

JEREMY T. FINEMAN

Associate Professor
Wagner Term Chair in Computer Science
Department of Computer Science
Georgetown University
Washington, DC 20057

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Email: jfineman@cs.georgetown.edu
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EDUCATION

Ph.D. in Electrical Engineering and Computer Science Sept. 2003–Sept. 2009
Massachusetts Institute of Technology
Thesis: *Algorithms incorporating concurrency and caching*
Advisor: Charles E. Leiserson

M.S. in Electrical Engineering and Computer Science Sept. 2003–Aug. 2005
Massachusetts Institute of Technology
Thesis: *Provably good race detection that runs in parallel*
Advisor: Charles E. Leiserson

A.B., major in Computer Science Sept. 1997–June 2001
Dartmouth College

PROFESSIONAL EXPERIENCE

Associate Professor, Georgetown University, Department of Computer Science Aug. 2016–present

Visiting Researcher, University of Sydney, School of Computer Science Aug. 2018–July 2020

Assistant Professor, Georgetown University, Department of Computer Science Aug. 2011–July 2016

Postdoctoral Fellow, Carnegie Mellon University Sept. 2009–Aug. 2011

Research Intern, Lincoln Laboratory June 2007–Aug. 2007 and June 2006–Aug. 2006

Ph.D. Candidate, Massachusetts Institute of Technology Sept. 2003–Sept. 2009

Software Engineer, Panasas July 2001–July 2003

AWARDS AND HONORS

- Provost's Distinguished Associate Professor, Georgetown University, 2019.
- Wagner Term Chair in Computer Science (endowed chair), Georgetown University, June 2018–present.

- Best paper, 2014 European Symposium on Algorithms (ESA), for *Cache-oblivious persistence*.
- Computing Innovation Fellow, postdoctoral fellowship awarded by the Computing Community Consortium (CCC) of the Computing Research Association (CRA), 2009–2011.
- Morris Joseph Levin Award for Best MasterWorks Oral Thesis, awarded by the Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2005.
- *Summa cum laude* and honors in Computer Science, Dartmouth College, 2001.

PUBLICATIONS

Conference Papers

(All peer reviewed)

1. Kunal Agrawal, Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Maxwell Young. “Contention resolution with message deadlines.” In *Proceedings of the 32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 23–35, July 2020.
2. Guy E. Blelloch, Jeremy T. Fineman, Yan Gu, and Yihan Sun. “Optimal parallel algorithms in the binary-forking model.” In *Proceedings of the 32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 89–102, July 2020.
3. Nairen Cao, Jeremy T. Fineman, and Katina Russell. “Brief Announcement: Improved work span tradeoff for single source reachability and approximate shortest paths.” In *Proceedings of the 32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 511–513, July 2020.
4. Nairen Cao, Jeremy T. Fineman, and Katina Russell. “Efficient construction of directed hopsets and parallel approximate shortest paths.” In *Proceedings of the 52nd ACM SIGACT Symposium on Theory of Computing (STOC)*, pages 336–349, June 2020.
5. Robert Utterback, Kunal Agrawal, Jeremy T. Fineman, and I-Ting Angelina Lee. “Efficient race detection with futures.” In *Proceedings of the 24th ACM Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 340–354, February 2019.
6. Nairen Cao, Jeremy T. Fineman, Katina Russell, and Eugene Yang. “I/O-efficient algorithms for topological sort and related problems.” In *Proceedings of the 30th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 2053–2070, January 2019.
7. Jeremy T. Fineman. “Nearly work-efficient parallel algorithm for digraph reachability.” In *Proceedings of the 50th ACM Symposium on Theory of Computing (STOC)*, pages 457–470, June 2018.
8. Naama Ben-David, Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, Yan Gu, Charles McGuffey, and Julian Shun. “Implicit decomposition for write-efficient connectivity algorithms.” In *Proceedings of the 32nd IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 711–722, May 2018.

