

EDUCATION

PhD student: Computer Science with a specialty in Human Computer Interaction University of Maryland, College Park, MD
August 2007 – Present
Advisor: Ben Shneiderman

Master of Science: Computer Science University of Maryland, College Park, MD
August 2007 – May 2009 (expected)

Bachelor of Arts: Double major in Computer Science and Mathematics Cornell College, Mt. Vernon, IA
August 2003 – June 2007
Honors: Magna cum laude
Senior Computer Science Student Achievement Award
First Year Computer Science Student Achievement Award
National Excellence Scholarship / National Merit Finalist
Ed Hill Mathematics Scholar
First place in 2004 ACM N. Central N. America Programming Contest
Dean's List – Highest Honors (Spring 2006-2007)
Dean's List – High Honors (Fall & Spring 2003-2004, Fall & Spring 2004-2005, Fall 2006-2007)
Dean's List – Honors (Fall 2005-2006)

PUBLICATIONS

Conference Papers (Refereed)

Smith, M., Shneiderman, B., Milic-Frayling, N., Rodrigues, E.M., Barash, V., Dunne, C., Capone, T., Perer, A. & Gleave, E. (2009), "*Analyzing (Social Media) Networks with NodeXL*", In C&T '09: Proceedings of the Fourth International Conference on Communities and Technologies. Springer.

Blue, R., Dunne, C., Fuchs, A., King, K. & Schulman, A. (2008), "*Visualizing Real-Time Network Resource Usage.*", In VizSec '08: Proceedings of the 5th international workshop on Visualization for Computer Security. Berlin, Heidelberg. Volume 5210, pp. 119-135. Springer-Verlag.

Papers Under Review

Mohammad, S., Dorr, B. & Dunne, C. (2009), "*Generating High-Coverage Semantic Orientation Lexicons From Overtly Marked Words and a Thesaurus*". Submitted.

Bonsignore, E.M., Dunne, C., Rotman, D., Smith, M., Capone, T., Hansen, D.L. & Shneiderman, B. (2009), "*First Steps to NetViz Nirvana: Evaluating Social Network Analysis with NodeXL*". Submitted.

Dunne, C. & Shneiderman, B. (2009), "*Improving Graph Drawing Readability by Incorporating Readability Metrics: A Software Tool for Network Analysts*", Submitted.

RESEARCH EXPERIENCE

Research Assistant University of Maryland, College Park, MD
August 2008 – May 2009
Conducted research into real-time graph drawing quality metrics to help social network analysts create more effective visualizations. Served as an advisor for the NodeXL project and worked on a usability case study for it. Developed a system with the iOpener project for visualizing relationships between technical papers.

Research Assistant University of Maryland, College Park, MD
June 2008 – August 2008
Analyzed the relationships between cancer research institutions using social network visualizations. Worked to improve the Social Action network analysis tool.

Summer Undergraduate Research Fellowship Intern National Institute of Standards and Technology, Gaithersburg, MD
June 2007 – August 2007
Developed a prototype display and interaction system for emergency response simulations using single display groupware. Evaluated numerous human-computer interfaces and presented findings in an upcoming NIST Internal Report.

Summer Undergraduate Research Fellowship Intern

National Institute of Standards and Technology, Gaithersburg, MD

June 2006 – August 2006

Evaluated emerging human-computer interfaces for large-scale presentation and collaboration rooms such as computer vision systems for hand or glove tracking, multiple-user input devices, and software for distance collaboration. Gave presentations and demonstrations to two divisions and over 40 NIST employees and made recommendations for NIST use. A few of these technologies may be implemented in the Advanced Manufacturing Systems and Networking Testbed Facility at NIST.

TEACHING EXPERIENCE

Teaching Assistant

University of Maryland, College Park, MD

Fall 2007

Led two recitation sections for CMSC 131 – Object Oriented Programming I, taught by Fawzi Emad and Jandelyn Plane. Additional duties included grading and holding office hours.

Teaching Assistant

University of Maryland, College Park, MD

Spring 2008

Led two recitation sections for CMSC 132 – Object Oriented Programming II, taught by Nelson Padua-Perez and Bill Pugh. Additional duties included grading and holding office hours.

Technology Center Director

Boys & Girls Clubs of America, Worland, WY

June 2001 – July 2003

Educated K-12 youth in technology related areas, including HTML, network design, electrical circuits, and use of popular software. Also responsible for organizing and directing educational and athletic activities, reinforcing positive values, and providing emotional support. Additional duties included the maintenance and repair of club computers and electronic devices.

