

Raphael Ari Finkel
Curriculum Vitae
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Personal Data

Birthdate: June 13, 1951, Chicago, IL.
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Academic Training

AB Mathematics, The University of Chicago, June 1972.
MAT Secondary Mathematics Education, The University of Chicago, September 1972.
PhD Stanford University, Stanford, CA. Computer Science Department. Dissertation title: Constructing and Debugging Manipulator Programs, September 1976.

Positions held

- 9/76 – 7/82: Assistant Professor, University of Wisconsin, Madison.
- 7/82 – 9/86: Associate Professor, University of Wisconsin, Madison.
- 9/86 – 6/87: Professor, University of Wisconsin, Madison.
- 9/83 – 8/86: Associate Chair, Computer Sciences Department, University of Wisconsin, Madison.
- 9/86 – 6/87: Visiting Professor, University of Kentucky, Lexington.
- 7/87 – present: Professor, University of Kentucky, Lexington.

University-level committees chaired

- 1985: University Teaching Awards Committee.
- 1989-90: University Computing Advisory Committee.
- 1996-7: Physical Sciences Area Advisory Committee.
- 2012-3: University Senate Admissions and Academic Standards Committee.

External service

- 1994-present: ECU Computer Science Departmental Advocacy Committee
- 2011-2013: KSU Computer Science Departmental Advocacy Committee

Other service

- 1991-3: CS dept representative of UK Chapter of Sigma Xi,
- 2003-present: Mentored 5 high-school students in the MSTC program at Dunbar High School.
- 2006: Mentored an incoming CS Freshman under the auspices of UK CARES office.
- 2012-present: Organized the informal departmental "Keeping Current" Seminar.

Editorial positions

- 7/89 – 5/93: Editor, IEEE Transactions on Parallel and Distributed Systems.
- 5/91: Program committee, Conference on Distributed Computing Systems
- 10/91: Program committee, 11th International Conference of the Chilean Computer Society.
- 2/92: Program committee, Frontiers '92.
- 6/97 –: Technical editor, Der Bavebter Yid (www.cs.uky.edu/~raphael/bavebter)

