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Computer Science & Engineering
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Education:

Ph.D.

Computer Science, University of Auckland, New Zealand, September 2004
Dissertation: *Designing Test Suites for Software Interaction Testing*

M.S.

Computer Science, University of Vermont, Burlington, VT 1999
Thesis: *Performance Analysis of Triple Erasure Codes in Large Disk Arrays*

B.S.

Agriculture and Life Sciences, Cornell University, Ithaca, NY

Work Experience (Academic):

Assistant Professor: Department of Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE, 2004 –present.

Senior Tutor: Department of Computer Science, University of Auckland, New Zealand, January 2001-July 2004.

Research Assistant: Department of Computer Science, University of Vermont, Burlington, VT, June-July 2000.

Lecturer: Department of Computer Science, University of Vermont, Burlington, VT, August 1998-December 2000.

Visiting Teacher: Burlington School District, Burlington, VT, July–August 1999.

Graduate Teaching Fellow: Department of Computer Science, University of Vermont, Burlington, VT, September 1997-May 1998.

Work Experience (Industry):

Database Administrator: Information Services, Fletcher Allen Health Care, Burlington, VT, July 1997-August 1998.

Senior Measurement Specialist: Quality, Education & Development. Fletcher Allen Health Care, Burlington, VT, July 1995 – June 1997.

Data Analyst: Quality Assurance. Medical Center Hospital of Vermont, Burlington, VT, December 1991- June 1995.

Recent Awards:

Student's Choice Outstanding Teaching Award for Lower Division Courses: 2004-2005, Department of Computer Science and Engineering, University of Nebraska-Lincoln, May 2005.

Funding:

- PI: NSF EPSCoR FIRST Award: *Next Generation Software Interaction Testing: The Highly Configurable Software System*. 01/01/2006-12/31/2006.
- PI: NSF EPSCoR Small Grant Program Award: *Building an Interaction Testing Infrastructure*, 05/2005-12/2005.
- PI: NSF EPSCoR FIRST Award: *An Integrated Approach to Software Interaction Testing*, 01/01/2005-12/31/2005.

Publications:

Refereed Journal Publications:

1. C. Yilmaz, M.B. Cohen, A. Porter, Covering Arrays for Efficient Fault Characterization in Complex Configuration Spaces, *IEEE Transactions on Software Engineerin*g, 31(1), 2006, pp. 20-34.

2. M.B. Cohen, C.J. Colbourn, and A.C.H. Ling, Constructing strength three covering arrays with augmented annealing, *Discrete Mathematics*, to appear (acc Oct03).

3. M.B. Cohen and C.J. Colbourn, Ladder orderings of pairs and RAID performance, *Discrete Applied Mathematics*, 138(1-2), 2004, pp. 35-46.

4. M.B. Cohen and C.J. Colbourn, Optimal and pessimal orderings of Steiner triple systems in disk arrays, *Theoretical Computer Science*, 297(2003), 103-117.

5. M.B. Cohen, C.J. Colbourn, L.A. Ives, and A.C.H. Ling, Kirkman triple systems of order 21 with nontrivial automorphism group, *Mathematics of Computation*, 71(238), 2002, 873-881.

Refereed Conference Proceedings:

1. M. Cohen, S.B. Kooi, W. Srisa-an, Clustering the Heap in Multi-Threaded Applications for Improved Garbage Collection, Search Based Software Engineering Track: *Proceedings of the Genetic and Evolutionary Computation Conference* (GECCO), to appear, July 2006.

2. R. Bryce, C.J. Colbourn, M.B. Cohen. A Framework of Greedy Methods for Constructing Interaction Tests. *Proceedings of the International Conference on Software Engineering* (ICSE), St. Louis, MO, May 2005, pp. 146-155. (14% acceptance rate)

3. C. Yilmaz, M.B. Cohen and A. Porter, Covering arrays for efficient fault characterization in complex configuration spaces, *International Symposium on Software Testing and Analysis* (ISSTA), Boston, July 2004, pp. 45-54. (28% acceptance rate)

4. C.J. Colbourn, M.B. Cohen, and R.C. Turban, A Deterministic Density Algorithm for Pairwise Interaction Coverage, IASTED *Proceedings of the International Conference on Software Engineering* (SE 2004), Innsbruck, Austria, February 2004, pp. 345-352

5. M.B. Cohen, C.J. Colbourn and A.C.H. Ling, Augmenting simulated annealing to build interaction test suites, *IEEE International Symposium on Software Reliability Engineering* (ISSRE), Denver CO, November 2003, pp. 394-405.