GRADUATE COURSEWORK

CMSC724	Database Management Systems	Amol Deshpande
CMSC818K	Decentralized and Peer-to-Peer (Distributed) Systems	Pete Keleher
CMSC858L	Graphs and Networks in Computational Biology	Carl Kingsford
CMCS723/LING723	Computational Linguistics I	Saif Mohammad, Nitin Madnani, Bonnie Dorr
CMSC733	Computer Processing of Pictorial Information	Yiannis Aloimonos
CMSC734	Information Visualization	Ben Shneiderman
CMSC751	Parallel Algorithms	Clyde Kruskal
CMSC858P	Algorithms for Biosequence Analysis	Mihai Pop
CMSC634	Empirical Research Methods for Computer Science	Adam Porter
CMSC711	Computer Networks	Neil Spring

RESEARCH PROJECTS

- NetGrok, a tool for visualizing computer networks in real-time www.cs.umd.edu/projects/netgrok
- Collaborator on the NodeXL (formerly .NetMap) project www.codeplex.com/NodeXL
- Visualizing citation summaries with the iOpener group tangra.si.umich.edu/clair/iopener
- Real-time graph drawing quality metrics in SocialAction www.cs.umd.edu/hcil/socialaction
- Select Bibliography for graph drawing quality metrics www.cs.umd.edu/~cdunne/projs/graphbib.html
- BackupPC Installation Guide for Windows XP/Vista Clients www.cs.umd.edu/~cdunne/projs/backuppc_guide.html
- Cornell College Student Symposium www.cornellcollege.edu/student-symposium
 - (2007) – Created a committee and faculty web database & discussed the challenges of web application design
 - (2007) – Displayed emerging human-computer interfaces and discussed previous summer evaluation work at NIST
 - (2006) – Designed and built a 6-legged autonomous walking robot
 - (2005) – Designed, built, and tested a 4-bit Arithmetic and Logic Unit for a computer processor
 - (2004) – Created a Java 3D first-person-shooter computer game and level editor

LANGUAGES

Programming: Primarily Java. Some experience with Python, XHTML, CSS, PHP & CakePHP, Perl, Scheme, C, ML, Fortran, Prolog, Windows batch scripting, MySQL -- Willing to learn additional programming languages outside of work

Spoken: 4 courses of undergraduate Spanish

OTHER EXPERIENCE

Computer Technician

Wind River Seed (Family), Manderson, WY

June 2004 – August 2004

Implemented a backup system for a server and its client workstations and was responsible for all computer maintenance and repair.

Researcher, Farm Worker, and Seed Collector

Absaroka Farm (Family), Worland, WY

July 2003 – August 2003, June 2004 – August 2004

Researched the effects of drought stress on native Wyoming reclamation plants, including the measuring of plant sap pH, Brix, and electrical conductivity. Also performed various tasks including seed collection, herbicide application, and equipment transportation.

Owner of Disk Jockey Business

Frontier DJ (Owner), Manderson, WY

July 2000 – August 2003

Built a disk jockey business from scratch that provided music for weddings, bars, dances, and other social events using my PC. Received a loan for startup costs, including a speaker system and light display, which was rented and then sold to another local DJ after leaving for college.

OTHER EDUCATION

Computer Repair and Maintenance Course

Northwest College, Powell, WY

January 2002 – March 2002

Troubleshooting and Maintaining PCs Seminar

National Seminars Group, Billings, MT

July 2001

MEMBERSHIPS & ORGANIZATIONS

- Association for Computing Machinery Student Member
- Mathematical Association of America Student Member
- President, Torch chapter of the Mortar Board national senior honor society
- President (2 years) & Treasurer, Sigma Tau Social & Service Group - Sponsor annual scholarship & science fair award
- Treasurer, Cornell College Chapter of the Mathematical Association of America
- Eyes of the World international student support and cultural awareness group
- Disc jockey for KRNL (the Cornell College radio station)

SERVICE ACTIVITIES

- Cornell College's Lunch Buddies elementary student mentoring program (3 years)
- Worked on World2Kids.com when it was active
- Cornell College Mathematics Department Faculty Search Committee
- Cornell College Sophomore Writing Portfolio pilot project
- Sponsored and organized a seminar on repetitive stress injuries for Cornell College
- Numerous volunteer activities through Cornell College's Leadership and Service Office

References available upon request