

Chris Mills

Computer Science Department
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Education

Ph.D. Computer Science (*expected May 2018*)

Florida State University, Tallahassee, FL
Advisor: Sonia Haiduc

M.S. Applied & Computational Mathematics (2011)

Florida State University, Tallahassee, FL

B.S. Mathematics (2009)

University of Southern Mississippi, Hattiesburg, MS
Summa Cum Laude

Work Experience

Senior Technical Consultant / Team Lead

Sep2017-Present

Sogeti, USA

- Technical team lead for the Portal to Exceptional Education Resources (PEER) system at the Florida Department of Education
- Maintaining and evolving a high-availability, mission critical, web-based system used by educators and support staff
- Migrating components from outdated technology to modern framework that supports scalability and reliability

Software Engineer

Jan 2014-Sep 2017

Aderant Holdings, Inc. Tallahassee, FL

- Manage client relationships including high priority bugs and critical domain issues
- Develop and enrich features for Service Oriented Architecture-based financial and case-management applications.
- Performance and database enhancement of existing applications to increase user productivity.
- Develop custom third party integration components and application extensions.

Professional Services Consultant

May 2011-January 2014

Aderant Holdings, Inc. Tallahassee, FL

- Developed custom database/web solutions for data management in the legal industry
- Implemented and customized large scale, SQL-driven financial platforms
- Used the .NET framework to create custom desktop applications to perform business processes such as bill write offs and conflicts searches including intranet and Sharepoint integration
- Provided training on standard Microsoft development tools and network management best practices
- Technical support for and development of applications utilizing web services hosted in MS IIS Web Server 7

Teaching Assistant

August 2009-May 2011

Math Department, FSU

Research Experience

Graduate Research in Software Engineering

June 2014-present

Dr. Sonia Haiduc, Computer Science Department, FSU

- Applications of information retrieval and machine learning to software engineering tasks specializing in concept location and traceability
- Query quality estimation and automatic query reformulation
- Identifying ways to lower barriers to industrial application of software traceability

Graduate Research Assistant

June 2009-May 2011

Dr. Kyle Gallivan, Math Department, FSU

- Developed Perl, FORTRAN and Matlab routines for use in computational research in Linear Algebra including metric calculations, graph similarities and optimization algorithms utilizing steepest descent
- Created various compression schemes to work directly with large, sparse matrices

Undergraduate Research Assistant

August 2008-May 2009

Dr. Haiyan Tian, Math Department, USM

- Developed a Matlab routine to solve a class of ill-posed partial-boundary value problems
- Utilized previous research to implement an improved solution method for “fuzzy” and partial-boundary value problems that optimizes efficiency and simplifies problem specification

Undergraduate Research Assistant

August 2007-May 2009

Dr. Yong Zhang Research Group, Chemistry Department, USM

- Learned the proprietary Gaussian programming language for the Gaussian computational chemistry package
- Modeled chemical scenarios using QFT-based computational models including Myoglobin folding and interactions between Myoglobin and other compounds in various mediums.
- Used an off-site server with queuing system to efficiently maintain computational uptime and manage result data.

Awards

- First Place - ACM Student Research Competition at FSE 2017
- Aderant Circle of Excellence Inductee 2017

Publications

- C. Mills, “Towards the Automatic Classification of Traceability Links”. Doctoral Symposium at 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2017). *To appear*.
- C. Mills, “Automating Traceability Link Recovery through Classification”. ACM Student Research Competition, Proceedings of the 11th Joint Meeting on Foundations of Software Engineering (ESEC/FSE 2017), p.1068-1070.
- C. Mills, G. Bavota, S. Haiduc, R. Oliveto, A. Marcus, and A. De Lucia, “Predicting Query Quality for Applications of Text Retrieval to Software Engineering Tasks”. *ACM Transactions on Software Engineering and Methodology (TOSEM) 2017*, 26(1), p. 3.
- C. Mills and S. Haiduc, “A Machine Learning Approach for Determining the Validity of Traceability Links,” in Proceedings of the 39th International Conference on Software Engineering Companion (ICSE Posters '17), p.121-123.

- C. Mills** and S. Haiduc, "The Impact of Retrieval Direction on IR-based Traceability Link Recovery," Proceedings of the 39th International Conference on Software Engineering: New Ideas and Emerging Results Track (ICSE-NIER 2017), p 51-54. *16.5% Acceptance Rate*
- Tian, H. Y., and **C. Mills**, "Method of approximate fundamental solutions for ill-posed elliptic boundary value problems", Proceedings of Neural, Parallel and Scientific Computations, volume 4, 2010, p. 373-378.
- Ling, Y., **Mills, C.**, Weber, R., Yang, L., and Zhang, Y., "NMR, IR/Raman, and Structural Properties in HO and RNO (R= Alkyl and Aryl) Metalloporphyrins with Implication for the HNOMyoglobin Complex", The Journal of the American Chemical Society, vol. 132, no. 5, 2010, p. 1583-1591.

Presentations

- ACM Student Research Competition, "Automating Traceability Link Recovery through Classification" FSE 2017, Paderborn, Germany.
- Master's Certification Exam, "The Inexact Graph Matching Problem Two Spectral Methods for Constructing Correspondences between Vertex Sets of Graphs," Dept. Mathematics, Florida State University, 2011.
- University of Southern Mississippi Undergraduate Research Symposium, "Computational Analysis of Metallo-Organic Compounds", 2009.
- Undergraduate Thesis, "A Meshless Method with Regularization for Non-Homogenous Cauchy Problems of Elliptic Operators", Dept. Mathematics, University of Southern Mississippi, 2009.
- University of Southern Mississippi Undergraduate Research Symposium, "Use of Heme Protein Models in Computational Analysis of Biological Pathways", 2008.