Nathan M. Wiegand

CONTACT INFORMATION

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RESEARCH INTERESTS

Algorithm design and analysis; approximation algorithms; graph theory; formal languages; distributed algorithms; artificial intelligence; and the applications of theoretical computer science to security, databases, networking, programming languages, and distributed systems.

EDUCATION

University of Alabama, Tuscaloosa, Alabama, USA

Ph.D. Candidate (3.94 GPA), Computer Science, *expected* December 2009
Dissertation: *CLH Labeled Graphs*
Advisor: Richard Borie

M.S. in Computer Science, August 2007

B.S. in Mathematics (4.0 GPA), *Summa Cum Laude*, December 2004

HONORS AND AWARDS

Association for Computing Machinery Outstanding Graduate Award, *UA*, 2009

Awarded to the most outstanding graduate student in the Computer Science program each year.

Nominated ECOB Outstanding Graduate Student, *UA*, 2009

Nomination for the Engineering Council of Birmingham's most outstanding graduate student in Engineering.

Graduate Council Fellowship, *UA*, 2005 – 2006

The most prestigious and competitive graduate fellowship at the University. Awarded to graduate students with the highest academic and scholarly qualifications.

Association for Computing Machinery Graduate Award, *UA*, 2005

Awarded to the most outstanding graduate student in the Computer Science program each year.

Computer Science Outstanding Senior Award, *UA*, 2004

Awarded to the most outstanding senior in the Computer Science program each year.

Upsilon Pi Epsilon Honor Society, 2004

International honor society for the computing and information disciplines.

Space Grant Fellowship, *UA*, 2003-2004

Awarded by the Alabama Space Grant Consortium.

Computer Science Outstanding Sophomore Award, *UA*, 2003

Awarded to the most outstanding sophomore in the Computer Science program each year.

Journal Articles

1. Accepted:C. Ward and N. Wiegand. "Complexity Results on Labeled Shortest Path Problems from Wireless Routing Metrics." Submitted to *Computer Networks.*
2. In Preparation:C. Ward, N. Wiegand, and P. Bradford. "An Empirical Analysis of Context-Free Grammar Labeled Shortest Path Algorithms."
3. In Preparation: N. Wiegand, and P. Bradford. "Lower Bounds on Witness Tables for CLH Labeled Graphs."

Refereed Conference Papers

1. C. Ward, N. Wiegand, and P. G. Bradford. "A Distributed Context-Free Language Constrained Shortest Path Algorithm". *ICPP '08. 37th Internation Conference on Parallel Processing, 2008.*
2. P. G. Bradford, O. V. Gavrylyako, C. Ward, and N. Wiegand. "A Proposal for a Multimedia Traffic Analysis Attack," *The 2005 International Conference on Wireless Networks (ICWN-05)*, 261-267, CSREA Press, 2005.

Other Papers

1. M. Anderson, L. Thaete, and N. Wiegand.
"Player/Stage: A Unifying Paradigm to Improve Robotics Education Delivery." *2007 Workshop on Research in Robots for Education.*
2. C. Dunnavant, T. Jay, J. Jones, K. Roan, C. Ward, N. Wiegand, D. Woodham: Commodity Transformation for DSLs LPT with lex, yacc, and XSLT.
http://citeseer.ist.psu.edu/dunnavant04commodity.html

Teaching Exerience

Graduate Teaching Assistant, Department of Computer Science, University of Alabama

I taught one section of a CS3 course using C++. My duties included creation of the syllabus, all projects and exams, lecturing and grading.
(Fall 2009)

Graduate Teaching Assistant, Department of Computer Science, University of Alabama

I taught one section of a CS1 course using Python. My duties included lecturing and authoring and grading examinations. (Spring 2009)

Graduate Teaching Assistant, Department of Computer Science, University of Alabama

I taught one section of a CS1 course using PREOP (*http://cs.ua.edu/preop/*). My duties included lecturing, authoring and grading examinations. (Spring 2009)

Graduate Teaching Assistant, Department of Computer Science, University of Alabama

I taught two sections of a CS1 course using C++. My duties included lecturing, authoring and grading examinations, and development of programming assignments. (Fall 2007, Fall 2008)

Graduate Teaching Assistant, Department of Computer Science, University of Alabama

I taught a total of five sections of the lab associatiated iwth a CS1 course. I was responsible for the development and grading of up to one half of all the course materials. (Spring 2007, Summer 2007, Fall 2007, two sections Fall 2008)

University Service

President, Upsilon Pi Epsilon Honor Society, *UA*, 2009.

Treasurer, Upsilon Pi Epsilon Honor Society, *UA*, 2006.

President, UA Chapter of Association of Computing Machinery.
(January 2004 – August 2004)

Vice-President, UA Chapter of Association of Computing Machinery.
(August 2005 – December 2005)

References

Phillip Bradford, Assistant Professor
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