Mary Elizabeth (Beth) Allen

Curriculum Vitae

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EDUCATION

M. S., Computer Science, Auburn University, Auburn AL (1992)

- Thesis: *A Comparative Evaluation of Graph-Based Partitioning Strategies*.

B.S.E., Computer Engineering/Mathematics, Tulane University, New Orleans, LA (1985)

- Cum Laude

TEACHING / RESEARCH EXPERIENCE

Lecturer (Fall 2016-Present)

Univ. of Alabama in Huntsville, Huntsville, AL

Assistant Professor of Computer Science (2004 - 2008)

Athens State University, Athens, AL

Lecturer Full-Time and Part-Time (1994-1998, 2001-2003)

Univ. of Alabama in Huntsville, Huntsville, AL

Graduate Teaching / Research Assistant (1988 -1992)

Auburn University, Auburn, AL

Assisted Dr. C. McCreary in researching techniques employed when developing compilers for distributed memory parallel systems. Duties included evaluating program partitioning methods, aid writing reports and writing programs for the Intel Hypercube on a SUN/UNIX front-end. Collaborated on several reports exploring the communication behavior of the Intel iPSC/2 and iPSC/860 hypercubes. Also, taught introductory computer programming courses.

Courses Taught

CS102 (Intro. to C Programming)
CS103 (Intro. to Programming using Java)
CS104 (Intro. to CS Using Python)
CS121 (Computer Science I)
CS214 (Intro. to Discrete Structures)
CS221 (Computer Science II: Data Structures)
CS307 (Object-Oriented Programming: C++)
CS308 (Assembly Language Programming)
CS317 (Intro to Design/Analysis of Algorithms)
CS321 (Intro. to Object-Oriented Programming Java)

CS390 (UNIX Programming)
CS424/524 (Programming Languages)
CS490 (Operating Systems)
CS554 (Intro. to Cloud Computing)
Senior Software Engineering Project (Athens State)
FORTRAN Programming (Auburn University)

PROFESSIONAL ACTIVITIES

Serve as consultant to the Army Data and Information Standards Center of Excellence in support of the US Army Aviation and Missile Research, Development and Engineering Center, Redstone Arsenal.

Subject Matter Expert providing support for the maintenance and enhancement of the Army Bulk CBM Data (ABCD) standard. ABCD is an Army required data standard that leverages the Machinery Information Management Open System Alliance (MIMOSA) information and technology standards for the tagging, identification and retrieval of bulk Condition Based Maintenance (CBM) and CBM+ data.

OTHER PROFESSIONAL WORK EXPERIENCE

OASYS, Incorporated (September 2011 – June 2016)

Chief Technical Officer

In 2014, served as the Chief Technical Officer of the company. Provided oversight for the software development teams and subject matter experts for OASYS' DoD customers. Communicated regularly with the company officers and participated in ongoing business development efforts.

Program Manager: Served as lead developer and program manager implementing the Army Aviation Conditioned Based Maintenance (CBM) Data Warehouse. Duties included software development and design, documenting system architecture elements using the Department of Defense Architecture Framework (DODAF), and project management and scheduling. Technologies used to implement the Data Warehouse include Oracle Enterprise Database, Java, SQL, Weblogic and NASA Common Data Format for creating and consuming data files written in the Army Bulk CBM Data (ABCD) file format. ABCD is an Army developed standard for bulk CBM data that leverages the MIMOSA Open Systems Architecture for Condition-Based Maintenance. Also served as a co-chair of the ABCD Practitioner's working group for AMC CBM Data Management IPT.

SAIC (2009 – 2011)

Consultant: Supported the Army Data and Information Standards Center of Excellence in software architecture design, best practices in coding and provide code development, test and integration.

Optimization Technology Inc., Huntsville, AL (1999 - 2001, 1992 - 1993, Summer 1994, Summer 1998)

Software Engineer: Performed software design and implementation for a federally funded tool for simulating the behavior of large-scale and distributed systems that execute over networked computers. My duties included developing detailed system design and implementing segments of the software in Visual C++.

Also served as technical lead of a team developing a multi-lingual software testing tool. Responsibilities on this project included design, implementation and testing of the tool. I worked closely on developing improvements to the overall system architecture of the tool, as well as enhancements specifically designed to improve the efficiency of the software system. Other specific tasks included applying compiler techniques to translate code into intermediate representations for the testing tool. I worked closely with the project manager and other team members and was involved in making design decisions. The tool was developed using the C programming language on the Sun UNIX operating system.

Shell Oil Company, Houston, TX (July, 1985 - February, 1987)

Data Processing Analyst: Information & Computer Services - Distributed Processing Department

Supported the Laboratory Systems group of Computing Services at the Westhollow Research Center. Responsibilities included the development of software systems to automate the testing labs of the Polymer Systems Research and Materials Science and Engineering departments. The Laboratory Systems Group specialized in automating the laboratories using micro, mini, and personal computer systems.

PUBLICATIONS

C. McCreary, A.A. Khan, J. Thompson, and M. E. McArdle, "A Comparison of Heuristics for Scheduling DAGs on Multiprocessors," IPPS '94, 1994.

C. McCreary, M. E. McArdle, and J. McCreary, "Modeling Communication Delay on the iPSC/2 and iPSC/860 Hypercubes", Auburn University Technical Report No. CSE-91-09.