9. Kunal Agrawal, Joseph Devietti, Jeremy T. Fineman, I-Ting Angelina Lee, Robert Utterback, and Changming Xu. “Race detection and reachability in nearly series-parallel DAGs.” In *Proceedings of the 29th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 156–171, January 2018.
(Acceptance rate = 33%)
10. William E. Devanny, Jeremy T. Fineman, Michael Goodrich, Tsvi Kopelowitz. “The online house numbering problem: min-max online list labeling.” In *Proceedings of the 25th Annual European Symposium on Algorithms (ESA)*, 33:1–33:15, September 2017.
(Acceptance rate = 25%)
11. Michael Dinitz, Jeremy T. Fineman, Seth Gilbert, and Calvin Newport. “Load balancing with bounded convergence in dynamic networks.” In *Proceedings of the 2017 IEEE Conference on Computer Communications (INFOCOM)*, pages 1–9, May, 2017.
12. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, Tsvi Kopelowitz, and Pablo Montes. “File maintenance: When in doubt, change the layout!.” In *Proceedings of the 28th ACM-SIAM Symposium on Discrete Algorithm (SODA)*, pages 1503–1522, January 2017.
(Acceptance rate = 34%)
13. Peyman Afshani, Michael A. Bender, Martín Farach-Colton, Jeremy T. Fineman, Mayank Goswami, and Meng-Tsung Tsai. “Cross-referenced dictionaries and the limits of write optimization.” In *Proceedings of the 28th ACM-SIAM Symposium on Discrete Algorithm (SODA)*, pages 1523–1532, January 2017.
(Acceptance rate = 34%)
14. Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, Yan Gu, and Julian Shun. “Efficient algorithms with asymmetric read and write costs.” In *Proceedings of the 24th European Symposium on Algorithms (ESA)*, pages 14:1–14:18, August 2016.
(Acceptance rate = 27%)
15. Jeremy T. Fineman, Seth Gilbert, Fabian Kuhn, and Calvin Newport. “Contention resolution on a fading channel.” In *Proceedings of the 35th ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC)*, pages 155–164, July 2016.
(Acceptance rate = 27%)
16. Jeremy T. Fineman, Calvin Newport, and Tonghe Wang. “Contention resolution on multiple channels with collision detection.” In *Proceedings of the 35th ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC)*, pages 175–184, July 2016.
(Acceptance rate = 27%)
17. Naama Ben-David, Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, Yan Gu, Charles McGuffey, Julian Shun. “Parallel algorithms for asymmetric read-write costs.” In *Proceedings of the 28th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 145–156, July 2016.
18. Michael A. Bender, Erik D. Demaine, Roozbeh Ebrahimi, Jeremy T. Fineman, Rob Johnson, Andrea Lincoln, Jayson Lynch, and Samuel McCauley. “Cache-adaptive analysis.” In *Proceedings of the 28th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 135–144, July 2016.
19. Robert Utterback, Kunal Agrawal, Jeremy T. Fineman, and I-Ting Angelina Lee. “Provably good and practically efficient parallel race detection for fork-join programs.” In *Proceedings of the 28th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 83–94, July 2016.

20. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Maxwell Young. “How to scale exponential backoff: constant throughput, polylog access attempts, and robustness.” In *Proceedings of the 27th ACM-SIAM Symposium on Discrete Algorithm (SODA)*, pages 636–654, January 2016.
(Acceptance rate = 28%)
21. Michael Dinitz, Jeremy T. Fineman, Seth Gilbert, and Calvin Newport. “Smoothed analysis of dynamic networks.” In *Proceedings of the 29th International Symposium on Distributed Computing (DISC)*, pages 513–527, October 2015.
(Acceptance rate = 31%)
22. Michael A. Bender, Martín Farach-Colton, Sándor P. Fekete, Jeremy T. Fineman, and Seth Gilbert. “Cost-oblivious reallocation for scheduling and planning.” In *Proceedings of the 27th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 143–154, June 2015.
(Acceptance rate = 25%)
23. Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, Yan Gu, and Julian Shun. “Sorting with asymmetric read and write costs.” In *Proceedings of the 27th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 1–12, June 2015.
(Acceptance rate = 25%)
24. Jeremy T. Fineman and Brendan Sheridan. “Scheduling non-unit jobs to minimize calibrations.” In *Proceedings of the 27th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 161–170, June 2015.
(Acceptance rate = 25%)
25. Julian Shun, Yan Gu, Guy E. Blelloch, Jeremy T. Fineman, and Phillip B. Gibbons. “Sequential random permutation, list contraction, and tree contraction are highly parallel.” In *Proceedings of the 26th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 431–448, January 2015.
(Acceptance rate = 27%)
26. Kunal Agrawal, Jeremy T. Fineman, and Jordyn Maglalang. “Cache-conscious scheduling of streaming pipelines on parallel machines with private caches.” In *Proceedings of the 21st IEEE International Conference on High Performance Computing (HiPC)*, pages 1–12, December 2014.
(Acceptance rate = 23%)
27. Pooya Davoodi, Jeremy T. Fineman, John Iacono, and Özgür Özkan. “Cache-oblivious persistence.” In *Proceedings of the 22nd European Symposium on Algorithms (ESA)*, pages 296–308, September 2014.
Winner of best-paper award.
(Acceptance rate = 26%)
28. Kunal Agrawal, Jeremy T. Fineman, Kefu Lu, Brendan Sheridan, Jim Sukha, and Robert Utterback. “Provably good scheduling for parallel programs that use data structures through implicit batching.” In *Proceedings of the 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 84–95, June 2014.
(Acceptance rate = 25%)
29. Harsha Vardhan Simhadri, Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, and Aapo Kyrola. “Experimental analysis of space-bounded schedulers.” In *Proceedings of the 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 30–41, June 2014.
(Acceptance rate = 25%)

