

Samuel McCauley

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EDUCATION

STONY BROOK UNIVERSITY
Stony Brook, NY, USA
Ph.D. Computer Science, 2016
Advised by Prof. Michael Bender

TUFTS UNIVERSITY
Medford, MA, USA
B.S. Computer Science and Mathematics, 2010
Advised by Prof. Lenore Cowen

RESEARCH EXPERIENCE

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|---|-----------|
| Post Doc, IT University of Copenhagen <i>Currently working on scalable similarity search and locality-sensitive hashing.</i> | 2016-2018 |
| Chateaubriand Fellowship, École Normale Supérieure, Lyon <i>Worked with Professor Frédéric Vivien on scheduling malleable task graphs.</i> | 2015-2016 |
| Research Assistant, City University of Hong Kong <i>Worked with Professor Minming Li on online scheduling with calibrations.</i> | 2015 |
| NSF EAPSI Fellowship, National University Singapore <i>Worked with Professor Seth Gilbert on range queries, dynamic distance oracles, and VLSI.</i> | 2014 |
| Graduate Student Intern, Sandia National Laboratories <i>Worked with Vitus Leung on the scheduler component for the Structural Simulation Toolkit.</i> | 2012-2014 |
| Research Assistant, Stony Brook University <i>Worked with Professor Michael Bender on external memory and scheduling algorithms.</i> | 2011-2016 |
| Research Assistant, Tufts University <i>Worked with Professors Lenore Cowen and Benjamin Hescott on discrete mathematics and coin sets.</i> | 2009 |

TEACHING EXPERIENCE

IT University of Copenhagen:

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| Algorithm Design Project | Spring 2017, Spring 2018 |
| Applied Algorithms | Fall 2016, Fall 2017 |

École Normale Supérieure, Lyon:

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| ER01: Data Structures for Big Data <i>With Professors Martin Farach-Colton and Michael Bender</i> | Winter 2015 |
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SUNY Old Westbury:

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| Computer Programming 1 | Spring 2014 |
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Stony Brook University Teaching Assistantships:

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| Graduate Algorithms (TA of the year 2010) | Fall 2012, Fall 2010 |
| Theory of Computation | Summer 2011 |
| Technical Writing | Spring 2011 |

Tufts University Teaching Assistantships:

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| Discrete Mathematics | Fall 2009, Spring 2010 |
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ADVISING

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|---------------------------|---------------------------------|-------------|
| Irina Alina Gabriela Luca | MS, IT University of Copenhagen | Fall 2017 |
| Viktor Joenson | MS, IT University of Copenhagen | Spring 2017 |

AWARDS AND FELLOWSHIPS

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|---|-----------|
| Chateaubriand Fellowship | 2015-2016 |
| IPDPS Best Paper | 2015 |
| NSF EAPSI Fellowship | 2014 |
| Stony Brook Computer Science TA of the year | 2010 |
| Enhanced CS Department Chair Fellowship | 2010 |

