

Matthew E. N. Whitehead

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Education

- Indiana University** Bloomington, IN
Ph.D. (in progress), Computer Science (GPA 3.9), 2004 - Present

 - Dissertation Research: Machine Learning/Data Mining
Adviser: Larry Yaeger

- Washington State University** Pullman, WA
M.S., Computer Science (GPA 3.7), 2003

 - Thesis Research: Wireless Network Security
Adviser: Sirisha Medidi

- Willamette University** Salem, OR
B.S., Mathematics (GPA 3.7) 2001

 - Senior Research Project: Cryptography

Recent Work History

- Associate Instructor** Fall 2004 - Present
Dept. of CS/School of Informatics, Indiana University Bloomington, IN

 - Lab instructor for I210 - an introductory C programming class
 - Lab instructor for A348/A548 “Mastering the World Wide Web”
 - PHP, PERL cgi scripting, MySQL, Java Applets/Servlets, Apache Webserver, Tomcat

- Research Intern** Summer 2007
Tellme Networks, A Microsoft Subsidiary Mountain View, CA

 - Researched the viability of ensemble machine learning techniques in the domain of sentiment mining
 - Designed and implemented a framework for easily developing applications that rely on automatically determined sentiment

- PHP Web Programmer** Summer 2006
Advance College Project, Indiana University Bloomington, IN

 - Helped design and build an online registration system for the Division of Extended Programs
 - Helped design and implement a MySQL database to store student applications

- Primary Instructor** Spring 2004
Dept. of CS, Washington State University Pullman, WA

 - Primary instructor for CS121 “Program Design and Development”
 - Course topic: Introductory C Programming

- Developed and taught all course materials including lectures, lab exercises, and homework assignments

- **Research Assistant** 2003
 Dept. of CS, Washington State University Pullman, WA
 - Worked with Sirisha Medidi
 - Research topic: Wireless Network Security
 - Developed stronger wireless security protocols for mobile IPv6

Research and Projects

- **Ensemble Machine Learning and Sentiment Mining** Fall 2007 - Present
 - Conducting research with Dr. Larry Yaeger of Indiana University
 - Researching ways to improve the accuracy of machine learning algorithms in the sentiment mining domain by the use of ensemble techniques
- **Machine Learning and Collaborative Filtering** Fall 2006 - Present
 - Conducting research with Dr. Larry Yaeger of Indiana University
 - Applying machine learning techniques to improve collaborative filtering algorithms
- **Case-Based Reasoning: Case Provenance** Spring 2007
 - Conducting research with Dr. David Leake of Indiana University
 - Improving CBR solution quality by analyzing case adaptation history and case origin
- **Multilingual News Search** Spring 2005
 - Designed and implemented a news search engine that retrieved news stories in Spanish and English given a query in just one language
 - Used Latent Semantic Indexing to determine relationships between words from different languages
 - Created a robust web crawler that automatically monitored and crawled hundreds of news sites

Skills

Programming Languages: Python (7+ years), Java, C, Scheme/LISP, Haskell, Perl, BASH shell scripting, SQL, HTML, XML, CSS, PHP, Javascript

Operating Systems: Linux (7+ years), MacOS X, Windows

Applications: Apache, CVS, Subversion, MySQL, MATLAB, ProTools, Final Cut Pro

Miscellaneous: System administration in various UNIX-like environments, socket programming, object-oriented design, scientific programming, strong verbal and written communication skills, excellent troubleshooting and debugging skills