30. Kunal Agrawal and Jeremy T. Fineman. “Brief Announcement: cache-oblivious scheduling of streaming pipelines.” In *Proceedings of the 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 79–81, June 2014. (No acceptance data on short papers)
31. Michael A. Bender, Martín Farach-Colton, Sándor P. Fekete, Jeremy T. Fineman, and Seth Gilbert. “Cost-oblivious storage reallocation.” In *Proceedings of the 33rd ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS)*, pages 278–288, June 2014. (Acceptance rate = 33%)
32. Jeremy T. Fineman, Calvin Newport, Micah Sherr, and Tonghe Wang. “Fair maximal independent sets.” In *Proceedings of the 28th IEEE International Parallel & Distributed Processing Symposium (IPDPS)*, pages 712–721, May 2014. (Acceptance rate = 21%)
33. Michael A. Bender, Roozbeh Ebrahimi, Jeremy T. Fineman, Golnaz Ghasemiesfeh, Rob Johnson, and Samuel McCauley. “Cache-adaptive algorithms.” In *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 958–971, January 2014. (Acceptance rate = 28%)
34. Michael A. Bender, Martín Farach-Colton, Sándor P. Fekete, Jeremy T. Fineman, and Seth Gilbert. “Reallocation problems in scheduling.” In *Proceedings of the 25th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 271–279, July 2013. (Acceptance rate = 24%)
35. Julian Shun, Guy E. Blelloch, Jeremy T. Fineman, and Phillip B. Gibbons. “Reducing contention through priority updates.” In *Proceedings of the 25th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 152–163, July 2013. (Acceptance rate = 24%)
36. Guy E. Blelloch, Jeremy T. Fineman, and Julian Shun. “Greedy sequential maximal independent set and matching are parallel on average.” In *Proceedings of the 24th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 308–317, June 2012. (Acceptance rate = 26%)
37. Kunal Agrawal, Jeremy T. Fineman, Jordan Krage, Charles E. Leiserson, and Sivan Toledo. “Cache-conscious scheduling of streaming applications.” In *Proceedings of the 24th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 236–245, June 2012. (Acceptance rate = 26%)
38. Julian Shun, Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, Aapo Kyrola, Harsha Vardhan Simhadri, and Kanat Tangwongsan. “Brief announcement: the problem based benchmark suite.” In *Proceedings of the 24th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 68–70, June 2012. (No acceptance data on short papers)
39. Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, and Julian Shun. “Internally deterministic parallel algorithms can be fast.” In *Proceedings of the 17th ACM Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 181–192, February 2012. (Acceptance rate = 15%)
40. Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, and Harsha Vardhan Simhadri. “Scheduling irregular parallel computations on hierarchical caches.” In *Proceedings of the 23rd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 355–366, June 2011. (Acceptance rate = 30%)

