

THOMAS M DuBOIS

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Education

- **University of Maryland**—College Park, MD
Ph.D. in Computer Science, May, 2011
 - Dissertation title: Using and Manipulation Probabilistic Connectivity in Social Networks
 - Publications, presentations, and other details at www.cs.umd.edu/~tdubois
 - Teaching Assistant experience in several courses, including graduate level algorithms and cryptography
 - M.S. Completed in Spring 2008
- **Carnegie Mellon University**—Pittsburgh, PA
Bachelor of Science in Computer Science, May 2003
 - 3.87 GPA, Graduated with Honors
 - Researcher in dialog systems
 - Six semesters of teaching assistant experience in several areas including algorithms, programming languages, and distributed systems

Work Experience

- **NeoLinear, Inc/Cadence Design Systems**—Pittsburgh, PA
Software Engineer: June 2003 - September 2007
 - Work on NeoCircuit - Analog circuit sizing automation tool
 - Large scale software development across multiple sites using C, C++, asm, TCL, perl, matlab, scheme, QT, etc.
 - Designed/implemented custom, socket-based integration with third-party CAD systems
 - Applied algorithms and data-structures knowledge to eliminate performance bottlenecks
 - Improved concurrency control and extensibility of the GUI/backend interface
 - Designed/maintained several key modules, including variable and scoping management, legacy system interface, and parts of the GUI
- **Jumpstart Wireless**—Boca Raton, FL
Software Engineer Intern: June - August, December 2002
 - Web application architecting, prototyping, and development using JSP with an ORACLE backend
 - Designed/developed super-user interface to the database
 - Streamlined the database usage for performance improvement

Skills

- **Theoretical Algorithm Design and System Analysis**
 - Emphasis on graph, randomized, and distributed algorithms
- **Software Engineering**
 - Including best practices in elegant, extensible coding, teamwork, and self management
- **Computer Languages/Tools:**
 - Proficient in C, C++, Java, Perl, PHP, UNIX Shells, Matlab, Mathematica, SQL, HTML, \LaTeX , debuggers, memory/runtime profilers, etc.

Research Interests and Professional Activities

- **Current Projects**
 - Network-aware Epidemic Containment Strategies
 - Large Scale Trust and Negative Trust Propagation in Social Networks
 - Clustering in Random Networks
- Reviewed for the Journal: *Mathematical Biosciences and Engineering*, 2008
- Taught CMSC 451: Design and Analysis of Computer Algorithms, Summer 2008

Publications

- Barrett C, Beckman R, Bisset K, et al., Optimizing Epidemic Protection for Socially Essential Workers, to appear in the 2012 ACM SIGHIT International Health Informatics Symposium, January 2012.
- Thomas DuBois, Jennifer Golbeck, Aravind Srinivasan, Predicting Trust and Distrust in Social Networks, to appear in the Third IEEE International Conference on Social Computing, October 2011.
- Barrett C, Beckman R, Bisset K, et al., Protective sequestering of socially essential subpopulations. Vol. NDSSL Technical Report #10-040.; 2010.
- Thomas DuBois, Jennifer Golbeck, John Klient, and Aravind Srinivasan, Improving Recommendation Accuracy by Clustering Social Networks with Trust, 3rd ACM Conference on Recommender Systems workshop: Recommender Systems and the Social Web.
- Thomas DuBois, Jennifer Golbeck, and Aravind Srinivasan, Rigorous probabilistic trust-inference with applications to clustering, Proceedings of the 2009 International Conference on Web Intelligence.
- Thomas DuBois, Key Exchange with Cards: Generating Extra Bits in Expectation, available from the University of Maryland Department of Computer Science Scholarly Paper Archive
- Thomas DuBois, Bryant Lee, Yi Wang, Marc Olano and Uzi Vishkin, XMT-GPU: A PRAM Architecture for Graphics Computation, Proceedings of ICPP-08: the 37th IACC International Conference on Parallel Processing (Portland, Oregon, September 8-12, 2008).
- DuBois, T.M.; Rudnicky, A.I., "An open concept metric for assessing dialog system complexity," *Automatic Speech Recognition and Understanding*, 2001. ASRU '01. IEEE Workshop on, pp. 264-267, 2001

Working Papers

- Thomas DuBois, et al., Network-Aware Epidemic Containment Optimization.
- Thomas DuBois, Jennifer Golbeck, and Aravind Srinivasan, Clustering from Black Box Sampling with Application to Social Network Trust
- Thomas DuBois and Aravind Srinivasan, Approximation Algorithms for Variants of Metric Labeling
- Thomas DuBois, Stephen Eubank, and Aravind Srinivasan, The Effect of Random Edge Removal on Network Degree Sequence