

JESSEN T. HAVILL

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Education

The College of William and Mary, Williamsburg, Virginia
Doctor of Philosophy, Computer Science (August, 1998)
Thesis Title: Analysis of Algorithms for Online Routing and Scheduling in Networks

The College of William and Mary, Williamsburg, Virginia
Master of Science, Computer Science (May, 1994)

Bucknell University, Lewisburg, Pennsylvania
Bachelor of Arts (Magna Cum Laude), Computer Science and Religion (May, 1992)

Professional Experience

Associate Professor of Computer Science (September, 2004 – present)
Chair (July, 2006 – June, 2009)
Assistant Professor of Computer Science (August, 1998 – August, 2004)
Department of Mathematics and Computer Science, Denison University, Granville, Ohio

Instructor (Teaching Fellow) (Spring, 1995; Fall, 1995; Fall, 1996)
Department of Computer Science, The College of William and Mary, Williamsburg, Virginia

Laboratory Instructor (Spring, 1993; Spring, 1994; Fall, 1994; Spring, 1996)
Department of Computer Science, The College of William and Mary, Williamsburg, Virginia

Teaching Assistant (Fall, 1992; Fall, 1993; Spring, 1997; Summers, 1993–1997)
Department of Computer Science, The College of William and Mary, Williamsburg, Virginia

Courses Taught at Denison University

FYS 102: Algorithmics (Fall, 2005)
FYS 102: Bioinformatics (Fall, 2007)
CS 111: Foundations of Computing for Scientific Discovery (Spring, 2009; Fall, 2009)
CS 171: Introduction to Computer Science (Fall, 1998 (2); Fall, 1999; Fall, 2000 (2); Fall, 2001; Spring, 2004)
CS 173: Intermediate Computer Programming (Spring, 2004; Spring, 2005)
CS 174: Discrete Mathematics (Spring, 2008)
CS 200: Mathematical Typesetting (Fall, 2001)
CS 200: Mac OS X Programming with Cocoa and Objective C (Fall, 2003)
CS 200: DNA Algorithms (Spring, 2008)
CS 271: Data Structures and Algorithm Analysis I (Fall, 2001; Fall, 2003; Fall, 2005; Fall, 2007; Fall, 2009)
CS 272: Data Structures and Algorithm Analysis II (Spring, 2002; Spring, 2003; Spring, 2004; Spring, 2006)
CS 281: Computer Organization (Fall, 1998; Fall, 1999; Spring, 2000; Spring, 2001; Spring, 2005; Spring, 2009)
CS 334: Theory of Computation (Fall, 2006)
CS 372: Operating Systems (Spring, 1999; Spring, 2000; Fall, 2000; Fall, 2001; Fall, 2002; Fall, 2003; Fall, 2008)
CS 375: Computer Networks (Fall, 1999; Spring, 2001; Spring, 2002; Spring, 2005)
CS 377: Database Systems (Spring, 1999)

Supervised Student Research

Implementing a Navigation Algorithm for Swarm Robots Inspired by Slime Mold Aggregation, Shaun McFall, Summer 2009

Online Routing of Splittable Flows on Torus Networks, Josh Buell, Summer 2009

Investigating TPP Riboswitches in Archaea Using Computer Algorithms, Chinmoy Bhatiya, Honors Project, 2008–2009 (co-advised with Jeff Thompson, Biology)

Poster: *An Algorithm for Detecting Riboswitches in Archaea*, Ohio Collaborative Conference on Bioinformatics (OCCBIO), 2009.

Algorithms for Counting Links in K_n , Jeffrey Camealy, Summer 2007

Presentation: *Algorithms for Counting Links in K_n* , Ohio Five Summer Science Research Symposium, Ohio Wesleyan University, July 2007.

Interlocked Linkages: Finding a Key, Amanda Moore, Summer 2007

Presentation: *Interlocked Linkages: Finding a Key*, MAA Mathfest Pi Mu Epsilon Paper Session, San Jose, August 2007. Winner of the SIAM award for outstanding student exposition and research in applied mathematics.

