM J. Matrix Anal. Appl. **27** (2005), no. 2, 305–312; MR2179674] by S. Serra-Capizzano. *SIAM Journal on Matrix Analysis and Applications*, 30(1):364–374, 2008. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). See [SC05].
- [WW10a] **Wu:2010:AEA** Gang Wu and Yimin Wei. An Arnoldi-extrapolation algorithm for computing PageRank. *Journal of Computational and Applied Mathematics*, 234(11):3196–3212, October 1, 2010. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042710000804>
- [WW10b] **Wu:2010:AVG** Gang Wu and Yimin Wei. Arnoldi versus GMRES for computing PageRank: a theoretical contribution to Google’s PageRank problem. *ACM Transactions on Information Systems*, 28(3):11:1–11:28, June 2010. CODEN ATISSET. ISSN 1046-8188.
- [WW23] **Wang:2023:ESN** Hanzhi Wang and Zhewei Wei. Estimating single-node PageRank in  $\tilde{O}(\min d_t, \sqrt{m})$  time. *Proceedings of the VLDB Endowment*, 16(11):2949–2961, July 2023. CODEN ???? ISSN 2150-8097. URL <https://dl.acm.org/doi/10.14778/3611479.3611500>.
- [WWG+22] **Wang:2022:EBL** Hanzhi Wang, Zhewei Wei, Junhao Gan, Ye Yuan, Xiaoyong Du, and Ji-Rong Wen. Edge-based local push for personalized PageRank. *Proceedings of the VLDB Endowment*, 15(7):1376–1389, March 2022. CODEN ???? ISSN 2150-8097. URL <https://dl.acm.org/doi/10.14778/3523210.3523216>.
- [WWJ12] **Wu:2012:PSG** Gang Wu, Yan-Chun Wang, and Xiao-Qing Jin. A preconditioner for the PageRank problem. *Journal of Computational and Applied Mathematics*, 234(11):3196–3212, October 1, 2010. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042710000804>

tioned and shifted GMRES algorithm for the PageRank problem with multiple damping factors. *SIAM Journal on Scientific Computing*, 34(5):A2558–A2575, 2012. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

**Wu:2010:EPS**

[WWS<sup>+</sup>10] Tianji Wu, Bo Wang, Yi Shan, Feng Yan, Yu Wang, and Ningyi Xu. Efficient PageRank and SpMV computation on AMD GPUs. In *2010 39th International Conference on Parallel Processing (ICPP)*, pages 81–89. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-7913-4. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5599152>.

**Wang:2019:PAS**

[WWZ19] Runhui Wang, Sibow Wang, and Xiaofang Zhou. Parallelizing approximate single-source personalized PageRank queries on shared memory. *VLDB Journal: Very Large Data Bases*, 28(6):923–940, December 2019. CODEN VLDBFR. ISSN 1066-8888 (print), 0949-877X (electronic). URL <http://link.springer.com/article/10.1007/s00778-019-00576-7>.

**Walker:2007:RSP**

[WXYM07] Dylan Walker, Huafeng Xie, Koon-Kiu Yan, and Sergei Maslov. Ranking scientific publications using a model of network traffic. *Journal of Sta-*

*tistical Mechanics: Theory and Experiment*, 6(?):P06010, June 2007. CODEN JSMTCC. ISSN 1742-5468. URL <http://arxiv.org/abs/physics/0612122>; <http://iopscience.iop.org/1742-5468/2007/06/P06010/fulltext/>.

**Wang:2019:EAA**

[WYW<sup>+</sup>19] Sibow Wang, Renchi Yang, Runhui Wang, Xiaokui Xiao, Zhewei Wei, Wenqing Lin, Yin Yang, and Nan Tang. Efficient algorithms for approximate single-source personalized PageRank queries. *ACM Transactions on Database Systems*, 44(4):18:1–18:??, October 2019. CODEN ATDSD3. ISSN 0362-5915 (print), 1557-4644 (electronic). URL [https://dl.acm.org/ft\\_gateway.cfm?id=3360902](https://dl.acm.org/ft_gateway.cfm?id=3360902).

