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Derek M Davis

Objective To obtain an internship that will allow me to gain knowledge and apply my experience in programming languages and virtual machines.

Education Charlottesville, VA University of Virginia Currently Enrolled

PhD program in Computer Science- GPA: 3.8

Graduate Courses: Computer Architecture, Theory of Computation, Programming Languages, Compilers, Operating Systems, Statistics

Provo, UT Brigham Young University Graduated in 2003

BS in Computer Science- GPA: 3.59.

Undergraduate Courses: Real-time & Embedded Systems, Artificial Intelligence, Computer Graphics, Computer Communications and Networking

Projects Mentor: Kim Hazelwood University of Virginia Jan 2009-Present

Dynamic Memory Checker Optimization

Optimizing a plug-in instrumentation tool, built on the Pin dynamic instrumentation system, that detects uninitialized memory accesses. The optimization involves creating a dynamic control-flow graph to find needlessly-redundant memory checks, such as in loop bodies, and hoisting the checks outside the loop.

Mentor: Wes Weimer University of Virginia Sep 2008-Jan 2009

Bug Database Analysis

Performing a static analysis on thousands of software bug fixes and defect reports, leveraging over 20,000 bug fixes and their corresponding defect reports from the Eclipse project. The analysis used a program to extract features from the bug fixes that would potentially be used to predict the probability of a fix being reverted or a bug being reopened.

Project Lead WhiteCanyon, Inc. May 2003-Dec 2005

MySecurityVault

Creating a Windows application to encrypt personal data. This project involved the design of a user interface, implementing a secure encryption scheme, creating an installation package, and setting up web distribution. The majority of the project was done alone, though at the later part another programmer joined the team.

Mentor: James Archibald Brigham Young University Aug 2002-Dec 2002

Real-Time Operating System

In my course on real-time and embedded operating systems, I created a real-time operating system. The system included context switching and a priority-based scheduling system. The system then successfully ran application software on it.

Experience Orem, UT WhiteCanyon Inc. May 2003-Aug 2008

Senior Software Developer

- Created MySecurityVault, an application for encrypting personal information.
- Add support for HPPA and PowerPC architectures to our software.
- Manage other programmers and testers.
- Aid in hiring process, both finding and interviewing programmers.
- Travel to clients locations to customize software.
- Create software to facilitate search engine optimization.
- Write documentation and white papers for our software.
- Add features to current development projects in C++.
- Test and debug various software projects.

Provo, UT Brigham Young University Apr 2002-May 2003

Research Assistant, Sponsored by Intel

- Explore possibilities for improving model verification tools.
- Implement changes to existing software in C to test improvements.
- Administer a Linux based network for the research lab.

American Fork, UT Authorize.Net May 2000-Mar 2002

Software Engineer

- Design software and maintain current software.
- Answer technical and product related questions by phone and by email.
- Act as team lead for a group of 5 co-workers.

Viña del Mar, Chile LDS Church Nov 1997-Nov 1999

Supervisor and Trainer

- Supervise groups of 4-6 individuals.
- Teach leadership, training, and public relations.
- Train new arrivals.

Webster, NY Xerox May 1997-Oct 1997

Database Administrator and Hardware Tester

- Repair and modify database, working in Access Basic.
- Input data into the database.
- Aid in testing of new printers and copiers.

Skills Experienced in C, C++, VCL, Java, Ruby, InstallShield, MFC, PHP and HTML.
Familiar with LISP, Assembly, JavaScript, and Scheme.
Can work in Linux, Unix, Windows, Dos and Macintosh.
Fluent in written and conversational Spanish.

Distinctions Dean's List in the College of Physical and Mathematical Sciences at BYU.