Grants

- (1) PI on NSF grant: "KRATYLOS: Software for enriching endangered language-annotated databases with crowd-sourced linguistic and cultural input (pua, cdz, wbl)", awarded \$320K 4/15/2015 - 4/14/2018
- (2) PI on NSF grant: *SI2-SSI Collaborative Research: A Computational Materials Data and Design Environment*, awarded \$300K 8/1/2012 - 7/1/2017.
- (3) CO-PI (PI: Robert Grossman) on NSF grant: *Web-based interactive organic chemistry homework*, awarded \$219K 1/1/2009 - 12/31/2011.
- (4) Senior researcher on US Treasury department grant: *Kentucky Center for Resilient Information Systems (CRIS)*, Awarded \$3.9M 10/2005, \$1.0M 1/2008.
- (5) CO-PI (PI: Robert Grossman) on NSF grant: *Web-based interactive organic chemistry homework*, awarded \$200K 7/15/05 - 6/30/08.
- (6) CO-PI on Prentice-Hall grant: *Web-Based, Interactive Organic Chemistry Homework*, awarded \$57K 6/1/02-5/31/03; \$57K 6/1/03-5/31/04; \$48K 6/1/04-12/31/04.
- (7) Senior personnel (PI: Judy Goldsmith) on NSF proposal IIS-0325063: *Decision-theoretic planning and constraints*, awarded \$1.2M 7/1/2003-6/30/2008.
- (8) CO-PI (with Mukesh Singhal) on NFS proposal IIS-0324836: *ITR Collaborative Research: Pervasively Secure Infrastructures (PSI): Integrating Smart Sensing, Data Mining, Pervasive Networking, and Community Computing*, awarded \$400K 9/2003-8/2008.
- (9) CO-PI (with Hank Dietz, Kelly Bradley, William Dieter, Anthony Baxter) on NFS proposal 0343252, *Embedded Computer Engineering*, awarded \$99K 7/1/2003-6/30/2004.
- (10) CO-PI (with Mirek Truszczyński and Wiktor Marek) on NSF proposal #0097278, *Nonmonotonic reasoning and computational knowledge*, awarded \$550K 7/1/2001-6/30/2004.
- (11) CO-Principal Investigator on 1995 Defense EPSCoR proposal (with Mirek Truszczyński and Wiktor Marek), *Research in String-Oriented Databases*, awarded \$144K 7/1/96-6/30/99.
- (12) CO-Principal Investigator on 1995 Defense EPSCoR proposal UKRF MIS 9508031602 (with Jim Griffioen, Jim Lumpp, Raj Yavatkar), *A scalable distributed multicomputer for massively parallel applications*, awarded \$496K (University matching \$255K) 7/1/96-6/30/99.
- (13) Co-Principal Investigator on 1995 NSF Infrastructure proposal CDA-9502645 (with Truszczyński, Yavatkar, Lumpp, Griffioen), *A Laboratory for Research in High Performance Distributed Computing*, awarded \$1M (University matching \$400K) 7/15/95-6/30/2000.
- (14) Co-Principal Investigator on 1995 Kentucky Natural Resources and Environmental Protection Cabinet proposals (with Truszczyński, Marek), *Implementing Information Resources*, awarded \$9K 10/15/95-2/15/96.
- (15) Co-Principal Investigator on 1992 DOE/EPSCoR proposal DE-FC02-91ER75661 (with Liu, Draper, MacKellar, Li, Shapere, Chalmers), *High-Energy and Nuclear Physics Research*, awarded \$283K (University matching \$581K) 7/1/94-9/29/97, extended (with additional funding) through 11/14/2000.
- (16) Co-Principal Investigator on 1992 NSF SCREMS proposal DMS-9206014 (with Gedney, Fairweather, McDonough, Tsang), *Enhancing high performance computing at the University of Kentucky*, awarded \$93,975 5/1/92-4/30/93

- (17) First of 10 Principal Investigators of NSF EPSCoR grant STI-9108764, Applications of massively parallel computers, awarded \$755,200, 1/1/92 through 12/31/94.
- (18) Co-Principal Investigator of AT&T Integrated Academic Computing Grant, awarded approximately \$1.1M in equipment for the Department of Computer Science and the College of Engineering, 1989.
- (19) Co-Principal Investigator of NSF Equipment Grant CCRT-8704908 for Parallel Computing, awarded \$44,800 for the period 7/15/87 through 12/31/88.
- (20) Co-Principal Investigator of NSF Coordinated Experimental Research Program grant: “Topaz — A laboratory for research in parallel computing”, awarded \$3.3 million for the period 7/1/86 through 6/31/91.
- (21) Co-investigator of IBM Project Trochos proposal, awarded \$7.5 million for 1/85 through 12/87.
- (22) Co-Principal Investigator of NSF Equipment Grant MCS83-04514 for Perceptual Robotics Lab, awarded \$100,000 (with \$34,000 matching from the University) for the period 6/83 through 11/84.
- (23) Co-Principal Investigator of NSF Coordinated Experimental Research Program grant: “A Software Partitionable Multicomputer: Testbed for Research in Distributed Computing”, awarded \$4.6 million for the period 7/1/81 through 12/31/86. Had principal responsibility for writing the grant proposal. Managed the grant 1983/4.
- (24) Co-Principal Investigator of DARPA contract N00014-82-C-2087: “Operating Systems for Ring-based Multiprocessors”, awarded \$1,137,000 between 12/80 and 7/87.
- (25) Participant in contract from Hewlett-Packard: “The WISPAC Wisconsin Parallel Array Computer”, awarded \$35,000, 1980/81.
- (26) Co-Principal Investigator of NSF Equipment Grants #MCS77-08968 (\$82,000), #MCS78-06809 (\$150,000), #MCS79-07516 (\$20,000), and #MCS80-06499 (\$90,000) for research in the application of distributed computer systems.