**Wang:2010:APA**

[WZM10] Deguang Wang, Zhigang Zhou, and Haibo Ma. Application of PageRank algorithm in computer forensics. In *2010 Second International Conference on Information Technology and Computer Science (ITCS)*, pages 250–253. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-7293-8. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5557139>.

**Wang:2014:GRC**

[WZP<sup>+</sup>14] Qing Wang, Siyi Zhang, Shichao Pang, Menghuan Zhang, Bo Wang, Qi Liu, and Jing Li. GroupRank: Rank candidate genes in PPI

- network by differentially expressed gene groups. *PLoS One*, 9(10):e110406:1–e110406:7, October 2014. CODEN POLNCL. ISSN 1932-6203. URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0110406>. [XG04]
- Wu:2010:KSA**
- [WZW10] Gang Wu, Ying Zhang, and Yimin Wei. Krylov subspace algorithms for computing GeneRank for the analysis of microarray data mining. *Journal of Computational Biology*, 17(4):631–646, April 2010. CODEN JCOBEM. ISSN 1066-5277 (print), 1557-8666 (electronic). URL <https://www.liebertpub.com/doi/abs/10.1089/cmb.2009.0004>; <https://www.liebertpub.com/doi/pdf/10.1089/cmb.2009.0004>. [XLC20]
- Wu:2013:AAT**
- [WZW13] Gang Wu, Ying Zhang, and Yimin Wei. Accelerating the Arnoldi-type algorithm for the PageRank problem and the ProteinRank problem. *Journal of Scientific Computing*, 57(1):74–104, October 2013. CODEN JSCOEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL <http://link.springer.com/article/10.1007/s10915-013-9696-x>; <http://link.springer.com/content/pdf/10.1007/s10915-013-9696-x.pdf>. [YAI+04]
- Xing:2004:WPA**
- W. Xing and A. Ghorbani. Weighted PageRank algorithm. In Ghorbani [Gho04], pages 305–314. ISBN 0-7695-2096-0. LCCN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1344743>.
- Xiao:2020:PRF**
- Zhijun Xiao, Cuiping Li, and Hong Chen. PatternRank+NN: a ranking framework bringing user behaviors into entity set expansion from Web search queries. *ACM Transactions on the Web (TWEB)*, 14(3):10:1–10:15, July 2020. CODEN ???? ISSN 1559-1131 (print), 1559-114X (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3386042>.
- Xiong:2009:ESR**
- Zhiping Xiong and Bing Zheng. On the eigenvalues of a specially rank- $r$  updated complex matrix. *Computers and Mathematics with Applications*, 57(10):1645–1650, May 2009. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0898122109002247>.
- Yamamoto:2004:DPD**
- A. Yamamoto, D. Asahara, T. Itao, S. Tanaka, and T. Suda. Distributed PageRank: a distributed reputation model for open peer-to-peer network. In IEEE [IEE04],



pages 389–394. ISBN 0-7695-2050-2. LCCN TK5105.875.I57 S95 2004. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1268664> IEEE Computer Society order number PR02050.

**Yan:2014:TBP**

- [Yan14] Erjia Yan. Topic-based PageRank: toward a topic-level scientific evaluation. *Scientometrics*, 100(2):407–437, August 2014. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-014-1308-5>.

**Yang:2005:RMW**

- [YC05] Christopher C. Yang and K. Y. Chan. Retrieving multimedia Web objects based on PageRank algorithm. In ACM, editor, *International World Wide Web Conference Special interest tracks and posters of the 14th international conference on World Wide Web*, pages 906–907. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-051-5. LCCN ????

**Cai:2007:TAM**

- [yCCZ07] Jin yi Cai, S. B. (S. Barry) Cooper, and Hong Zhu, editors. *Theory and applications of models of computation: 4th international conference, TAMC 2007, Shanghai, China, May 22–25, 2007: proceedings*, volume 4484 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Hei-

delberg, Germany / London, UK / etc., 2007. ISBN 3-540-72503-2 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN QA267.7 .T36 2007. URL <http://www.springerlink.com/openurl.asp?genre=issue&issn=0302-9743&volume=4484>.

