Andrew M. Kent

CONTACT INFORMATION

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RESEARCH INTERESTS

I am interested in developing programming language based techniques that help developers design and build robust software in real world settings. In particular, I am interested in making advanced type-theoretic verification and design techniques more accessible to developers of all levels.

SKILLS

Research in programming language theory and formal logic, functional and imperative programming, experience with the Unix environment and a variety of programming languages/tools (Racket, Coq, C/C++, Agda, Java, Python, git, etc).

EDUCATION

Indiana University, Bloomington, Indiana USA

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

GPA: 3.867
Advisor: Sam Tobin-Hochstadt

Brigham Young University, Provo, Utah USA

B.S., Computer Science, graduated *magna cum laude*, August 2013

PUBLICATIONS

Occurrence Typing Modulo Theories, with David Kempe and Sam Tobin-Hochstadt, *Proc. 37th ACM Conference on Programming Language Design and Implementation* (PLDI), 2016. Included successfully evaluated artifact.

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and Linking to a Genealogical Database, with Douglas J. Kennard and William A. Barrett, *Proc. 1st Workshop on Historical Document Imaging and Processing* (HIP), 2011.

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 **January 2016 – Present**
CSCI-B 522 and CSCI-B 401
Assisted with instruction and grading for a graduate level programming language theory course and an undergraduate level course on the theory of computation.

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.

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

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.

Open Source Involvement

Racket and Typed Racket **2014 – Present**
Contributions to the Racket programming language, especially Typed Racket.

Community

Cub Master **December 2014 – Present**
Help organize combined scouting activities for youth ages 8-11.

Interfaith Winter Shelter Volunteer **January 2016 – Present**
Evening shift volunteer at a low-barrier winter homeless shelter.