Honors

- (1) NSF Fellow, 1972–1975.
- (2) Member of Sigma Xi, Phi Beta Kappa, AAAS, ACM, IEEE (Golden Core Member, awarded 1996)
- (3) Sperry Univac 1979–80 Computer Science Professor of the Year Award.
- (4) Kiekhofer Distinguished Teaching Award (University-wide), May 1981.
- (5) University Research Professor, 1989–90.
- (6) Student ACM Professor of the Year award, 1997, 1998, 2002, 2004.

Publications in refereed journals

- (1) R. A. Finkel and J. L. Bentley, “Quad Trees: A data Structure for Retrieval on Composite Keys”, *Acta Informatica* 4, 1, pp. 1–9, 1974.
- (2) J. H. Friedman, J. L. Bentley, R. A. Finkel, “An Algorithm for Finding Best Matches in Logarithmic Time”, *ACM Transactions on Mathematical Software*, pp. 209–226, September 1977.
- (3) M. H. Solomon and R. A. Finkel, “A Note on Enumerating Binary Trees”, *Journal of the ACM*, 27, 1, pp. 3–5, January 1980.
- (4) R. A. Finkel and M. H. Solomon, Processor Interconnection Strategies, *IEEE Transactions on Computers*, C-29, 5, pp. 360–371, May 1980.
- (5) W. Leland, R. A. Finkel, L. Qiao, M. H. Solomon, and L. Uhr, “High Density Graphs for Processor Interconnection”, *Information Processing Letters*, pp. 117–120, June 13, 1981.
- (6) R. A. Finkel and M. H. Solomon, “The Lens Interconnection Strategy”, *IEEE Transactions on Computers*, pp. 960–965, December 1981. Reprinted in *Interconnection networks for parallel and distributed processing*, pp 40–45, C-L Wu and T-Y Feng, eds, IEEE Computer Society Press, 1984. Reprinted in *Advanced Computer Architecture*, D. P. Agrawal, ed, IEEE Computer Society Press, 1985.