**Yen:2009:API**

- [YH09a] Chia-Chen Yen and Jih-Shih Hsu. Associated PageRank: Improved PageRank measured by frequent term sets. In IEEE, editor, *VECIMS '09: IEEE International Conference on Virtual Environments, Human-Computer Interfaces and Measurements Systems (2009), May 11–13, 2009, Hong Kong, China*, pages 282–286. pub-IEEE, pub-IEEE:adr, 2009. ISBN 1-4244-3808-X. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5068909>.

**Yen:2009:PAI**

- [YH09b] Chia-Chen Yen and Jih-Shih Hsu. PageRank algorithm improvement by page relevance measurement. In IEEE [IEE09a], pages 502–506. ISBN 1-4244-3596-X. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5277414>.

**Yan:2023:EFL**

- [YJZZ23] Yue Yan, Shujuan Jiang, Yanmei Zhang, and Cheng Zhang. An effective fault localization approach based on PageRank and

- mutation analysis. *The Journal of Systems and Software*, 204(??):??, October 2023. CODEN JSSODM. ISSN 0164-1212 (print), 1873-1228 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0164121223001942> [YLL05]
- [YKL06] Haixuan Yang, Irwin King, and M. R. Lyu. Predictive random graph ranking on the Web. In IEEE [IEE06c], pages 1825–1832. ISBN 0-7803-9490-9. LCCN QA76.87 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=11216>. **Yang:2006:PRG**
- [YKL07] Haixuan Yang, Irwin King, and Michael R. Lyu. DiffusionRank: A possible penicillin for web spamming. In Wessel Kraaij and Arjen P. de Vries, editors, *Proceedings of the 30th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR2007. Amsterdam (the Netherlands), July 23–27, 2007*, pages 431–438. ACM Press, New York, NY 10036, USA, 2007. ISBN 1-59593-597-5. LCCN Z699.A1. **Yang:2007:DPP**
- [YLB07] BaoJun Yue, Heng Liang, and Fengshan Bai. Understanding the GeneRank model. In IEEE [IEE07d], pages 248–251. ISBN 1-4244-1120-3. LCCN QH324.2 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4272484>. IEEE catalog number 07EX1744. **Yu:2005:ATD**
- [YML05] P. S. Yu, Xin Li, and Bing Liu. Adding the temporal dimension to search — a case study in publication search. In Skowron [Sko05], pages 543–549. ISBN 0-7695-2415-X. LCCN TK5105.888 .I37 2005. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10179>; <http://www.gbv.de/dms/bowker/toc/9780769524153>. IEEE Computer Society Order Number P2415. **Yu:2019:EPP**
- [YMZ19] Weiren Yu, Julie McCann, and Chengyuan Zhang. Efficient pairwise penetrating-rank similarity retrieval. *ACM Transactions on the Web (TWEB)*, 13(4):21:1–21:??, December 2019. CODEN ????? ISSN 1559-1131 (print), 1559-114X (electronic). **Yang:2003:ICP**
- [YS+03] Chu-Sing Yang, P. Sadayappan, et al., editors. *2003 International Conference on Parallel Processing: proceedings: 6–9 October, 2003, Kaohsiung, Taiwan*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 0-7695-2017-0. LCCN QA76.58 .I55 2003; QA76.6 .I548 2003. URL <http://>
- Yue:2007:UGM**

