Andrew M. Kent

CONTACT INFORMATION

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RESEARCH INTERESTS

I'm interested in developing programming language based techniques that help developers design and build robust software in real world settings. In particular I hope to increase the accessibility and effectiveness of formal verification techniques by exploring their gradual application.

EDUCATION

Indiana University, Bloomington, Indiana USA

Ph.D. Student, Computer Science, May 2014 - Present

- Advisor: Sam Tobin-Hochstadt

Brigham Young University, Provo, Utah USA

B.S., Computer Science, August 2013

HONORS AND AWARDS

Graduated *magna cum laude* from Brigham Young University.

Awarded NASA Space Grant Consortium Fellowship (Fall 2013 – Winter 2014)

Top graduate in multi-service military Intermediate Communications Signals Analysis course (Corry Station Naval Technical Training Center, Florida, April – August 2007)

ACADEMIC EXPERIENCE

Indiana University, Bloomington, Indiana USA

Graduate Research Assistant **May, 2014 – Present**
Investigating type-based program verification, evaluating gradual typing applications in mainstream languages, and developing techniques to bring dependent types to dynamically typed languages. Advised by Sam Tobin-Hochstadt.

Assistant Instructor **Jan – May 2016**
CSCI-B522 Programming Language Foundations
Assisted with instruction for graduate level programming language theory course for the Computer Science Department. Shared responsibility for lectures, exams, homework assignments, and grades.

Brigham Young University, Provo, Utah USA

Graduate Research Assistant **August, 2013 – April 2014**
Investigated the formalization of security protocol analysis techniques (Strand Spaces)utilizing the Coq proof assistant to create a verified basis for accessible, automated protocol analysis techniques. Advised by Jay McCarthy.

Teaching Assistant **August, 2013 – April 2014**
CS-330 Concepts of Programming Language
Held regular office hours and assisted in teaching programming language concepts.

Undergraduate Research Assistant **May 2011 – September 2011**
Developed method for automatically generating historical social networks from source documents to aid historical research. Advised by William Berret and Tom Sederberg.

Publications

Occurrence Typing Modulo Theories, with David Kempe and Sam Tobin-Hochstadt, conditionally accepted to appear in the *Proc. 37th ACM Conference on Programming Language Design and Implementation* (PLDI), 2016.

Design and Evaluation of Gradual Typing in Python, with Michael M. Vitousek, Jeremy G. Siek, and Jim Baker, *Proc. 10th ACM Symposium on Dynamic Languages* (DLS), 2014.

Linking the Past: Discovering Historical Social Networks from Documents and Linking to a Genealogical Database, with Douglas J. Kennard and William A.Barrett, *Proc. 1st Workshop on Historical Document Imaging and Processing* (HIP), 2011.

Talks

Practical Dependently Typed Racket, RacketCon 2015, St. Louis, MO, USA.

Adding Practical Dependent Types to Typed Racket, Scripts to Programs Workshop 2015, Prague, Czech Republic.

Professional Experience

Microsoft Corporation, Redmond, Washington USA

Software Development Engineer Intern **May, 2012 – August, 2012**

Explored optimizations and improvements for Microsoft OneNote during a summer internship, receiving a full-time offer for employment upon completion.

United States Marine Corps, Camp Pendleton, California USA

Signals Intelligence Analyst **November, 2005 – August, 2010**

Provided detailed signals intelligence analysis and reporting in support combat operations in the Al Anbar province of Iraq during two separate deployments. Additionally, trained and led a team of six signals intelligence analysts during the second deployment to Iraq.

Community

Cub Master **December, 2014 – Present**

Help organize combined scouting activities for youth ages 8-11.

Interfaith Winter Shelter Volunteer **January, 2016 – Present**

Volunteer weekly for an evening shift at a low-barrier winter homeless shelter.