Online Algorithms for Packet Routing on Rings, Mete Tuzcu, Summer 2005

Online Algorithms for Packet Routing on Rings, Pancham Gajjar, Summer 2004

Automatic Service Discovery for Content Addressable Storage, Rahul Parikh, Summer 2003

Interfaces for Content Addressable Storage Providers and Clients (co-advised with Thomas Bressoud), Stoyan Paunov, Summer 2003

Stoyan Paunov, Thomas Bressoud, and Jessen Havill. *An HTTP-Based Protocol for Access of Content Addressable Storage (CAS)*, Proceedings of the Midstates Conference For Undergraduate Research in Computer Science and Mathematics (MCURCSM), pp. 19–25, 2003.

Content Addressable Storage Provider in Linux (co-advised with Thomas Bressoud), Vesselin Dimitrov, Senior Honors Project, 2002–2003

Mobile Room Condition Inventory System, Rohit Bansal, Senior Honors Project, 2002–2003

Scheduling Jobs on Parallel Machines with Overhead, Vesselin Dimitrov, Summer 2002

Jessen T. Havill, Weizhen Mao and Vesselin Dimitrov. Improved Parallel Job Scheduling with Overhead. In *Proceedings of the Seventh Joint Conference on Information Sciences*, Research Triangle Park, North Carolina, pp. 393–396, September 2003.

Online Algorithms for Routing and Scheduling on Ring Networks, Rohit Bansal, Summer 2002

An Online Algorithm for Parallel Job Scheduling, Matthew Winkler, Senior Research, 2000–2001

Issues in Operating Systems Portability, James Deverick, Senior Research, Spring 2000

Supervised Directed and Independent Studies

Networked Database Systems, Pushpa Adhikary, Spring 2002

Advanced Operating Systems, Rohit Bansal & Vesselin Dimitrov, Spring 2002

Computational Models for Galactic Dynamics, Nikolai Hristov, Spring 2002

Computer Networks, Sergey Kanareykin, Spring 2002

Database Applications Using SQL, Visual Basic, and Access, Pushpa Adhikary & Raoul Kamath, Fall 2001

Computer Organization, Sergey Kanareykin, Spring 2001

Routing in Ad-Hoc Wireless Networks, Erin Puttick, Spring 2001

Network Programming, Nikolai Hristov, Fall 2000

Database Systems, Dairu Peng, Spring 1999

Networking in Java, Lim Shen H'ng, Spring 1999

Introduction to Computer Science, Megan Fox, Spring 1999

Professional Interests

Online and Approximation Algorithms, Analysis of Algorithms, Scheduling, Communication Networks

Refereed Publications

Jessen T. Havill and Kevin R. Hutson. Optimal Online Ring Routing. Submitted to *Networks*.

Jessen T. Havill and Weizhen Mao. Competitive Online Scheduling of Perfectly Malleable Jobs with Setup Times. *European Journal of Operational Research* 187(3), pp. 1126–1142, 2008.

Jessen T. Havill and L. D. Ludwig. Technically Speaking: Fostering the Communication Skills of Computer Science and Mathematics Students. In *Proceedings of the 38th ACM SIGCSE Technical Symposium on Computer Science Education*, pp. 185–189, 2007.

Jessen T. Havill, Weizhen Mao and Vesselin Dimitrov. Improved Parallel Job Scheduling with Overhead. In *Proceedings of the Seventh Joint Conference on Information Sciences*, Research Triangle Park, North Carolina, pp. 393–396, September 2003.

Jessen T. Havill. Online Packet Routing on Linear Arrays and Rings. In *Proceedings of the 28th International Colloquium on Automata, Languages and Programming*, Crete, Greece, Lecture Notes in Computer Science vol. 2076, pp. 773–784, July 2001.

Jessen T. Havill. A Competitive Online Algorithm for a Parallel Job Scheduling Problem. In *Proceedings of the 12th IASTED International Conference on Parallel and Distributed Computing and Systems*, Las Vegas, Nevada, pp. 611–616, November 2000.

Jessen T. Havill and Weizhen Mao. Greedy Online Algorithms for Routing Permanent Virtual Circuits. *Networks* 34(2), pp. 136–153, September 1999.

Jessen T. Havill and Weizhen Mao. On-line Algorithms for Hybrid Flow Shop Scheduling. In *Proceedings of the Fourth Joint Conference on Information Sciences*, Research Triangle Park, North Carolina, pp. 134–137, October 1998.

Jessen T. Havill and Weizhen Mao. Greedy On-line File Transfer Routing. In *Proceedings of the IASTED International Conference on Parallel and Distributed Systems*, Barcelona, Spain, pp. 225–230, 1997.

