



Andrew M. Kent

Curriculum Vitae

Research Interests

My research interests revolve around programming language concepts which increase the productivity and effectiveness of software developers. I am particularly interested in increasing the accessibility and effectiveness of formal verification techniques by exploring their gradual application in real world software.

Education

- 2014–Present **Computer Science PhD Student**, *Indiana University*, Bloomington, IN.
Topic: *Gradual Program Verification*
- 2010–2014 **BS Computer Science**, *Brigham Young University*, Provo, UT.
Graduated magna cum laude.

Experience

Research

- 2014–Present **Graduate Research Assistant**, *Indiana University*, Bloomington, IN.
Investigating type-based program verification, evaluating gradual typing applications in mainstream languages, and developing new systems allowing the gradual application of dependent types.
Advisor: Sam Tobin-Hochstadt
- 2013 **Research Assistant**, *Brigham Young University*, Provo, UT.
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.
Advisor: Dr. Jay McCarthy.
- 2011 **Undergraduate Research Assistant**, *Brigham Young University*, Provo, UT.
Developed method for automatically generating a historical social network from source documents (e.g. journals) to aid historical research.
Advisors: Dr. William Berrett and Dr. Tom Sederberg.

Industry

- 2012 **Software Development Engineer Intern**, *Microsoft Corporation*, Redmond, WA.
Explored optimizations and improvements for Microsoft OneNote during a summer internship, receiving a full-time offer for employment upon completion.

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- 2005–2010 **Signals Intelligence Analyst**, *U.S. Marine Corps*, Camp Pendleton, CA.
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.

Teaching

- 2013 **Teaching Assistant**, *Brigham Young University*, Provo, UT.
Undergraduate Course: Programming Language Design
Helped students seeking assistance with concepts and assignments and assisted in teaching on several occasions.

Publications

- 2014 **Design and Evaluation of Gradual Typing in Python**, with Michael M. Vitousek, Jeremy G. Siek, and Jim Baker. In the *Proceedings of the 10th ACM Symposium on Dynamic Languages (DLS '14)*.
- 2011 **Linking the Past: Discovering Historical Social Networks from Documents and Linking to a Genealogical Database**, with Douglas J. Kennard William A. Barrett. In the *Proceedings of the 2011 Workshop on Historical Document Imaging and Processing (HIP '11)*.

Talks

- 2015 **Practical Dependently Typed Racket**, *RacketCon 2015*, St. Louis, MO, USA.
- 2015 **Adding Practical Dependent Types to Typed Racket**, *Scripts to Programs Workshop 2015*, Prague, Czech Republic.

Awards

- Awarded NASA Space Grant Consortium Fellowship (Fall 2013 – Winter 2014)
- Top graduate in multi-service military Intermediate Communications Signals Analysis course (Corry Station, FL, Apr – Aug 2007)

Community

- 2014–Present **Cub Master**, *Boy Scouts of America*, Bloomington, IN.
Helped organize combined scouting activities for youth ages 8-11.
- 2013–2014 **Assistant Webelos Den Leader**, *Boy Scouts of America*, Provo, UT.
Organized and ran scouting activities for youth ages 10-11.
- 2011–2012 **Family History and Genealogy Consultant**, *LDS Church*, Provo, UT.
Taught classes and helped local community members conduct family history and genealogy.

Additional Information

- U.S. Department of Defense TS/SCI Clearance (expired 2011)
- Eagle Scout