Tycho Andersen

CONTACT INFORMATION

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EDUCATION

M.S. Computer Science In progress, expected May 2011
University of Wisconsin – Madison

B.S. Electrical and Computer Engineering, *magna cum laude* May, 2009
Iowa State University, Ames, Iowa, USA

PROFESSIONAL EXPERIENCE

Integrated Sensor Technologies, Inc. Ames, Iowa

Software Engineer May 2009 to present

Senior Design Student August 2008 - May 2009

- Designed, implemented, and tested firmware for a hand held dissolved oxygen sensor, according to system requirements gathered from customer.
- Debugged analog and digital hardware problems with the sensor probe and hand held unit.
- Set up a website for commercialization of the dissolved oxygen sensors.

Thomson Reuters Eagan, Minnesota

Technology Intern Summer, 2008

- Took requirements for an application from the customer.
- Translated customer requirements into specifications.
- Designed, implemented, and tested a metrics application.
- Demonstrated the application to the customer at various stages.

Technology Intern Summer, 2007

- Refactored a graphical application improving maintainability and performance.
- Designed and implemented an API for a web application, so that other business units could automate certain tasks.

SKILLS

In depth knowledge of C and Python. Working knowledge of C++, Java, sh/bash, various versions of SQL, SML, PHP, (X)HTML 4, CSS. Proficient GNU/Linux (specifically Debian) user, administrator, and developer. Working knowledge of open source development practices etiquette, and associated tools.

PUBLICATIONS

Tycho Andersen and Srikanta Tirthapura, "Wireless Sensor Deployment for 3D with Coverage Constraints", *International Symposium on Networked Sensing Systems* (INSS'09), Pittsburgh, Pennsylvania, June, 2009.

A. Thakur, J. Lim, A. Lal, A. Burton, E. Driscoll, M. Elder, T. Andersen, and T. Reps, "Directed Proof Generation for Machine Code", *Computer Aided Verification* (CAV'10), Edinburgh, Scotland, July, 2010.

Academic Experience

University of Wisconsin–Madison, Madison, Wisconsin

Research Assistant August, 2009 to present

- Worked on the Machine Code Verification Tool team (McVETO) supervised by Prof. Tom Reps.
- Participated in weekly reading groups on the subject of programming languages.
- Participated in group discussions about various implementation issues related to assembly level instruction emulation for several architectures.

Iowa State University, Ames, Iowa

Undergraduate Researcher August, 2007 to August, 2009

- Investigated the sensor deployment problem in 3D spaces with constraints supervised by Prof. Srikanta Tirthaprua.
- Designed and implemented a prototype system using wireless sensors.
- Designed a simple ad-hoc routing protocol for a wireless sensor network.
- Designed a framework for performing large scale simulations involving sensor placement in 3D regions.
- Designed and optimized a program for potential entry into the Terasort competition.

Teaching Assistant Spring, 2008

- Assisted students with problems in graph and number theory.
- Designed and graded programming assignments involving basic graph theoretic concepts.
- Graded tests.

Peer Mentor August, 2007 to May 2008

- Taught review courses for core engineering courses like calculus, physics, and chemistry.
- Designed twelve labs for students involving basic programming concepts.
- Planned community events, and maintained a close relationship with incoming freshman.

Awards

FLoC 2010 Student Travel Grant July, 2010

Outstanding Undergraduate Researcher, Honorable mention May, 2009
Computing Research Association

Eileen Walters Scholarship, ISU 2008-2009 Academic Year

Life Investors Fortunnaire College Scholarship 2005-2006 Academic Year