Andrew M. Kent

CONTACT INFORMATION	Luddy Hall, 2062 Indiana University 700 N. Woodlawn Avenue Bloomington, IN 47408	*E-mail:* andmkent@iu.edu *Fax:* (812) 855-4829 *Github:* github.com/pnwamk *WWW:* pnwamk.github.io

RESEARCH INTERESTS

Developing programming language based techniques that help developers design and build robust software in real world settings. In particular, making advanced type-theoretic design and verification 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, Haskell, Python, git, etc).

EDUCATION

Indiana University, Bloomington, Indiana USA

Ph.D. Candidate, Computer Science, Ongoing
Advisor: Sam Tobin-Hochstadt

M.S., Computer Science, May 2017

Brigham Young University, Provo, Utah USA

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

PUBLICATIONS

S. Tobin-Hochstadt, M. Felleisen, R.B. Findler, M. Flatt, B. Greenman, A.M. Kent, V. St-Amour, T.S. Strickland, A. Takikawa. *Migratory Typing: Ten Years Later. Proc. 2nd Summit on Advances in Programming Languages* (SNAPL 2017).

A.M. Kent, D. Kempe, S. Tobin-Hochstadt. *Occurrence Typing Modulo Theories. Proc. 37th ACM Conference on Programming Language Design and Implementation* (PLDI 2016). Included successfully evaluated artifact.

M.M. Vitousek, A.M. Kent, J.G. Siek, J. Baker. *Design and Evaluation of Gradual Typing for Python. Proc. 10th ACM Symposium on Dynamic Languages* (DLS 2014).

D.J. Kennard, A.M. Kent, W.A. Barret. *Linking the Past: Discovering Historical Social Networks from Documents and Linking to a Genealogical Database. Proc. 1st Workshop on Historical Document Imaging and Processing* (HIP 2011).

ACADEMIC EXPERIENCE

Indiana University, Bloomington, Indiana USA

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

Instructor - CSCI-B 490/629 (Dependent Types)   **January – May 2018**
Taught and helped evolve introductory course on dependent types based on the forthcoming book *The Little Typer*; responsible for all instruction and assignments.

Assistant Instructor - Various courses   **January 2016 – December 2017**
Assisted with instruction and grading for programming language theory, theory of computation, and introductory computer science courses.

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 Research Ltd.**, Cambridge, UK

Research Intern **May − July 2017**
Developed and prototyped unique solutions to trusted computing problems in the cloud.

Microsoft Corp., Redmond, Washington USA

Software Development Engineer Intern **May − August 2012**
Explored optimizations and improvements for Microsoft OneNote during a summer internship.

United States Marine Corps, Camp Pendleton, California USA

Signals Intelligence Analyst, Sergeant **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.

OPEN SOURCE
INVOLVEMENT
Racket and Typed Racket **2014 − Present**
Contributions to the Racket programming language, especially Typed Racket.

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