6. M.B.Cohen, C.J. Colbourn, J.S. Collofello, P.B. Gibbons and W.B. Mugridge, Variable strength interaction testing of components, *Proceedings of the International Computer Software and Applications Conference* (COMPSAC), Dallas, TX, November 2003, pp. 413-418.

7. M.B.Cohen, C.J. Colbourn, P.B. Gibbons and W.B. Mugridge, Constructing test suites for interaction testing, *Proceedings of the International Conference on Software Engineering* (ICSE), Portland, Oregon, May 2003, pp. 38-48. (13% acceptance rate)

8. M.B. Cohen, C.J. Colbourn and D. Froncek, Cluttered orderings for the complete graph, *Computing and Combinatorics Conference* (COCOON 2001), Lecture Notes in Computer Science, 2108(2001) 420-431.

9. M.B. Cohen and C.J. Colbourn, Ordering disks for double erasure codes, *Proceedings of the Symposium on Parallel Algorithms and Architectures* (SPAA), Crete, July 2001, pp. 229-236. (37% acceptance rate)

10. M.B. Cohen and C.J.Colbourn, Optimal and pessimal orderings of Steiner triple systems in disk arrays. *Latin American Theoretical Informatics*, LATIN, Lecture Notes in Computer Science 1776 (2000), 95-104.

11. M.B. Cohen and C.J. Colbourn, Steiner triple systems as multiple erasure correcting codes in disk arrays, Proceedings of IEEE International Conference on Performance, Computing and Communications, (IPCCC), 2000, pp. 288-294.

Other Publications:

1. M. Diep, S. Elbaum, M. Cohen. Profiling Deployed Software: Strategic Probe Placement (UNL Technical Report: TR-05-08-01), 2005.

2. M.B. Cohen, Advances in combinatorial interaction testing, Proceedings of the Doctoral Symposium, International Conference on Software Engineering (ICSE), Oregon, May 2003, pp. 35-38.

Trauma Publications:

1. Kennith H. Sartorelli, MD, Frederick B. Rogers, MD, Turner M. Osler, MD, Steven R. Shackford, MD, Myra Cohen, and Dennis W. Vane, MD. Financial aspects of providing trauma care at the extremes of life. *The Journal of Trauma Injury, Infection and Critical Care*. 46(3), pp 483-487. March 1999.

2. Frederick B. Rogers, MD, Turner M. Osler, MD, Steven R. Shackford, MD, Myra Cohen, Lorelei Camp, RN, CCRN and Margaret Lesage. Study of the outcome of patients transferred to a Level I hospital after stabilization at an outlying hospital in a rural setting. *The Journal of Trauma Injury, Infection and Critical Care* , 46(2), pp 328-333. February 1999.

3. Turner M. Osler, MD, Frederick B. Rogers, MD, Laurent G. Glance, MD, Myra Cohen, Robert Rutledge MD, and Steven R. Shackford, MD. Predicting survival, length of stay and cost in the surgical intensive care unit: APACHE II versus ICISS. The *Journal of Trauma Injury, Infection and Critical Care* , 45(2), pp 234-238. August 1998.

4. Turner M. Osler, MD, Myra Cohen, Frederick B. Rogers, MD, Lorelei Camp, RN CCRN, Robert Rutledge, MD, and Steven R. Shackford, MD. Trauma registry injury coding is superfluous: a comparison of outcome prediction based on trauma registry international classification of diseases - ninth revision (ICD-9) and hospital information system ICD-9 codes. *The Journal of Trauma Injury, Infection and Critical Care* , 43(2), pp 253-257. August 1997.

5. Frederick B. Rogers, MD, Turner M. Osler, MD, Steven Shackford, MD, Myra Cohen, and Lorelei Camp, RN CCRN. Financial Outcome of treating trauma in a rural environment. *The Journal of Trauma Injury, Infection and Critical Care* , 43(1), pp 65-73. July 1997.

Invited Workshop Talks:

- *Augmenting simulated annealing to build interaction test suites*:
  Workshop on Search Based Software Engineering (SBSE), Cumberland Lodge, Windsor, UK, September 2003.

- *Cluttered Orderings for the Complete Graph*: Workshop on Design Theory: Resolvability and Parallelisms, Pacific Institute for Mathematical Sciences (PIMS), Burnaby, BC, May 2001.

- *Ladder orderings for double erasure codes*:
  Workshop on Emerging Applications of Combinatorial Design Mathematical Research Science Institute (MSRI), Berkeley, CA, November 2000.