- (7) J. P. Fishburn and R. A. Finkel, "Quotient Networks", *IEEE Transactions on Computers*, C-31, 4, April 1982, pp. 288-295. Reprinted in *Interconnection Networks for parallel and distributed processing*, pp 568-575, C-L Wu and T-Y Feng, eds, IEEE Computer Society Press, 1984.
- (8) R. A. Finkel and J. P. Fishburn, "Parallelism in Alpha-Beta Search", *Journal of Artificial Intelligence*, Volume 19, Number 1, September 1982.
- (9) R. A. Finkel and J. P. Fishburn, "Improved speedup bounds for parallel alpha-beta search", *IEEE Transactions on Pattern Analysis and Machine Intelligence PAMI-5*, 1, January 1983.
- (10) T. R. Virgilio and R. Finkel, "Binding strategies and scope rules are independent", *Computer Languages* 7, 1982, pp. 61-67.
- (11) H. Madduri, R. Finkel, "Extension of the Banker's Algorithm for Resource Allocation in a Distributed Operating System", *Information Processing Letters* 19, 1, July 1984, pp 1-8.
- (12) Aaron J. Gordon, Raphael A. Finkel, "The use of timing graphs for distributed program debugging", submitted January, 1984 to Distributed Processing Technical Newsletter, accepted March 1984.
- (13) DeWitt, D.J., Finkel, R., and Solomon, M., "The Crystal Multicomputer: Design and Implementation Experience", *IEEE Transactions on Software Engineering*, pp. 953-966, August 1987.
- (14) Raphael Finkel and Hari H. Madduri, "An efficient deadlock avoidance algorithm," *Information Processing Letters* 24, pp. 25-30, January 1987.
- (15) Raphael Finkel, Udi Manber, "DIB - A distributed implementation of backtracking", *ACM TOPLAS*, Volume 9, Number 2, pp. 235-256, April 1987.
- (16) Yeshayahu Artsy, Hung-Yang Chang, and Raphael Finkel, "Interprocess communication in Charlotte", *IEEE Software*, Volume 4, Number 1, January 1987.
- (17) Duncan A. Buell *et al.* (21 authors), "Parallel algorithms and architectures - Report of a workshop", *The Journal of Supercomputing*, Volume 1, Number 3, pp. 301-325, 1988.
- (18) Debra Hensgen, Raphael Finkel, and Udi Manber, "Two algorithms for barrier synchronization", *International Journal of Parallel Programming*, Volume 17, Number 1, pp. 1-17, February 1988.
- (19) Michael L. Scott, Raphael Finkel, "A simple mechanism for type security across compilation units", *IEEE transactions of Software Engineering*, August 1988.
- (20) Aaron J. Gordon, Raphael Finkel, "Handling timing errors in distributed programs", *IEEE Transactions on Software Engineering*, Volume 14, Number 10, pp. 1525-1535, October 1988.
- (21) Raphael Finkel and Debra Hensgen, "YACKOS on a shared-memory multiprocessor", *ACM SIGARCH Computer Architecture News*, September, 1988.
- (22) Raphael A. Finkel, Michael L. Scott, Yeshayahu Artsy, Hung-Yang Chang, "Experience with Charlotte: Simplicity and Function in a Distributed Operating System", *IEEE Transactions on Software Engineering*, Volume 15, Number 6, pp. 676-685, June 1989.
- (23) Yeshayahu Artsy and Raphael Finkel, "Designing a process migration facility - The Charlotte Experience", *IEEE Computer*, Volume 22, Number 9, pp. 47-56, September 1989.
- (24) Cui-Qing Yang and Raphael Finkel, "Utility Servers in Charlotte", *Software - Practice and Experience*, Volume 21, Number 5, pp. 429-441, May 1991.
- (25) Schardl, Christopher L., Liu, Jih-Shiou, White, James F., Finkel, Raphael A., An, Zhiqiang, and Siegel, Malcolm R., "Molecular phylogenetic relationships of nonpathogenic grass mycosymbionts and clavicipitaceous plant pathogens", *Plant Systematics and Evolution* Volume 178, pp. 27-41, 1991.
- (26) Eric H. Herrin II and Raphael Finkel, "An ASCII Database for Fast Queries", *Computing Systems*, Volume 4, Number 2, pp. 127-155, Spring 1991.
- (27) Rajendra Yavatkar, Prashant Pai, and Raphael Finkel, "A reservation-based CSMA protocol for integrated manufacturing networks", *IEEE TSMC*, Volume 24, Number 8, pp. 1247-1258, August, 1994.

