Adam T. Geller

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EDUCATION:

University of British Columbia (Master's) ***2018-Current***

University of Washington (Bachelor's) ***2016-2018***
GPA: 3.63

Bellevue College (Associate's) ***2014-2016***
GPA: 3.98

PUBLICATIONS:

"Verifying that Webpages have Accessible Layout". P. Panchekha, A. Geller, M. Ernst, Z. Tatlock, S. Kamil. Accepted to PLDI 18. (Acceptance rate: 22%. Available at http://cassius.uwplse.org/pldi18-paper.pdf***)***

As part of my work on Cassius (see Projects below), I co-authored a paper that appeared at the Programming Languages Design and Implementation (PLDI) 2018 conference. The paper describes a tool, VizAssert, that can verify assertions about the visual behavior of webpages. VizAssert is a tool built on top of Cassius, allowing webpage developers to ensure their webpages satisfy a specification even with variable screen width, screen height, and font size. VizAssert provides a DSL for webpage developer to write their own assertions, along with some example assertions based on accessibility and usability best practices.

PROJECTS:

- My current research (Supervised by William Bowman and Ivan Beschastnikh) is creating a dependent type system for WebAssembly (WASM) to eliminate runtime errors and provide greater compiler optimizations.
- During my fellowship at MPI (Supervised by Maria Christakis) I worked on a project that combined fuzz-testing with dynamic symbolic execution. I implemented an experimental system, worked on building systems to test it on, and ran experiments.
- PGo (Supervised by Ivan Beschastnikh): I was part of a team of researchers from the Network, Systems, and Security lab at UBC working on PGo (https://github.com/ubc-nss/pgo). I wrote an extended abstract (available at https://github.com/UBC-NSS/pgo/wiki/PGo-SPLASH) and designed a poster included in the SPLASH 2018 poster session.
- Cassius Project (Supervised by Michael Ernst, Zach Tatlock, and Shoaib Kamil): I was one of the developers in a research group in the Programming Languages and Software Engineering group at the University of Washington working on The Cassius Project, http://cassius.uwplse.org/. I helped develop formal semantics for CSS floating elements based on the CSS informal specification. I wrote tests in Z3 to ensure that the specification is met for valid inputs. I added support for foreground and background color to the Cassius Framework, and extended the framework's treatment of text boxes by generating constraints based on font metrics. I also wrote a test-case minimizer to assist in the debugging of Cassius.

ACADEMIC SERVICE:

TSE 2019 Sub-Reviewer

I sub-reviewed two TSE 2019 manuscripts for Prof. Ivan Beschastnikh.

EXPERIENCE:

Max Planck Institute for Software Systems ***2019***

Research Fellowship

I had a 3 month research fellowship at the Max Planck Institute for Software Systems in Kaiserslautern, Germany.

University of British Columbia ***2018-2019***

Graduate Research Assistant

I have worked as a GRA at UBC for two terms so far during my masters.

University of British Columbia ***2018***

Graduate Teaching Assistant

I TA'ed one semester of the undergraduate distributed systems class (CPSC 416).

University of Washington ***2017-2018***

Undergraduate Research

I worked on the Cassius project for five quarters at UW, two quarters of which were for credit.

U.S. Fencing, Canadian Fencing Federation ***2010-current***

Referee

I am a national fencing referee in foil, epee, and saber. I have directed at local, national, and international tournaments, directing events at every level and age group. As a referee, I have learned valuable leadership skills such as communication, teamwork, and making tough decisions under pressure.

AWARDS:

UW Annual Dean's List ***2017-2018***

UW Dean's List ***Autumn 2017, Winter 2018, Spring 2018***