

# Talia Lily Ringer

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<http://tlringer.github.io/>

## EDUCATION

### University of Washington

2015 – Present

Ph.D. in Computer Science  
Programming Languages & Software Engineering

### University of Maryland, College Park

2008 – 2012

B.S. in Mathematics and Computer Science  
GPA: 3.807, Honors in Computer Science

## CURRENT RESEARCH

### Practical Access Control Gadgets in Android

*Advisors: Dan Grossman and Franz Roesner*

Applying program analysis techniques to verify that Android applications only access resources in a manner that is consistent with user expectations.

### Exposing Definitional Equality in Interfaces in Proof Assistants

Extending the Calculus of Inductive Constructions to allow interfaces to specify definitional equalities.

## FUTURE RESEARCH

### Amazon Web Services

Summer 2016

Interning with Byron Cook's research group at Amazon. Using formal methods to reason about AWS security.

## PAST RESEARCH

### Honors Thesis: An Elliptic Curve Threshold Key Establishment Scheme

2011 – 2012

*Advisor: Lawrence Washington*

Designed a protocol to allow two groups to communicate only if enough people are present [a  $(t, n)$ -threshold scheme]. Wrote a thesis which is available on the honors website:  
<http://honors.cs.umd.edu/reports/ringer.pdf>

### Tight Frames

2010 – 2011

*Advisor: Kasso Okoudjou*

Determined properties of generalized bases of vector spaces which strictly adhere to a bound.

## TEACHING

### University of Washington

Winter 2016

Teaching Assistant for Compilers

**University of Maryland, College Park**  
*Teaching Assistant for Computer and Network Security*

*Spring 2012*

**University of Maryland Academic Support & Career Development Unit**  
*Tutor*

*2010*

Tutored student-athletes in mathematics and computer science.

## **INDUSTRY**

**Amazon**

*2012 – 2015*

*Software Development Engineer*

Worked with a team to develop the AmazonSupply website. Contributed to the development of an internal framework and reusable components used company-wide. Developed a data flow analysis tool for the framework and components. Participated in the launch of the service that enabled the partnership between Amazon and DonorsChoose. Launched Amazon Business marketplace. Served as a mentor for several engineers.

**Amazon**

*Summer 2011*

*Software Development Engineer Intern*

Developed an internal Spring MVC web application to generate metadata for the AmazonSupply website in a safe and user-friendly manner. Enabled version control and staging for the metadata.

**Carr Astronautics**

*2010 – 2011*

*Corporate Scholars Program – Software Intern*

Assisted in the development of a parallel image mosaicing application. Wrote code in C, MATLAB, and Java, dealing primarily with reading, altering, and writing TIFF images with associated geographic data. Awarded a scholarship through the University of Maryland's Corporate Scholars Program. Continued to work part-time during the school year.

## **ACTIVITIES**

**TUNE House**

*2015 – Present*

*Mentor*

Living-and-learning community for undergraduate women in computer science.

**Club Northwest**

*2012 – Present*

*Board Member*

**University of Maryland Graduation Speech**

*2012*

*Finalist*

**NCAA Division I Cross-Country**

*2009*

*Scholar-Athlete*

**University of Maryland Women in Mathematics**

*2008 – 2012*

## **SKILLS**

Programming languages: Java, Ruby, OCaml, Scala, C, MATLAB, JavaScript.

Other computer skills: Android, Coq, Software Engineering, Spring MVC, Linux.

Languages: English, Hebrew.

## **INTERESTS**

Academic: Type theory, verification, formal methods, computer security, program analysis, program synthesis, abstract algebra, cryptology, complexity theory.

Personal: Distance running, triathlon, logic and number puzzles, esoteric programming languages, neoclassical piano composition.