- (28) Raphael A. Finkel, Samuel Bent and Christopher L. Schardl, "Determining the probability of obtaining a desired clone in an amplified or shuttle library", *Biotechniques* Volume 16, Number 4, pp. 580-583, 1994.
- (29) Eric H. Herrin, II and Raphael A. Finkel, "Schema and Tuple Trees: An Intuitive Structure for Representing Relational Data" *Computing Systems*, Volume 9, Number 2, Spring 1996.
- (30) Raphael A. Finkel, "What is an Operating System?" *Computing Surveys*, March 1996.
- (31) Raphael A. Finkel, "The Chimaera Experience" *TCOS Bulletin on Operating Systems Education*, Volume 8 Number 3, Fall 1996.
- (32) Raphael A. Finkel, "Pulsar: An extensible tool for monitoring large Unix sites," *Software Practice and Experience*, Volume 27 Number 10, October 1997.
- (33) K. Lakshman, Raj Yavatkar, Raphael Finkel, "Integrated CPU and Network I/O QoS Management in an Endsystem", *Computer Communications*, Volume 21 Number 4, pp 325-333, 1998.
- (34) P. Zhang, T. W. Wu, R. Finkel, "Parallel computation for acoustic radiation in a subsonic nonuniform flow with a coupled FEM/BEM formulation" *Engineering Analysis with Boundary Elements*, Vol 23, pp 139-153, 1998.
- (35) Raphael Finkel, Brian Sturgill, Harlan Stenn, "Experience with a Unix System-Administration Tool", *Software Practice and Experience*, Vol 29, Number 11, pp 953-971, 1999.
- (36) Raphael Finkel, William Hutton, Patrick Rourke, Ross Scaife, Elizabeth Vandiver, "The Suda on Line", *Syllecta Classica*, Volume 11, 2000, also <http://www.uiowa.edu/~classics/SC/SudaOnLine.pdf>.
- (37) Raphael Finkel, Wiktor Marek, Mirosław Truszczyński, "Constraint Lingo: Towards High-Level Constraint Programming", *Software — Practice and Experience*, Volume 34, number 15, pages 1481-1504, December 2004.
- (38) Raghu Ram Chamala, Roxana Ciocina, Raphael A. Finkel, Robert B. Grossman, Saravana Kannan, Prashant Ramachandran, "EPOCH: An Organic Chemistry Homework Program that Offers Response-Specific Feedback", *Journal of Chemical Education*, Volume 83, number 1, pages 164-169, January 2006.
- (39) Q. Jiang, R. A. Finkel, D. Manivannan and M. Singhal. "RPSF: A Routing Protocol with Selective Forwarding for Mobile Ad-Hoc Networks", *Wireless Personal Communications*, Volume 43, number 2, pages 411-436, October 2007.
- (40) Raphael Finkel and Gregory Stump, "A default inheritance hierarchy for computing Hebrew verb morphology", *Literary and Linguistic Computing* 22(2):117-136, 2007.
- (41) Raphael Finkel and Gregory Stump, "Principal parts and morphological typology", *Morphology* Volume 17, Number 1, pp 39-75, 2007.
- (42) Raphael Finkel, Gregory Stump, "What your Teacher Told You is True: Latin Verbs Have Four Principal Parts", *Digital Humanities Quarterly* 3(1), Winter 2009.
- (43) Raphael Finkel, Heinz Kohler "The trend of amino-acid gain is consistent with a doublet code", *Current Proteomics* 7, pp 209-211, 2010.
- (44) Raphael Finkel, Barry O'Sullivan, "Reasoning about conditional constraint specification problems and feature models", *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 25, pp 163-174, 2011.
- (45) Raphael Finkel, Heinz Kohler "Conserved Regions can Predict Protein Binding Regions", *Current Proteomics* 11:1, pp 55-60, 2014.
- (46) Gregory Stump, Raphael A. Finkel, "The complexity of inflectional systems", *Linguistics Vanguard*, January 2015.
- (47) Raphael Finkel, "Computer-Based Tools for Word and Paradigm Computational Morphology", *Oxford Research* Oxford University Press, April 2016, <http://linguistics.oxfordre.com/view/10.1093/acrefore/9780199384655.001.0001/acrefore-9780199384655-e-162>,
- (48) Greville G. Corbett, Sebastian Fedden and Raphael Finkel, "Single versus concurrent systems: nominal classification in Mian", *Linguistic Typology*