- ieeexplore.ieee.org/servlet/opac?punumber=8782. IEEE Computer Society order number PR02017.
- Yang:2020:HNE**
- [YSX<sup>+</sup>20] Renchi Yang, Jieming Shi, Xiaokui Xiao, Yin Yang, and Sourav S. Bhowmick. Homogeneous network embedding for massive graphs via reweighted personalized PageRank. *Proceedings of the VLDB Endowment*, 13(5):670–683, January 2020. CODEN ????. ISSN 2150-8097. URL <https://dl.acm.org/doi/abs/10.14778/3377369.3377376>.
- Yu:2009:AFS**
- [Yu09] Jian Yu, editor. *Advances in fuzzy sets and knowledge discovery: [The Fourth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'07) was held ... from 24–27 August 2007 in Haikou, Hainan, China]*, volume 57.2009,6 of *Computers and mathematics with applications*. Elsevier, Amsterdam, The Netherlands, 2009. LCCN ????
- Yan:2011:RPH**
- [YWGC11] Lili Yan, Yingbin Wei, Zhanji Gui, and Yizhuo Chen. Research on PageRank and hyperlink-induced topic search in Web structure mining. In *2011 International Conference on Internet Technology and Applications (iTAP)*, pages 1–4. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6006308>.
- Yang:2007:BBS**
- [YWX<sup>+</sup>07] Lun Yang, Bin Wang, Gongli Xia, Zhenhua Xia, and Langlai Xu. Bibliomics-based selection of analogics targets through Google-PageRank-like algorithm. In IEEE [IEE07a], pages 98–101. ISBN 1-4244-4105-6. LCCN QA76.87. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4806427>. IEEE catalog number CFP0701F-PRT.
- Yan:2011:FBA**
- [YXC<sup>+</sup>11] Jing Yan, Ning-Yi Xu, Xiong-Fei Cai, Rui Gao, Yu Wang, Rong Luo, and Feng-Hsiung Hsu. An FPGA-based accelerator for LambdaRank in web search engines. *ACM Transactions on Reconfigurable Technology and Systems (TRETS)*, 4(3):25:1–25:??, August 2011. CODEN ????. ISSN 1936-7406 (print), 1936-7414 (electronic).
- Yuan:2007:IPF**
- [YYL07a] Fuyong Yuan, Chunxia Yin, and Jian Liu. Improvement of PageRank for focused crawler. In IEEE, editor, *SNPD 2007: Eighth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing*, volume 2, pages 797–802. pub-IEEE, pub-IEEE:adr, 2007.

- ISBN 0-7695-2909-7. LCCN  
 ????? URL [http://ieeexplore.  
 ieee.org/stamp/stamp.jsp?  
 tp=&arnumber=4287791](http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4287791). [YZTF24]
- Yuan:2007:PFC**
- [YYL07b] Fuyong Yuan, Chunxia Yin, and Jian Liu. PageRank for focused crawler. In Feng and Gao [FG07], pages 797–802. ISBN 0-7695-2909-7. LCCN QA76.758 .I573155. URL [http://ieeexplore.ieee.org/servlet/  
 opac?punumber=4287452](http://ieeexplore.ieee.org/servlet/opac?punumber=4287452). IEEE Computer Society order number P2909. [YZZZ08]
- Yin:2012:AAA**
- [YYN12] Jun-Feng Yin, Guo-Jian Yin, and Michael Ng. On adaptively accelerated Arnoldi method for computing PageRank. *Numerical Linear Algebra with Applications*, 19(1):73–85, January 2012. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).
- Yao:2019:TBR**
- [YZC<sup>+</sup>19] Xin Yao, Yizhu Zou, Zhigang Chen, Ming Zhao, and Qin Liu. Topic-based rank search with verifiable social data outsourcing. *Journal of Parallel and Distributed Computing*, 134(??): 1–12, December 2019. CODEN JPD CER. ISSN 0743-7315 (print), 1096-0848 (electronic). URL [http://www.  
 sciencedirect.com/science/  
 article/pii/S0743731519300322](http://www.sciencedirect.com/science/article/pii/S0743731519300322)
- Yang:2024:SHP**
- Fei Yang, Huyin Zhang, Shiming Tao, and Xiying Fan. Simple hierarchical PageRank graph neural networks. *The Journal of Supercomputing*, 80(4):5509–5539, March 2024. CODEN JOSUED. ISSN 0920-8542 (print), 1573-0484 (electronic). URL [https://  
 link.springer.com/article/  
 10.1007/s11227-023-05666-6](https://link.springer.com/article/10.1007/s11227-023-05666-6).
- Yang:2008:APT**
- Shenggang Yang, Jianmin Zhao, Xueyan Zhang, and Limei Zhao. Application of PageRank technique in collaborative learning. In Elvis Wai Chung Leung et al., editors, *Advances in Blended Learning: Second Workshop on Blended Learning, WBL 2008, Jinhua, China, August 20–22, 2008. Revised Selected Papers*, Lecture Notes in Computer Science, pages 102–109. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2008. ISBN 3-540-89962-6. ISSN 0302-9743 (print), 1611-3349 (electronic).
- Zhong:2004:IWS**
- Ning Zhong et al., editors. *IEEE/WIC/ACM International Conference on Web Intelligence (WI 2004): Beijing, China, September 20–24, 2004: proceedings*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. ISBN 0-7695-2100-2. LCCN QA75.5

