

Alexa VanHattum

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Research Interests

Programming languages & compilers

Distributed systems

Formal methods

Computer science education

Education

August 2018–Present **Cornell University** | Ph.D. Student, Computer Science

Sept 2012–May 2016 **Brown University** | B.Sc., Computer Science
GPA: 3.80, Computer Science GPA: 4.00

Honorary Mention: Senior Prize in Computer Science

May 2015 Named an [Anita Borg Scholar](#) with a grant to attend the 2015 Grace Hopper Celebration of Women in Computing.

Research Experience

Aug 2018–Present **Cornell University**, Graduate Research
Working with Professor Adrian Sampson on creating a compiler for re-configurable, manycore computer architectures.

Jan–May 2016 **Brown University**, Independent Study in Programming Languages
Advisor: Professor 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 otherwise dynamic matrix manipulation errors and warnings.

May–Aug 2014 **The University of Toledo**, Physics NSF REU Intern
Advisor: Professor 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, using the Union-Find algorithm to allow for dynamic island-counting.

Teaching Experience

Aug 2018–Present **Programming Languages & Logics**, Graduate Teaching Assistant
Cornell University, Professor Adrian Sampson
Implemented anonymous grading, gave guest lecture to class of 80 students on denotational semantics.

Jan–May 2016	Logic for Systems , Head Teaching Assistant Brown University, Professor Tim Nelson Created labs introducing functional programming and file I/O. Implemented anonymous grading. Helped create assignments on applied formal methods.
Apr 2016–Jan 2017	Intro. Object-Oriented Programming , Head Teaching Assistant Brown University, Professor Andries (Andy) van Dam One of four Head TAs for Brown’s largest introductory CS course. Managed the distributed grading infrastructure for 350 students and 40 TAs.
Sept–Dec 2014	Intro. Object-Oriented Programming , Teaching Assistant
Jan–May 2015	Discrete Structures & Probability , Teaching Assistant Brown University, Professor Caroline Klivans
Jan–May 2014	First Byte of Computer Science , Teaching Assistant Brown University, Professor Michael Littman

Software Engineering Experience

Aug 2016–Aug 2018	Apple , Health Software Engineer Built software for iOS/watchOS health apps. Contributed to the HealthKit framework. Lead app engineer for atrial fibrillation notifications. Presented <i>What’s New in Health</i> at Apple’s developers conference (WWDC) 2017.
May–Aug 2015	Microsoft , Software Engineering Intern Created a message search feature for the Windows Messaging Application.

Outreach

Jan 2017–Present	Double Union , Voting member. Non-profit feminist hacker/maker space.
Oct 2017–May 2016	Apple Women in Science and Engineering Mentoring , Mentor. Mentored undergraduate women in STEM at local universities.
Sept 2014–May 2016	Brown Women in Computer Science (WiCS) , Mentor. Mentored 1st-year students interested in computer science.
Sept 2012–May 2014	Brown Algebra in Motion , Site leader, tutor. Tutored math/physics in a Providence public high school.

Skills

Languages	Objective-C, Go, Python, Pyret, Racket/Scheme, C, Java, OCaml, Haskell
Tools & Technologies	Linux/UNIX, Git, Xcode, Alloy Analyzer, Z3, L ^A T _E X
Interests	Feminism, philosophy, equestrian sports (NCAA varsity athlete at Brown)