Articles in refereed conferences

- (1) R. A. Finkel, R. Taylor, R. C. Bolles, R. Paul, and J. Feldman, "An Overview of AL, A Programming System for Automation", *Proceedings of the Fourth International Joint Conference on Artificial Intelligence (IJCAI)*, 758-765, September 1975, reprinted in IEEE Computer Society *Tutorial on Robotics*, catalog number EHO207-01, 1983.
- (2) M. H. Solomon and R. A. Finkel, "ROSCOE: A Multi-microcomputer Operating System", *Proceedings of the Second Rocky Mountain Symposium on Microcomputers*, 291-210, August 1978.
- (3) R. A. Finkel, M. H. Solomon, and R. Tischler, "The Roscoe Resource Manager", *Compton 79 Digest of Papers*, pp. 88-91, February 1979.
- (4) R. A. Finkel, M. H. Solomon, and M. Horowitz, "Distributed algorithms for global structuring", *Proceedings of the National Computer Conference*, AFIPS Press, 455-460, June 1979.
- (5) M. H. Solomon and R. A. Finkel, "The Roscoe Distributed Operating System", *Proceedings of the Seventh Symposium on Operating Systems Principles*, pp. 108-114, 10-12 December 1979.
- (6) J. P. Fishburn, R. A. Finkel, and S. Lawless, "Parallel Alpha-Beta Search on Arachne", *Proceedings of the 1980 International Conference on Parallel Processing*, pp. 235-243, August 1980.
- (7) R. A. Finkel and M. H. Solomon, "The lens interconnection strategy", *Proc. 14th Hawaii International Conference on System Sciences*, January 1981.
- (8) R. Bryant and R. A. Finkel, "A Stable Distributed Scheduling Algorithm", *Proc. 2nd International Conference on Distributed Computing Systems*, April 1981.
- (9) Participated by invitation in the Workshop on Research in General Purpose Homogeneous Architectures, June 17-20, 1981, Massachusetts Institute of Technology. Presented report.
- (10) Participated as an invited panelist at INFOCOM 82, the First Joint IEEE Computer and Communications Conference, Las Vegas, April, 1982. The panel was entitled "Distributed Operating Systems".
- (11) J. Eastman, A. Elmaghraby, R. Finkel, A. Frank, T. Kaminski, C. Kime, J. McPherson, M. Redmond, V. C. Rideout, and S. D. Smith, "WISPAC: a parallel array computer for simulation applications", *Proceedings of 10th IMACS congress*, August, 1982.
- (12) Participated by invitation at PAW 83, the second Parallel Architecture Workshop, Boulder Colorado, January 21-23, 1983. Presented 40-minute talk on Crystal.
- (13) Michael Scott, Raphael Finkel, "LYNX: A dynamic distributed programming language", *proceedings of the 1984 International Conference on Parallel Processing*, Bellaire, Michigan, August 21-24, 1984, pp. 395-401.
- (14) Raphael Finkel and Udi Manber, "DIB — A distributed implementation of backtracking", *Proceedings of the Fifth International Conference on Distributed Computing Systems*, Denver, May 1985, pp. 446-452.
- (15) Aaron Gordon and Raphael Finkel, "TAP: A distributed debugger for handling timing errors", *Proceedings of the Workshop on Software Testing*, Banff, Canada, July 1986.
- (16) Participated by invitation in the Workshop on Performance Efficient Parallel Programming, Seven Springs, Pennsylvania, September 8-10, 1986. Presented position paper.
- (17) Participated by invitation in the IEEE Workshop on Design principles for experimental distributed systems, Purdue University, October 16-17, 1986. Presented report.
- (18) Yeshayahu Artsy and Raphael Finkel, "Simplicity, efficiency, and functionality in designing a process migration facility", *Second IEEE Israel Conference on Computer Systems and Software Engineering*, May 1987.
- (19) Yijie Han, Raphael Finkel, "An optimal scheme for disseminating information", *1988 International Conference on Parallel Processing*, August, 1988.
- (20) Debra Hensgen and Raphael Finkel, "Dynamic server squads in Yackos", *1989 Workshop in Experiences with Building Distributed and Multiprocessor Systems*, Ft. Lauderdale, FL, October, 1989.
- (21) Brian Sturgill and Raphael Finkel, "Tools for system administration in a heterogeneous environment", *Large Installation System Administration III Workshop*, pp. 15-29, Austin, TX, September 1989.