- .I345 2004 .I429 2004; Q334 .I429 2004. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=9689>. IEEE Computer Society order number P2100. **Zhang:2018:SRI**
- [ZbXF08] Yong Zhang, Long bin Xiao, and Bin Fan. The research about Web page ranking based on the A-PageRank and the Extended VSM. In Ma et al. [M<sup>+</sup>08], pages 223–227. ISBN 0-7695-3305-1. LCCN ????. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4666388>. Five volumes. IEEE Computer Society order number P3305. **Zhang:2008:RAW**
- [Zho12] Yunkai Zhou. Practical acceleration for computing the HITS ExpertRank vectors. *Journal of Computational and Applied Mathematics*, 236(17):4398–4409, November 2012. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042712001665>. **Zhou:2012:PAC**
- [ZFCY13] Fanwei Zhu, Yuan Fang, Kevin Chen-Chuan Chang, and Jing Ying. Incremental and accuracy-aware Personalized PageRank through scheduled approximation. *Proceedings of the VLDB Endowment*, 6(6):481–492, April 2013. CODEN ????. ISSN 2150-8097. **Zhu:2013:IAA**
- [ZFCY15] Fanwei Zhu, Yuan Fang, Kevin Chen-Chuan Chang, and Jing Ying. Scheduled approximation for Personalized PageRank with Utility-based Hub Selection. *VLDB Journal: Very Large Data Bases*, 24(5):655–679, October 2015. CODEN VLDBFR. ISSN 1066-8888 (print), 0949-877X (electronic). **Zhu:2015:SAP**
- [ZHWS16] Hong-Fan Zhang, Ting-Zhu Huang, Chun Wen, and Zhao-Li Shen. FOM accelerated by an extrapolation method for solving PageRank problems. *Journal of Computational and Applied Mathematics*, 296(?):397–409, April 2016. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042715004793>. **Zhang:2016:FAE**
- Ziqi Zhang, Jie Gao, and Fabio Ciravegna. SemRe-Rank: Improving automatic term extraction by incorporating semantic relatedness with personalised PageRank. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 12(5):57:1–57:??, July 2018. CODEN ????. ISSN 1556-4681 (print), 1556-472X (electronic).

**Zhang:2010:WRM**

- [ZjRZ<sup>+</sup>10] Ji-Lin Zhang, Yong jian Ren, Wei Zhang, Xiang-Hua Xu, Jian Wan, and Yu Weng. Webs ranking model based on pagerank algorithm. In *2010 2nd International Conference on Information Science and Engineering (ICISE)*, pages 4811–4814. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-7616-X. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5691573>.

**Zhang:2006:IIC**

- [ZL06] Yan-Qing Zhang and Tsau Y. Lin, editors. *2006 IEEE International Conference on Granular Computing: Atlanta, USA, May 10–12, 2006*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 1-4244-0134-8. LCCN QA76.9.S63 2006. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=10898>. IEEE catalog number 06EX1286.

**Zhang:2008:NRA**

- [ZL08] Liyan Zhang and Chunping Li. A novel recommending algorithm based on topical PageRank. In Wayne Wobcke and Mengjie Zhang, editors, *Proceedings of the 21st Australasian Joint Conference on Artificial Intelligence: Advances in Artificial Intelligence*, volume 5360 of *Lecture Notes in Artificial Intelligence*, pages 447–453. Springer-Verlag, Berlin, Germany / Hei-

delberg, Germany / London, UK / etc., 2008. ISBN 3-540-89377-6. LCCN Q334 .A97 2008.

**Zhong:2022:SBC**

- [ZLC<sup>+</sup>22] Han Zhong, Zheng Li, Peng Chen, Hao Lu, and Yijia Xu. The selection of burglary cases based on multidimensional features and PageRank. *Concurrency and Computation: Practice and Experience*, 34(10):e6723:1–e6723:??, May 1, 2022. CODEN CCPEBO. ISSN 1532-0626 (print), 1532-0634 (electronic).