Jessen T. Havill, Weizhen Mao and Rahul Simha. A Lower Bound for On-line File Transfer Routing and Scheduling. In *Proceedings of the 31st Annual Conference on Information Sciences and Systems*, Baltimore, Maryland, pp. 936–941, 1997.

Jessen T. Havill. On-Line Update of Traveling Salesman Tours. In *Proceedings of the 34th Annual ACM Southeast Conference*, pp. 218–223, Tuskegee, Alabama, 1996.

Posters

Chinmoy I.S. Bhatyia, Jessen T. Havill, and Jeffrey S. Thompson. An Algorithm for Detecting TPP Riboswitches in Archaea, Ohio Collaborative Conference on Bioinformatics (OCCBIO), Cleveland, Ohio, June 2009.

Presentations

Online Ring Routing, Eastern Great Lakes Theory Conference (rump session), Buffalo, New York (September, 2008)

Panelist, *Technically Speaking: Fostering the Communication Skills of Mathematics Students*, MAA MathFest, San Jose, California (August, 2007)

Technically Speaking: Fostering the Communication Skills of Computer Science and Mathematics Students 38th ACM SIGCSE Technical Symposium on Computer Science Education, Cincinnati, Ohio (March, 2007)

Online Algorithms for Packet Routing on Rings

Denison Scientific Association (January, 2005)

ReSearch and Other Reluctant Algorithms

Mathematics and Computer Science FASt Talk (September, 2004)

Online Packet Routing on Linear Arrays and Rings

28th International Colloquium on Automata, Languages and Programming, Crete, Greece (July, 2001)

Online Packet Routing on Linear Arrays and Rings

Department of Math and Computer Science, Denison University (April, 2001)

A Competitive Online Algorithm for a Parallel Job Scheduling Problem

12th IASTED International Conference on Parallel and Distributed Computing and Systems, Las Vegas, Nevada (November, 2000)

A Competitive Online Algorithm for a Parallel Job Scheduling Problem

Department of Math and Computer Science, Denison University (September, 2000)

Online Algorithm Analysis: How Much is a Time Machine Really Worth?

Department of Mathematics, Oberlin College (March, 1999)

Analysis of Algorithms for Online Routing and Scheduling in Networks

Department of Computer Science, The College of William and Mary (July, 1998)

An Introduction to On-line Algorithms

Department of Computer Science, Hofstra University (December, 1997)

Department of Math and Computer Science, Wilkes University (December, 1997)

Department of Computer Science, Elizabethtown College (January, 1998)

Department of Math and Computer Science, Simmons College (January, 1998)

Department of Computer Science, Mary Washington College (February, 1998)

Department of Math and Computer Science, Denison University (February, 1998)

Greedy On-line File Transfer Routing

IASTED International Conference on Parallel and Distributed Systems, Barcelona, Spain (1997)

A Lower Bound for On-line File Transfer Routing and Scheduling

31st Annual Conference on Information Sciences and Systems, Baltimore, Maryland (1997)

On-Line Update of Traveling Salesman Tours

34th Annual ACM Southeast Conference, Tuskegee, Alabama (1996)

Other Professional Conferences Attended

Ohio Collaborative Conference on Bioinformatics (OCCBIO), Oxford, Ohio, June, 2007.

37th Technical Symposium on Computer Science Education, sponsored by the ACM Special Interest Group on Computer Science Education (SIGCSE), Houston, Texas, March, 2006.

35th Technical Symposium on Computer Science Education, sponsored by the ACM Special Interest Group on Computer Science Education (SIGCSE), Charlotte, North Carolina, March 3–7, 2004.

35th Annual ACM Symposium on Theory of Computing, San Diego, California, June 9–11, 2003.

32nd Technical Symposium on Computer Science Education, sponsored by the ACM Special Interest Group on Computer Science Education (SIGCSE), Charlotte, North Carolina, February 21–25, 2001.

12th ACM-SIAM Symposium on Discrete Algorithms, Washington, DC, January, 2001.

44th Annual Symposium of the Central Ohio Chapter of the ACM, Columbus, Ohio, May 12, 2000.

30th Technical Symposium on Computer Science Education, sponsored by the ACM Special Interest Group on Computer Science Education (SIGCSE), New Orleans, Louisiana, March 24–28, 1999.

Workshops and Seminars Attended

“Science and the Public Intellectual”, Denison University, May, 2008.