- (22) Eric Herrin II and Raphael Finkel, "An Implementation of Service Rebalancing", XI International Conference of the Chilean Computer Science Society, Santiago, Chile, October 1991.
- (23) Eric Herrin II and Raphael Finkel, "The Benefits of Service Rebalancing", Third Workshop on Workstation Operating Systems, April 23-24, 1992, Key Biscayne, Florida
- (24) Jaleh Rezaie and Raphael Finkel, "A comparison of some parallel game-tree search algorithms", *Proceedings of the Fifth ISMM International Conference on Parallel and Distributed Computing And Systems*, pp. 244-246, October 1-3, 1992.
- (25) K. Lakshman, Raj Yavatkar, Raphael Finkel, "Integrated CPU and Network I/O QoS Management in an Endsystem", IFIP Fifth International Workshop on Quality of Service (IWQoS '97) May 21-23, 1997, New York.
- (26) Raphael Finkel, Ross Scaife, Huar-En Ng, "The SUDA project: Collaborative Web-based Translation", Proceedings of the Hawai'i International Conference On System Sciences, January 5-8, 1999, Maui, Hawaii.
- (27) Ross Scaife, Raphael Finkel, William Hutton, Patrick Rourke, and Elizabeth Vandiver, "Academic Collaboration On Line: the SOL as a Case Study", *The Joint International Conference of the Association for Literary and Linguistic Computing and the Association for Computers and the Humanities (ALLC / ACH 2000)*, University of Glasgow, 21-25 July, 2000.
- (28) Michael D. Rogers, Chris Diaz, Raphael Finkel, James Griffioen, James E. Lumpp Jr, "BTMD: Small, Fast Diff's For WAN-Based DSM", *The Second International Workshop on Software Distributed Shared Memory*, Santa Fe, New Mexico, May 7, 2000.
- (29) Raphael A. Finkel, Victor Marek and Miroslaw Truszczyński, "Tabular Constraint-Satisfaction Problems and Answer-Set Programming," (poster) AAAI-2001 Spring Symposium Series, Workshop on Answer Set Programming, Stanford University, California, March 26-28, 2001.
- (30) Raphael A. Finkel, Victor Marek, Neil Moore, and Miroslaw Truszczyński, "Computing stable models in parallel," AAAI-2001 Spring Symposium Series, Workshop on Answer Set Programming, Stanford University, California, March 26-28, 2001.
- (31) Finkel, R.A., Zaslavsky, A., Monostori, K. and Schmidt, H. (2002). "Signature Extraction for Overlap Detection in Documents." Proceedings of the Twenty-Fifth Australasian Computer Science Conference (ACSC2002), January 28-February 1, 2002, Melbourne, Australia. *Conferences in Research and Practice in Information Technology*, 4. Oudshoorn, M. J., Ed. ACS.
- (32) Krisztián Monostori, Raphael Finkel, Arkady Zaslavsky, Gábor Hodász, Máté Pataki, "Comparison of Overlap Detection Techniques", International Conference on Computational Science (ICCS2002), Amsterdam, The Netherlands, April 21-24, 2002. *Lecture Notes in Computer Science 1*.
- (33) Raphael Finkel and Gregory Stump, "Generating Hebrew verb morphology by default inheritance hierarchies", Computational Approaches to Semitic Languages, a workshop affiliated with the ACL-2002, Philadelphia, July 11, 2002.
- (34) Raphael Finkel, Victor Marek, Mirek Truszczyński, "Constraint Lingo: A program for solving logic puzzles and other tabular constraint problems", Proceedings of the 8th European Conference on Logics in Artificial Intelligence (JELIA), LNCS Vol. 2424 (Ed: Giovambattista Ianni and Sergio Flesca), August 2002.
- (35) Hemantha Ponnuru, Raphael Finkel, Victor Marek, and Miroslaw Truszczyński: "Automatic Generation of English-Language Steps in Puzzle Solving", *Proceedings of the 2004 International Conference on Artificial Intelligence*, June 21-24, 2004, Las Vegas, Nevada.
- (36) Bryan S. Crawley and Raphael A. Finkel: "Micky: Methods With Implicit Calls", Proceedings of the 2005 International Conference on Programming Languages and Compilers (PLC'05), June 27-30, 2005, Las Vegas, USA (<http://www.world-academy-of-science.org>)
- (37) Raphael Finkel: "Reversers: A programming language construct for reversing out of code", Proceedings of the 2005 International Conference on Systems, Computing Sciences and Software Engineering (SCS2005), December 10-20, 2005.