**Zheng:2018:ESG**

- [ZLJ18] Long Zheng, Xiaofei Liao, and Hai Jin. Efficient and scalable graph parallel processing with symbolic execution. *ACM Transactions on Architecture and Code Optimization*, 15(1):3:1–3:??, April 2018. CODEN ????? ISSN 1544-3566 (print), 1544-3973 (electronic).

**Zhang:2021:ESB**

- [ZLL<sup>+</sup>21] Mengshi Zhang, Yaoxian Li, Xia Li, Lingchao Chen, Yuqun Zhang, Lingming Zhang, and Sarfraz Khurshid. An empirical study of boosting spectrum-based fault localization via PageRank. *IEEE Transactions on Software Engineering*, 47(6):1089–1113, June 2021. CODEN IESEDJ. ISSN 0098-5589 (print), 1939-3520 (electronic).

**Zhang:2018:CTP**

- [ZMW<sup>+</sup>18] Yongjun Zhang, Jialin Ma, Zijian Wang, Bolun Chen, and Yongtao Yu. Collective topical PageRank: a model to evaluate the topic-dependent academic impact of scientific papers. *Scientometrics*, 114(3):1345–1372, March 2018. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL <http://link.springer.com/article/10.1007/s11192-017-2626-1>.

**Zhou:2007:CRA**

- [ZOZG07] Ding Zhou, S. A. Orshanskiy, Hongyuan Zha, and C. L. Giles. Co-ranking authors and documents in a heterogeneous network. In Ramakrishnan et al. [R<sup>+</sup>07], pages 739–744. ISBN 0-7695-3018-4. LCCN QA76.9.D343 I133 2007. URL <http://ieeexplore.ieee.org/servlet/opac?punumber=4470209>. IEEE Computer Society order number P3018.

**Zhang:2009:IPW**

- [ZQ09] Ling Zhang and Zheng Qin. The improved Pagerank in Web crawler. In *2009 1st International Conference on Information Science and Engineering (ICISE)*, pages 1889–1892. pub-IEEE, pub-IEEE:adr, 2009. ISBN 1-4244-4909-X. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5455065>.

**Zhang:2007:SPW**

- [ZQL<sup>+</sup>07] Li Zhang, Tao Qin, Tie-Yan Liu, Ying Bao, and Hang Li. *N*-step PageRank for Web search. In Giambattista Amati, Claudio Carpineto, and Giovanni Romano, editors, *Advances in information retrieval: 29th European Conference on IR Research, ECIR 2007, Rome, Italy, April 2-5, 2007: proceedings*, Lecture Notes in Computer Science, pages 653–660. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2007. ISBN 3-540-71494-4. ISSN 0302-9743 (print), 1611-3349 (electronic).

**Zhuang:2006:ACM**

- [ZSW06] Yueting Zhuang, Hanhuai Shan, and Fei Wu. An approach for cross-media retrieval with cross-reference graph and PageRank. In Feng et al. [FYZ06], page ?? ISBN 1-4244-0028-7. LCCN QA76.575 .I6526 2006. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1651316>. IEEE catalog number: 06EX1249.

**Zhang:2005:CBH**

- [ZSZ05] Junlin Zhang, Le Sun, and Quan Zhou. A cue-based hub-authority approach for multi-document text summarization. In IEEE [IEE05c], pages 642–645. ISBN 0-7803-9361-9. LCCN QA76.9.N38 I563 2005. IEEE Catalog Number: 05EX1156.