PUBLICATIONS IN CONFERENCE PROCEEDINGS

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|----------|---|------|
| FOCS | Bloom Filters, Adaptivity, and the Dictionary Problem M. A. Bender, M. Farach-Colton, M. Goswami, R. Johnson, S. McCauley, and S. Singh | 2018 |
| SAGT | Efficient Rational Proofs with Strong Utility-Gap Guarantees J. Chen, S. McCauley, and S. Singh | 2018 |
| PODS | Set Similarity Search for Skewed Data S. McCauley, J. W. Mikkelsen, and R. Pagh | 2018 |
| BEYONDMR | Adaptive MapReduce Similarity Joins (extended abstract) S. McCauley and F. Silvestri | 2018 |
| SPAA | Minimizing Total Weighted Flow Time With Calibrations V. Chau, M. Li, S. McCauley, and K. Wang | 2017 |
| APDCM | Minimizing I/Os in Out-of-Core Task Tree Scheduling L. Marchal, S. McCauley, B. Simon, and F. Vivien | 2017 |
| SPAA | Cache-Adaptive Analysis M. A. Bender, E. D. Demaine, R. Ebrahimi, J. T. Fineman, R. Johnson, A. Lincoln, J. Lynch, and S. McCauley | 2016 |
| FUN | Resource Optimization for Program Committee Members: A Subreview Article M. A. Bender, S. McCauley, B. Simon, S. Singh, and F. Vivien | 2016 |
| PODS | Anti-Persistence on Persistent Storage: History-Independent Sparse Arrays and Dictionaries M. A. Bender, J. Berry, R. Johnson, T. M. Kroger, S. McCauley, C. A. Phillips, B. Simon, S. Singh, and D. Zage | 2016 |
| LATIN | The I/O Complexity of Computing Prime Tables M. A. Bender, R. Chowdhury, A. Conway, M. Farach-Colton, P. Ganapathi, R. Johnson, S. McCauley, B. Simon, and S. Singh | 2016 |
| ITCS | Rational Proofs with Multiple Provers J. Chen, S. McCauley, and S. Singh | 2016 |
| ISAAC | Run Generation Revisited: What Goes Up May or May Not Come Down M. A. Bender, S. McCauley, A. McGregor, S. Singh, and H. Vu | 2015 |
| WAOA | Scheduling Parallel Jobs Online with Convex and Concave Parallelizability R. Ebrahimi, S. McCauley, and B. Moseley | 2015 |

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| IPDPS | Two-Level Main Memory Co-Design: Multi-Threaded Algorithmic Primitives, Analysis, and Simulation M. A. Bender, J. Berry, S. D. Hammond, K. S. Hemmert, S. McCauley, B. Moore, B. Moseley, C. A. Phillips, D. Resnick, and A. Rodrigues Selected as Best Paper | 2015 |
| COCOON | The Range 1 Query (R1Q) Problem M. A. Bender, R. Chowdhury, P. Ganapathi, S. McCauley, and Y. Tang | 2014 |
| SODA | Cache-Adaptive Algorithms M. A. Bender, R. Ebrahimi, J. T. Fineman, G. Ghasmiesfeh, R. Johnson, and S. McCauley | 2014 |
| SPAA | Efficient Scheduling to Minimize Calibrations M. A. Bender, D. P. Bunde, V. J. Leung, S. McCauley, and C. A. Phillips | 2013 |
| FUN | The Kissing Problem: How to End a Gathering When Everyone Kisses Everyone Else Goodbye M. A. Bender, R. Bose, R. Chowdhury, and S. McCauley | 2012 |

JOURNAL PUBLICATIONS

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|--------|--|------|
| JPDC | Two-Level Main Memory Co-Design: Multi-Threaded Algorithmic Primitives, Analysis, and Simulation M. A. Bender, J. Berry, S. D. Hammond, K. S. Hemmert, S. McCauley, B. Moore, B. Moseley, C. A. Phillips, D. Resnick, and A. Rodrigues | 2017 |
| TOCS | Scheduling Parallel Jobs Online with Convex and Concave Parallelizability R. Ebrahimi, S. McCauley, and B. Moseley | 2016 |
| TCS | The Range 1 Query (R1Q) Problem M. A. Bender, R. Chowdhury, P. Ganapathi, S. McCauley, and Y. Tang | 2016 |
| SUSCOM | Simulation and Optimization of HPC Job Allocation for Reducing Communication and Cooling Costs J. Meng, S. McCauley, F. Kaplan, V. Leung, and A. K. Coskun | 2014 |
| TOCS | The Kissing Problem: How to End a Gathering When Everyone Kisses Everyone Else Goodbye M. A. Bender, R. Bose, R. Chowdhury, and S. McCauley | 2013 |

PROGRAM COMMITTEES

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| International Conference on Parallel Processing | (ICPP) | 2017 |
| International Parallel and Distributed Processing Symposium | (IPDPS) | 2017 |