41. Gerth Stølting Brodal, Erik D. Demaine, Jeremy T. Fineman, John Iacono, Stefan Langerman, and J. Ian Munro. “Cache-oblivious dynamic dictionaries with optimal update/query tradeoff.” In *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1448–1456, January 2010. (Acceptance rate = 30%)
42. Aydın Buluç, Jeremy T. Fineman, Matteo Frigo, John R. Gilbert, and Charles E. Leiserson. “Parallel sparse matrix-vector and matrix-transpose-vector multiplication using compressed sparse blocks.” In *Proceedings of the 21st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 233–244, August 2009. (Acceptance rate = 31%)
43. Michael A. Bender, Jeremy T. Fineman, and Seth Gilbert. “A new approach to incremental topological ordering.” In *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1108–1115, January 2009. (Acceptance rate = 29%)
44. Christopher Y. Crutchfield, Zoran Džunić, Jeremy T. Fineman, David R. Karger, and Jacob H. Scott. “Improved approximations for multiprocessor scheduling under uncertainty.” In *Proceedings of the 20th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 246–255, June 2008. (Acceptance rate = 28%)
45. Kunal Agrawal, Jeremy T. Fineman, and Jim Sukha. “Nested parallelism in transactional memory.” In *Proceedings of the 13th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 163–174, February 2008. (Acceptance rate = 25%)
46. Michael A. Bender, Martin Farach-Colton, Jeremy T. Fineman, Yonatan Fogel, Bradley C. Kuszmaul, and Jelani Nelson. “Cache-oblivious streaming B-trees.” In *Proceedings of the 19th Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 81–92, June 2007. (Acceptance rate = 28%)
47. Michael A. Bender, Jeremy T. Fineman, and Kunal Agrawal. “The worst page-replacement policy.” In *Proceedings of the Fourth International Conference on Fun with Algorithms*, pages 135–145, June 2007. (Acceptance rate = 49%)
48. Michael A. Bender, Jeremy T. Fineman, and Seth Gilbert. “Contention resolution with heterogeneous job sizes.” In *Proceedings of the 14th Annual European Symposium on Algorithms (ESA)*, pages 112–123, September 2006. (Acceptance rate = 24%)
49. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Bradley C. Kuszmaul. “Concurrent cache-oblivious B-trees.” In *Proceedings of the 17th Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 228–237, July 2005. (Acceptance rate = 36%)
50. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Charles E. Leiserson. “On-the-fly maintenance of series-parallel relationships in fork-join multithreaded programs.” In *Proceedings of the 16th Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 133–144, June 2004. (Acceptance rate = 41%)

Journal Articles

(All peer reviewed)

1. Jeremy T. Fineman. “Nearly work-efficient parallel algorithm for digraph reachability.” *SIAM Journal on Computing*, 49(5), 2020.
2. Jeremy T. Fineman, Seth Gilbert, Fabian Kuhn, and Calvin Newport. “Contention resolution on a fading channel.” *Distributed Computing*, 32(6): 517–533, 2019.
3. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Maxwell Young. “Scaling exponential back-off: constant throughput, polylogarithmic channel-access attempts, and robustness.” *Journal of the ACM*, 66(1): 6:1–6:33, 2019.
4. Michael Dinitz, Jeremy T. Fineman, Seth Gilbert, and Calvin Newport. “Smoothed analysis of dynamic networks.” *Distributed Computing*, 31(4): 273–287, 2018.
5. Michael A. Bender, Martín Farach-Colton, Sándor P. Fekete, Jeremy T. Fineman, and Seth Gilbert. “Cost-oblivious storage reallocation.” *ACM Transactions on Algorithms*, 13(3): 38:1–38:20, 2017.
6. Michael A. Bender, Jeremy T. Fineman, Seth Gilbert, and Robert E. Tarjan. “A new approach to incremental cycle detection and related problems.” *ACM Transactions on Algorithms*, 12(2): 14:1–14:22, 2016.
7. Harsha Vardhan Simhadri, Guy E. Blelloch, Jeremy T. Fineman, Phillip B. Gibbons, and Aapo Kyrola. “Experimental analysis of space-bounded schedulers.” *ACM Transactions on Parallel Computing*, 3(1): 8:1–8:27, 2016.
8. Michael A. Bender, Martín Farach-Colton, Sándor P. Fekete, Jeremy T. Fineman, and Seth Gilbert. “Reallocation problems in scheduling.” *Algorithmica*, 73(2): 389–409, 2015.
9. Michael A. Bender, Jeremy T. Fineman, and Kunal Agrawal. “The worst page-replacement policy.” *Theory of Computing Systems*, 44(2): 175–185, 2009.

Book Chapters

(Invited)

1. Jeremy T. Fineman and Charles E. Leiserson. “Race detectors for Cilk and Cilk++ Programs.” *Encyclopedia of Parallel Computing 2011*, 2011, pages 1706–1719.

