Alexa VanHattum

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Research Interests

Programming languages, compilers, formal methods

Education

Fall 2018–Present	**Cornell University**	Ph.D. Student, Computer Science	GPA: 4.00 Advisor: Adrian Sampson
2012–2016	**Brown University**	B.Sc., Computer Science	GPA: 3.80

Awards & Grants

June 2019	**Student Volunteer Scholarship** Programming Languages Design & Implementation (PLDI)
May 2019	**Outstanding Teaching Assistant** from Cornell CS, for Programming Languages & Logics
April 2019	**Travel Scholarship** CRA-W Grad Cohort for Women Workshop
September 2018	**Travel Scholarship** Programming Languages Mentoring Workshop (PLMW) at the International Conference on Functional Programming (ICFP)
May 2016	**Honorable Mention: Senior Prize in CS** Brown CS
October 2015	**Anita Borg Travel Scholarship** Grace Hopper Celebration of Women in Computing

Research Experience

Fall 2018–Present	**Cornell University**, Graduate Research Advisor: Adrian Sampson Creating Hyacinth, a synthesis-aided compiler targeting spatial, heterogeneous computer architectures from LLVM IR.
Spring 2016	**Brown University**, Independent Study in Programming Languages Advisor: Shriram Krishnamurthi (Abstract) Analyzed matrix arithmetic in the R programming language as a group research capstone. Used refinement types in Liquid Haskell to statically surface matrix manipulation errors and warnings.
Summer 2014	**The University of Toledo**, Physics NSF REU Intern Advisor: Jaques G. Amar (Abstract) Implemented kinetic Monte Carlo simulations of particle island nucleation on thin films. Ran simulations on the Ohio Supercomputer Center's clusters, implemented Union-Find for dynamic island-counting.

Industry Experience

2016–2018	**Apple**, Health Software Engineer Lead app/database engineer for Apple's first FDA-regulated irregular heart rhythm notification feature. Contributed to the HealthKit framework. Presented *What's New in Health* at Apple's 2017 WWDC conference.
Summer 2015	**Microsoft**, Software Engineering Intern Created a message search feature for the Windows Messaging Application.

Teaching Experience

Fall 2018	**Programming Languages & Logics**, Cornell University, Graduate TA
Spring 2016	**Logic for Systems**, Brown University, Head TA
Fall 2017	**Intro. Object-Oriented Programming**, Brown University, Head TA
Spring 2015	**Discrete Structures & Probability**, Brown University, TA
Fall 2014	**Intro. Object-Oriented Programming**, Brown University, TA
Spring 2014	**First Byte of Computer Science**, Brown University, TA

Service & Outreach

Fall 2019	**Graduate Students for Gender Inclusion in Computing** Secretary, founding member for new student group
Spring 2019	**Cornell CS PhD Visit Day**, Co-organizer, >100 visiting students
Spring 2019–Present	**Cornell CS Colloquium,** Organize student hosts for visiting speakers
Spring 2019	**Cornell Girls' Adventures in Math**, Student volunteer
2016–2017	**Apple Women in Science and Engineering Mentoring**, Mentor
2014–2016	**Brown Women in Computer Science**, Mentor
2012–2014	**Brown Algebra in Motion**, Site leader, math tutor at local high school