- [ZTYZ23] **Zhang:2023:PPA**  
 Qi Zhang, Rongxia Tang, Zhen-gan Yao, and Zan-Bo Zhang. A parallel PageRank algorithm for undirected graph. *Applied Mathematics and Computation*, 459 (??):??, December 15, 2023. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0096300323004459> [ZLX10]
- [ZW25] **Zhang:2025:TAN**  
 Yu Zhang and Gang Wu. Two accelerated non-backtracking PageRank algorithms for large-scale networks. *Journal of Scientific Computing*, 102(1):??, January 2025. CODEN JS-COEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL <https://link.springer.com/article/10.1007/s10915-024-02735-7>.
- [ZWSC25] **Zhou:2025:MIF**  
 Sheng-Wei Zhou, Chun Wen, Zhao-Li Shen, and Bruno Carpentieri. The MFPIO iteration and the FPMPE method for multilinear PageRank computations. *Journal of Computational and Applied Mathematics*, 454(??):??, January 15, 2025. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042724004412> [ZXZ11]
- [ZWXZ12] **Zhang:2012:AKR**  
 Weinan Zhang, Dingquan Wang, Gui-Rong Xue, and Hongyuan Zha. Advertising keywords recommendation for short-text Web pages using Wikipedia. *ACM Transactions on Intelligent Systems and Technology (TIST)*, 3 (2):36:1–36:??, February 2012. CODEN ????? ISSN 2157-6904 (print), 2157-6912 (electronic).
- Zhang:2010:MSF**  
 Yi Zhang, Kaihua Xu, Yuhua Liu, and Zhenrong Luo. Modeling of scale-free network based on pagerank algorithm. In IEEE, editor, *Proceedings of the 2010 2nd International Conference on Future Computer and Communication: ICFCC 2010, 21-24 May 2010, Wuhan, China*, volume 3, pages V3-783–V3-786. pub-IEEE, pub-IEEE:adr, 2010. ISBN 1-4244-5822-6, 1-4244-5821-8. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5497402> IEEE catalog number CFP1037G-PRT.
- Zha:2011:EIS**  
 Peng Zha, Xiu Xu, and Ming Zuo. An efficient improved strategy for the PageRank algorithm. In *2011 International Conference on Management and Service Science (MASS)*, pages 1–4. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5999297>



**Zhu:2005:DPC**

- [ZYL05] Yangbo Zhu, Shaozhi Ye, and Xing Li. Distributed PageRank computation based on iterative aggregation-disaggregation methods. In ACM, editor, *Conference on Information and Knowledge Management Proceedings of the 14th ACM international conference on Information and knowledge management*, pages 578–585. ACM Press, New York, NY 10036, USA, 2005. ISBN 1-59593-140-6. LCCN ????

**Zhang:2007:AIP**

- [ZYY07] Yulian Zhang, Chunxia Yin, and Fuyong Yuan. An application of improved PageRank in focused crawler. In Lei et al. [LYZ07], pages 331–335. ISBN 1-4244-1210-2, 0-7695-2874-0. LCCN TJ212.2 .I143 2007. URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4406097> Four volumes. IEEE Computer Society order number P2874.

**Zhang:2013:RWM**

- [ZZA<sup>+</sup>13] Zhu Zhang, Daniel D. Zeng, Ahmed Abbasi, Jing Peng, and Xiaolong Zheng. A random walk model for item recommendation in social tagging systems. *ACM Transactions on Management Information Systems (TMIS)*, 4(2):8:1–8:??, August 2013. CODEN ???? ISSN 2158-656X (print), 2158-6578 (electronic).

**Zheng:2009:LSP**

- [ZZB09] Ling Zheng, Ning Zhang, and Yang Bo. Link-sensitive PageRank: An improved ranking algorithm for vertical search engines. In IEEE, editor, *ICISE '09: Proceedings of the 2009 First IEEE International Conference on Information Science and Engineering*, pages 887–890. pub-IEEE, pub-IEEE:adr, 2009. ISBN 0-7695-3887-8. LCCN ???? URL <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5455348>.

**Zhang:2008:TPB**

- [ZZL08] Liyan Zhang, Kai Zhang, and Chunping Li. A topical PageRank based algorithm for recommender systems. In ACM, editor, *Annual ACM Conference on Research and Development in Information Retrieval Proceedings of the 31st annual international ACM SIGIR conference on Research and development in information retrieval*, pages 713–714. ACM Press, New York, NY 10036, USA, 2008. ISBN 1-60558-164-X. LCCN ????

**Zhang:2006:XLM**

- [ZZZL06] Yi Zhang, Lei Zhang, Yan Zhang, and Xiaoming Li. XRank: Learning more from Web user behaviors. In Jeong et al. [J<sup>+</sup>06], page 36. ISBN 0-7695-2687-X. LCCN T58.5 .I5662 2006. URL <http://ieeexplore.ieee.org/xpl/RecentCon.jsp?punumber=4019822>

IEEE Computer Society order  
number E2687.