Posters and Workshop Papers

(All peer reviewed)

1. Jordan King, Jeremy T. Fineman, Valerie Palermo, and Lisa Singh. “Combining pure anomalies to describe unusual behavior in real world data sets.” In *Proceedings of the ACM SIGKDD Workshop on Outlier Definition, Detection, and Description (ODDx3)*, August 2015.
2. Kunal Agrawal, Jeremy T. Fineman, Brendan Sheridan, Jim Sukha, and Robert Utterback. “Provably good scheduling for parallel programs that use data structures through implicit batching (poster).” In *Proceedings of the 19th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 389–390, February 2014.

3. Julian Shun, Guy E. Blelloch, Jeremy T. Fineman, and Phillip B. Gibbons. “Reducing contention through priority updates (poster).” In *Proceedings of the 18th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 299–300, February 2013.

GRANTS/FUNDING AS PI

1. NSF Grant CCF-1718700, *AF: Small: Algorithms for New Memory Models*, \$347,980, September 2017–August 2020.
2. NSF Grant CCF-1617727, *AF: SMALL: Collaborative Research: Maintaining Order*, \$239,703, September 2016–August 2019.
3. NSF Grant CCF-1314633, *SHF: AF: Large: Collaborative Research: Parallelism without Concurrency*, \$424,805, July 2013–June 2017.
4. NSF Grant CCF-1218188, *AF: SMALL: Collaborative Research: Data Structures for Parallel Algorithms*, \$138,994, August 2012–July 2015.

GRANTS/FUNDING AS CO-PI

1. NSF Grant CCF-1918989, *SPX: Automatically Parallelizing Approximate Data Analysis with Mergeable Summaries*, \$615,203, October 2019–September 2023.

TEACHING EXPERIENCE

Georgetown University

(rating based on “overall evaluation of instructor”)

Instructor , Introduction to Algorithms (COSC 240)	Spring 2021
Instructor , Algorithms (COSC 540) Instructor Rating: 4.63/5.00	Fall 2020
Instructor , Parallel Algorithms (COSC 542) Instructor Rating: 4.42/5.00	Fall 2020
Instructor , Introduction to Algorithms (COSC 240) Instructor Rating: 4.25/5.00	Spring 2018
Instructor , Algorithms (COSC 540) Instructor Rating: 4.72/5.00	Fall 2017
Instructor , Advanced Data Structures (COSC 680) Instructor Rating: 4.33/5.00	Spring 2017
Instructor , Introduction to Algorithms (COSC 240) Instructor Rating: 4.4/5.00	Spring 2017
Instructor , Algorithms (COSC 540)	Fall 2016

Instructor Rating: 4.46/5.00	
Instructor , Seminar: Parallel Algorithms (COSC 842) Instructor Rating: 4.5/5.00	Spring 2016
Instructor , Introduction to Algorithms (COSC 240) Instructor Rating: 3.78/5.00	Spring 2016
Instructor , Algorithms (COSC 540) Instructor Rating: 4.83/5.00	Fall 2015
Instructor , Algorithms (COSC 540) Instructor Rating: 4.75/5.00	Fall 2014
Instructor , Introduction to Algorithms (COSC 240) Instructor Rating: 4.60/5.00	Spring 2014
Instructor , Algorithms (COSC 540) Instructor Rating: 4.88/5.00	Fall 2013
Instructor , Introduction to Algorithms (COSC 240) Instructor Rating: 4.18/5.00	Spring 2013
Instructor , Algorithms (COSC 540) Instructor Rating: 5.00/5.00	Fall 2012
Instructor , Parallel Algorithms (COSC 542) Instructor Rating: 5.00/5.00	Spring 2012
Instructor , Algorithms (COSC 540) Instructor Rating: 4.60/5.00	Fall 2011

Carnegie Mellon University

Co-instructor , Algorithms in the Real World (15-853)	Fall 2010
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Massachusetts Institute of Technology

Teaching Assistant , Mathematics for Computer Science (6.042)	Spring 2008
Teaching Assistant , Introduction to Algorithms (6.046)	Spring 2007
Teaching Assistant , Introduction to Algorithms (6.046)	Spring 2006
Teaching Assistant , Introduction to Algorithms (6.046)	Spring 2005

STUDENT SUPERVISION

Ph.D. students:

Eugene Yang (co-advised)	Spring 2018–present
Nairen Cao (co-advised)	Spring 2018–present
Katina Russell	Summer 2017–present
Brendan Sheridan	Fall 2012–January 2018

Undergraduate and post-baccalaureate students:

Jordan King, GUROP and non-credit research	Summer 2014–Spring 2015
Valerie Palermo, independent study and non-credit research	Fall 2013–Spring 2015
Paul Vasiu (post baccalaureate), non-credit research project	Fall 2014