- (38) Raphael Finkel, Gregory Stump, *Principal parts and the implicative structure of inflectional paradigms*, 12th International Morphology Meeting, Budapest, May 2006.
- (39) Raphael Finkel, Wiktor Marek, Mirek Truszczyński, *Generating cellular puzzles with logic programs*, 2006 International Conference on Artificial Intelligence (ICAI'06), June 26-29, 2006, Las Vegas, USA.
- (40) Raphael Finkel and Gregory Stump, *Principal parts and degrees of paradigmatic transparency*, Analogy in Grammar: Form and Acquisition, September 22-23, 2006, Max Planck Institute for Evolutionary Anthropology, Leipzig.
- (41) Robert B. Grossman, Raphael A. Finkel, Kevin Joiner, and Mallika S. Allu, "Advances in ACE Organic, an online organic chemistry homework program", 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
- (42) Liangrong Yi, Judy Goldsmith, Raphael Finkel, "Planning for Welfare to Work", 21st international Florida Artificial Intelligence Research Society Conference (FLAIRS-21), Coconut Grove FL, May 15-17, 2008
- (43) Robert Grossman, Raphael Finkel, "ACE Organic: Web-based organic chemistry homework", 20th BCCE at Indiana University from July 27-31, 2008
- (44) Raphael Finkel, "Metapuzzles galore: A compendium of puzzles", poster, 19th Irish Conference on Artificial Intelligence and Cognitive Science, Cork, Ireland, August 2008.
- (45) Raphael Finkel and Gregory Stump, "Stem alternations and principal parts in French verb inflection", 6 Decembrettes, Bordeaux, France, 12/6/2008. To appear in Cascadilla Proceedings Project (<http://www.lingref.com/> around 6/2009).
- (46) Andrew Hippisley, Gregory Stump, Raphael Finkel, "Computing in the field: language modeling for elicitation and documentation of Shughni", 2009 International Conference on Language Documentation & Conservation (ICLDC), University of Hawaii at Manoa (March 12-14, 2009).
- (47) Raphael Finkel and Odetunji Ajadi Odejobi, A computational approach to Yoruba morphology, Proceedings of the Workshop on African Language Technologies, 12th Conference of the European Chapter of the Association for Computational Linguistics (EACL-09), March 30 - April 3, 2009, Athens, Greece.
- (48) Amanda Barie, Darya Bukhtoyarova, Raphael Finkel, Andrew Hippisley, Mark Lauersdorf, Jeanmarie Rouhier-Willoughby, Gregory Stump [University of Kentucky]; Muqbilsho Alamshoev*, Shoxnazar Mirzoev*, Gulnoro Mirzovafoeva, Shahlo Nekushoeva* [Khorog State University, *Institute of Humanities of the Tajik Academy of Sciences], A collaborative project for the documentation of the Shughni language, poster, 2009 International Conference on Language Documentation & Conservation (ICLDC), University of Hawaii at Manoa (March 12-14, 2009).
- (49) Raphael Finkel and Gregory Stump, "Predictability, predictiveness and paradigm complexity". Invited paper presented at the workshop *Morphological Complexity: Implications for the Theory of Language*, Harvard University, January 22, 2010
- (50) Raphael Finkel and Gregory Stump, "What are principal parts, and what can they tell us about an inflectional system's morphological complexity?" Invited paper presented at the Conference on Morphological Complexity, Convened by the Surrey Morphological Group, British Academy, London, January 13-15, 2012.
- (51) Daniel Kaufman and Raphael Finkel, "A"tool 5th International Conference on Language Documentation and Conservation (ICLDC), Honolulu, Hawaii, March 2-5, 2017.

Articles in unrefereed journals

- (1) R. A. Finkel, "Run-Time print values", *Sigplan Notices* 18, 2, February 1983.

Technical reports

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- (24) “Cellular puzzles and Logic puzzles”, Cork Constraint Computation Centre, Cork, Ireland, August 2008.
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- (26) Raphael Finkel, “Computational morphology: Detecting principal parts and categorizing languages based on principal-part analysis”, Center for Computational Sciences, University of Kentucky, February 2011.
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