

Krystal Maughan

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Research Interests: Differential Privacy, Compilers, Neural Networks

EDUCATION

University of Vermont, PhD candidate

2019-present

Area: Programming Languages Research

Data Privacy, Programming Languages, Neural Networks

Skills: Haskell, Python, LaTeX, Jupyter, PySpark, PyTorch, Git

RELEVANT WORK EXPERIENCE

Autodesk (Pier 9, San Francisco)

2020

Software Engineering for Forge Engineering Project

Supervised by Manager Barry Tsai (Summer for Code 2040 Fellowship)

Teacher's Assistant, Fall 2019 (Vermont)

2019

Programming with Matlab (taught by Radhakrishna Dasari)

Data Privacy (taught by Joe Near)

Mercury (San Francisco)

2019

Wrote Haskell back-end application for stealth fintech startup as software intern

Used Haskell, Stack, Yesod, Nix, Postgres. Supervised by Max Tagher. (Summer)

Apple, Inc. (Sunnyvale)

2019

Software Intern (Spring)

Google Summer of Code for Haskell.org (remote)

2018

Wrote Debugging tools for CodeWorld¹,

A Google project sponsored by Haskell.org, under

Supervision of Chris Smith (Google) and

Gabriel Gonzalez (Awake Security).

Used Haskell, GHCJS, Cabal.

¹ CodeWorld: <https://github.com/google/codeworld/commits?author=kammitama5>

Mozilla, Increasing Rust's Reach (remote)	2018
<i>Worked on Implied Boolean Predicates²,</i>	
<i>For Command line tools in Rust, under</i>	
<i>Supervision of Aaron Power and Ed Page.</i>	
<i>Worked in Rust, used Travis Continuous Integration</i>	

MERIT-BASED GRANTS / SCHOLARSHIPS

<i>Code2040 2020 Fellow (1 of 80)</i>	2019
<i>WiCyS Student Scholarship (Women in Cybersecurity)</i>	2019
<i>Udacity Technology Scholarship (AI track): Intro to Deep Learning with Pytorch</i>	2019
<i>Helium Grant (chosen as 1 of 11 out of 700)</i>	2018
<i>EaRI Career Scholarship, (R Data Science Scholarship) - declined offer</i>	2018
<i>Udacity Bertelsmann Data Science Scholarship - declined offer</i>	2017
<i>AT and T Aspire to Tech grant Winner</i>	2017
<i>NCAS Workshop participant (NASA Community College Aerospace Scholars)</i>	2016
<i>Who's Who/ Peggy Williams Memorial Scholarship/ Best BFA Award (Best of Major)</i>	2008

OTHER GRANTS/ FELLOWSHIPS

<i>Neurips Conference Travel Grant (includes free registration)</i>	2019
<i>Sage-Days-104 : To work on SageMath Software: Arithmetic Dynamics</i>	2019
<i>Simons Institute (Berkeley) Error-Correcting Codes and High-Dimensional</i>	2019
<i>Expansion Boot Camp (attendee)</i>	
<i>ICERM (Brown University) Encrypted Search Workshop Grant (Lodging provided)</i>	2019
<i>Cornell Number Theory Conference Grant (Lodging provided)</i>	2019
<i>MSRI (Mathematical Sciences Research Institute) Grants to attend</i>	2019
<i>Connections for Women:</i>	
<ul style="list-style-type: none"> - <i>Derived Algebraic Geometry, Birational Geometry and Moduli Spaces workshop</i> - <i>Introductory Workshop: Derived Algebraic Geometry and Birational Geometry And Moduli Spaces</i> 	
<i>NASA L'Space NPWEE Concept Proposal writing programme participant</i>	2019
<i>NASA L'Space Proposal/Review Academy (patentable research proposal for funding)</i>	2019
<i>NASA L'Space Academy (virtual team & mentorship with NASA scientists Level 1)</i>	2019
<i>Racket Summer School (National Science Foundation Grant)</i>	2018-2019
<i>PLMW (Programming Languages Mentorship Workshop)</i>	2018
<i>ICFP (International Conference Functional Programming)</i>	
<i>PLMW(Programming Languages Mentorship Workshop)</i>	2018
<i>PLDI (Programming Languages Design and Implementation)</i>	
<i>OPLSS (Oregon Programming Languages Summer School Grant) - declined offer</i>	2018

Developer Conference Grants to attend: Twilio's Signal Conf 2019, Curry On! 2019, RustConf 2018, LambdaConf 2017/2018, Strange Loop 2017, Software Craftsmanship North America (SCNA), Clojure Conj 2016/2017, Clojure West 2017, Chrome Dev Summit 16-18, Google IO 2016-2019

² Assert Predicates.rs: <https://github.com/assert-rs/predicates-rs/commits?author=kammitama5>
 Assert Cmd.rs: https://github.com/assert-rs/assert_cmd/commits?author=kammitama5

SERVICE

Student volunteer, ICFP (International Conference Functional Programming)	2018
Student volunteer, PLDI (Programming Languages Design and Implementation)	2018
Student volunteer, POPL (Principles of Programming Languages)	2018

MENTORSHIP

Google Developer Student Club Lead (for University of Vermont)	2019
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RESEARCH TALKS

"Personalized Robotic Control using MISL" for UVM/CS++ Research Day	2019
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PUBLICATIONS / POSTS

Google Summer of Code " Breaking the Time-Space Barrier with Haskell "	2018
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INDUSTRY TALKS

"Magic Gnomes: A GHC Compiler talk (5-minute talk at Github for Sentry's Show & Tell)	2019
"Denotational Semantics" (2 minute Lightning Talk for Meetup group)	2018
"Recap of Google I/O 2018" (20 minute presentation at Google Developer Group LA)	2018

SCHOOL TALKS

CS Crew Project talk : contributing to Maths software (CodeWorld, SageMaths)	2019
CS Crew GSoC talk (40-minute talk about Google Summer of Code and Internships)	2019
CS293 Technical Interviewing Workshop Talk	2019

CLASSES (PhD)

Machine Learning; taught by Safwan Wshah (Spring)	2020
Compiler Construction; taught by Joe Near using Haskell (Spring)	
Evolutionary Robotics; taught by Josh Bongard (Spring)	
Software Verification; taught by David Darais using Agda (Fall)	2019
Data Privacy; taught by Joe Near using Python (Fall)	
Computer Human Interaction; taught by Josh Bongard (Fall)	