“Chairs’ Workshop on Negotiation and Conflict Resolution”, Denison University, January, 2008

“Race & Sexual Identity in the Multicultural Classroom”, Denison University, January, 2008

GLCA Academic Council, Ann Arbor, November 2005

“A Computer Science Conversation” with GLCA schools (faciliator and host), Denison University, September, 2001.

“Geographic Information Systems”, Denison University, July 12, 1999.

“Probability, Algorithms, and Combinatorial Optimization,” NSF-CBMS Conference, Michigan Technological University, Houghton, Michigan, July 17–21, 1995

“Incorporating Oral Communication Activities Into Your Courses,” Faculty Development Workshop, The College of William and Mary, Williamsburg, Virginia, May 15–26, 1995

Pew Computer Graphics Workshop, Bucknell University, Lewisburg, Pennsylvania, June 10–July 26, 1991

Principal Service Activities

University Honor Committee, 2009 –

Convener of Science Chairs, 2008 – 2009

Trustee, Granville Education Foundation, 2003 – 2009

- President, 2007 – 2009 (2 terms)
- Chair, Grants Committee, 2006 – 2007

Referee:

- *ACM Technical Symposium on Computer Science Education (ACM SIGCSE)*, 2001 –
- *European Journal of Operational Research (Elsevier)*
- *Computers & Operations Research (Elsevier)*
- *Journal of Combinatorial Optimization (Springer)*
- *Chapman & Hall/CRC Press*
- *The Handbook of Computer Networks (Wiley)*
- *ACM Transactions on Computing Education*
- *ACM Southeast Conference*, 1999
- *College Mathematics Journal (MAA)*
- *Midstates Conference on Undergraduate Research in CS and Math (MCURCSM)*, 2003, 2004, 2007

Founder and Faculty Advisor, Upsilon Pi Epsilon, Delta of Ohio Chapter, Fall 2000 –

Faculty Advisor, Stibitz Computing Society, Fall 1999 –

Reader, AP Computer Science, 2006 – 2008

Judge, Ohio State Science Fair, May 2008

Web Services Manager Search Committee, Spring 2006

Panelist, New Faculty Orientation session “Balancing Teaching, Scholarship, and Service”, January 2006

Representative to GLCA Academic Council, Fall 2005

Academic Affairs Council, Fall 2005

June Orientation, Summers 2003, 2004, and 2005

Chair, Search Committee for Director of Computing Services, Fall 2004

Denison Scientific Association coordinator, 2003 – 2004

Information Resources Advisory Board (IRAB), Fall 2001 – Spring 2004

Area Coordinator Search Committee, Summer 2003

Search Committee for Director of Residential Life/Assistant Dean of Students, Summer 2003

Committee on Residential Life, Fall 2000 – Spring 2003

Learning Spaces Project Committee, Fall 2000 – Fall 2001

“Learning at Denison” Task Force, Spring 2000

Grants

Computing and Mathematics Across the Sciences, Mellon FCE Grant, \$18,050, 2009

Honors and Awards

Robert C. Good Faculty Fellowship, Spring 2007

Project Kaleidoscope Faculty for the 21st Century (2002)

Summer Professional Development Grant, Denison University (1999, 2000)

Virginia Space Grant Consortium Graduate Fellowship (1997–1998)

Graduate Teaching Assistantship, The College of William and Mary (1992–1998)

Honorable Mention, Student Paper Competition, 34th Annual ACM Southeast Conference (1996)

Who’s Who Among Students in American Universities and Colleges (1996)

Travel Award, NSF-CBMS Conference on “Probability, Algorithms, and Combinatorial Optimization” (1995)

Stipend Award, Faculty Development Workshop, The College of William and Mary (funded by a Funds for Excellence Grant from the State Council of Higher Education of Virginia) (1995)

Phi Beta Kappa, Bucknell University (1992)

Bison Award for Outstanding Co-curricular Leadership, Bucknell University (1992)

Race/Gender Resource Center Award, Bucknell University (1991, 1992)

Omicron Delta Kappa, National Leadership Honor Society, Bucknell University (1991)

Professional Affiliations

Association for Computing Machinery (ACM)

ACM Special Interest Group on Automata and Computability Theory (ACM SIGACT)

ACM Special Interest Group on Computer Science Education (ACM SIGCSE)

Computer Professionals for Social Responsibility (CPSR)

Upsilon Pi Epsilon, Honor Society for the Computing Sciences

Mathematical Association of America (MAA)