

Objective

Creative research internship with an emphasis on information visualization or software defect detection

Education

University of Maryland – UMD – College Park MD

Ph.D. Computer Science – January 2006 to present

Southern Methodist University – SMU – Dallas TX

M.S. Computer Science – GPA: 4.00 – Graduation: August 2005

B.S. Computer Engineering – GPA: 3.97 – Graduation: May 2003

Technical Competencies

Programming (8 years)	Java, C/C++, OCaml, Python, SQL, Visual C# and UML
Web Apps (5 years)	Macromedia Flash, Servlets, J2EE, XML, CSS, Javascript, CGI-scripting
Databases (5 years)	Oracle, MySQL, Cloudscape, Berkeley DB XML, Microsoft Access
Others	Good organizational, communication and leadership skills.

Research

University of Maryland

- Software Defect Detection (with Prof. Bill Pugh): Projects to detect new bug patterns involving generic types, and evaluate the effectiveness of findbugs. (<http://findbugs.sourceforge.net/>)
- PatternFinder (with Prof. Ben Shneiderman): A form-based visual query interface that searches for and visualizes patterns that occur in a sparse sequence of temporal events. (<http://www.cs.umd.edu/hcil/patternfinder/>)

Previous Research

- Speech analysis and machine learning to identify spam voice messages. Siper Systems Inc.
- Interactive Visualization of proofs to verify a pipelined microprocessor. Advisor: Dr. Peter Seidel, SMU
- Optimization of a cochlea model algorithm for noise reduction in hearing aids. Advisor: Dr. Peter Seidel, SMU
- RSDnet: Using non-expert web users to build a Romanian Semantic Dictionary. Advisor: Dr. Rada Mihalcea, University of North Texas
- Flood prediction using Hidden Markov Models. Advisor: Dr. Margaret Dunham, SMU

Experience

Teaching Assistantships	Skills Required	
UMD: CMSC 433, Programming Language Technologies & Paradigms	Java, Eclipse IDE	01/2006 – 05/2006
SMU: CSE 2341, Principles of Computer Science II	C++, communication	08/2003 – 05/2005
SMU: Tutor in Calculus, Electrical Engineering and Computer Science	Teaching	09/2002 – 05/2003
Internships		
Siper Systems: Automatically identify unsolicited (spam) messages	Speech Analysis, Java	05/2005 – 12/2005
Memorystream: Web and business development internship	Flash, Web design	01/2005 – 05/2005
Mercyships: Web interface for an online banking system	Java, Web Design, SQL	05/2002 – 01/2003
SMU: Data mining research in flood forecasting	Java, C, statistics	06/2001 – 05/2002
Nortel Networks: Assisting database and installation engineers	Visual Basic, Excel, Unix	01/2000 – 12/2000

Publications

- J. Spacco, W. Pugh, N. Ayewah, & D. Hovemeyer. (2006) "The Marmoset project: an automated snapshot, submission, and testing system." Poster at OOPSLA 2006, October 2006, Portland, OR.
- N. Ayewah, N. Kikkeri, P.M. Seidel, & S. Beyer. (2005) "Challenges in the formal verification of complete state-of-the-art processors," Proc. of 2005 International Conference on Computer Design, pp. 603-606, 2005.
- N. Ayewah. (2005) VAMP Explorer: An Interactive Framework for Navigating a Complex Hierarchy of PVS Theorems. Masters Thesis, Southern Methodist University, Dallas, TX, Aug 2005.
- N. Ayewah, P. Seidel. (2004) "Fused Models for Noise Reduction in Speech Processing." Proc. 38th Asilomar Conference on Signals, Systems and Computers, Nov 7-10, Pacific Grove, CA.
- M. Dunham, N. Ayewah, Z. Li, J. Huang & K. Bean. (2004) "Spatial and Temporal Prediction Using Data Mining Tools." In: Y. Manolopoulos, A. Papadopoulos, M. Vassilakopoulos (Eds.), Spatial Databases: Technologies, Techniques and Trends. Idea Group Inc., December 2004.
- N. Ayewah, R. Mihalcea, V. Nastase, & D. Tatar. (2004) "RSDnet: A Web-based Collaborative Framework for Building Multilingual Semantic Networks." Studia Univ. Babes-Bolyai Informatica, Volume XLIX, number 1, 2004, p. 31 - 44.
- N. Ayewah, R. Mihalcea, & V. Nastase. (2003) "Building Multilingual Semantic Networks with Non-Expert Contributions over the Web." Proc. KCAP 2003 Workshop on Distributed and Collaborative Knowledge Capture, Oct 26, Sanibel Island, FL.

Class Projects

	<i>Skills Required</i>
Information Visualization: Visualizing temporal query results on patient history data	Visual C#, Flash, UI Design
Algorithm Engineering: Graph coloring algorithm for conflict-free exam scheduling	C++, graph algorithms, R
User Interface Design: User interface for a conceptual creative AI agent	Flash, Prototyping
Artificial Intelligence: An agent that creates a web interface (style sheet) using rules	Perl, XML, CSS
Distributed Databases: A distributed DBMS spanning relational and XML databases	Java, JDBC, SQL, XPath

Honors

- Verizon Graduate Fellowship, University of Maryland, 2005
- Best Research Award, Computer Science and Engineering, SMU Graduate Research Day – 2005
- Standard Bearer (Valedictorian), SMU School of Engineering – 2003
- Outstanding Senior Man Award, SMU School of Engineering – 2003
- Outstanding Undergraduate Award Honorable Mention from the Computer Research Association – 2002
- Tau Beta Pi National Engineering Honor Society – 2001
- SMU J. Lindsay Embrey Engineering Scholar – 1998 to 2003

Activities

- Association for Computing Machinery.
- Habitat for Humanity – September 2004 to October 2005.
- President of Higher Ground, SMU Campus Ministry – 2002 to 2003.
- Director of International Mentor Program to assist incoming international students – 2000 to 2003.
- Participated in service and community development through the SMU Service House – 2002 to 2003.

References

Available upon request