Thesis-committee memberships:

Ph.D. committee member: Yifan Xu	ongoing
<i>Provably and Practically Efficient Race Detector for Task-Parallel Code</i> , Ph.D. Thesis, Department of Computer Science and Engineering, Washington University in St. Louis	
Ph.D. committee member: Cristopher Flagg	ongoing
<i>Image Transformation for Improved Image Retrieval</i> , Ph.D. Thesis, Department of Computer Science, Georgetown University	
Ph.D. committee member: Yan Gu	Fall 2019
<i>Models and Algorithms with Asymmetric Read and Write Costs</i> , Ph.D. Thesis, School of Computer Science, Carnegie Mellon University	
Ph.D. committee member: Tonghe Wang	Summer 2017
<i>Fairness for Distributed Algorithms</i> , Ph.D. Thesis, Department of Computer Science, Georgetown University	
Ph.D. committee member: Robert Utterback	Summer 2017
<i>Easier Parallel Programming with Provably-Efficient Runtime Schedulers</i> , Ph.D. Thesis, Department of Computer Science and Engineering, Washington University in St. Louis	
Ph.D. committee member: Samuel McCauley	Summer 2016
<i>Using Locality to Tackle Modern Algorithmic Challenges</i> , Ph.D. Thesis, Department of Computer Science, Stony Brook University	
Ph.D. committee member: Jason Soo	Spring 2016
<i>Search in Adverse Environments</i> , Ph.D. Thesis, Department of Computer Science, Georgetown University	
Ph.D. committee member: Jon Parker	Spring 2016
<i>Effective and Efficient Binarization of Degraded Document Images</i> , Ph.D. Thesis, Department of Computer Science, Georgetown University	
Ph.D. committee member: Roozbeh Ebrahimi	Summer 2015
<i>Cache-Adaptive Algorithms</i> , Ph.D. Thesis, Department of Computer Science, Stony Brook University	
Ph.D. committee member: Julian Shun	Spring 2015

Shared-Memory Parallelism Can Be Simple, Fast, and Scalable, Ph.D. Thesis, School of Computer Science, Carnegie Mellon University

Senior Thesis committee member: Welles Robinson Spring 2014

Implementing the Reliable Broadcast Service in Dynamic Distributed Networks, Department of Computer Science, Georgetown University

Ph.D. committee member: Harsha Vardhan Simhadri Fall 2013

Program-Centric Cost Models for Locality and Parallelism, Ph.D. Thesis, School of Computer Science, Carnegie Mellon University

SERVICE

Departmental Service

Director of Graduate Studies, Department of Computer Science	AY 2017–2018
Coach and co-organizer, Georgetown University teams for ACM International Collegiate Programming Contest (ACM ICPC)	Fall 2013–2018
Undergraduate Committee, Department of Computer Science	Fall 2014
Faculty Search Committee, Department of Computer Science	AY 2012–2013
Graduate Committee, Department of Computer Science	AY 2011–2012 2015–2018

Technical Program Committee Memberships

32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2020)

Program Vice Chair, Algorithms and Theory track, 40th IEEE International Conference on Distributed Computing Systems (ICDCS 2020)

14th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP 2019)

Program co-Chair, 2nd Symposium on Simplicity in Algorithms (SOSA 2019)

Program Chair, 30th ACM Symposium on Parallelism in Algorithms and Architecture (SPAA 2018)

13th Latin American Theoretical INformatics Symposium (LATIN 2018)

Symposium on Simplicity in Algorithms (SOSA 2018)

31st International Symposium on Distributed Computing (DISC 2017)

46th International Conference on Parallel Processing (ICPP 2017)

28th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2016)

27th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2015)

29th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2015)

20th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP 2015)
6th Workshop on Massive Data Algorithmics (MASSIVE 2014)
10th ACM International Workshop on Foundations of Mobile Computing (FOMC 2014)
19th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP 2014)
4th Workshop on Massive Data Algorithmics (MASSIVE 2012)
24th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2012)
17th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2011)
31st International Conference on Distributed Computing Systems (ICDCS 2011)
24th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2010)
21st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2009)

Grant-Proposal Review Panelist

NSF Panel, 2018
NSF Panel, 2014
NSF Panel, 2013
NSF Panel, 2012

Conference Organization

Secretary, ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)	2015–2020
Local Arrangements Chair, ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)	2017
Publicity Chair, ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)	2011–2015

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