Krystal Maughan

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Research Interests: Differential Privacy, Compilers, Neural Networks

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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

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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/Spring 2019-2020 (Vermont) ***2019-2020***
Programming with Matlab (taught by Radhakrishna Dasari)
Data Privacy (taught by Joe Near)

Graduate Writing Consultant, Spring 2020 (Vermont) ***2020***
Writing Mentor and Consultant for graduate students
Technical Writing Consultant for fields as broad as Materials Science to History

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, Wrote code for Security and Cloud at Scale (Spring)

Google Summer of Code for Haskell.org (remote) ***2018***
Wrote Debugging tools for CodeWorld[1],
A Google project sponsored by Haskell.org, under
Supervision of Chris Smith (Google) and
Gabriel Gonzalez (Awake Security).
Used Haskell, GHCJS, Cabal.

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[1] CodeWorld: https://github.com/google/codeworld/commits?author=kammitama5

Mozilla, Increasing Rust's Reach (remote) ***2018***
Worked on Implied Boolean Predicates[2],
For Command line tools in Rust, under
Supervision of Aaron Power and Ed Page.
Worked in Rust, used Travis Continuous Integration

MERIT-BASED GRANTS / SCHOLARSHIPS

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

OTHER GRANTS/ FELLOWSHIPS

RWC2020 (Real World Crypto: registration, flight, lodging) Grant via IACR *2020*
CRA-WP Grad Cohort for Women (covers flight, registration, lodging) *2019*
CRA-WP Grad Cohort for Underrepresented Minorities
(covers flight, registration, lodging) *2019*
Neurips Conference Travel Grant (includes free registration) *2019*
Sage-Days-104 : To work on SageMath Software: Arithmetic Dynamics *2019*
Simons Institute (Berkeley) Error-Correcting Codes and High-Dimensional *2019*
Expansion Boot Camp (attendee)
ICERM (Brown University) Encrypted Search Workshop Grant (Lodging provided) *2019*
Cornell Number Theory Conference Grant (Lodging provided) *2019*
MSRI (Mathematical Sciences Research Institute) Grants to attend *2019*
Connections for Women:

- *Derived Algebraic Geometry, Birational Geometry and Moduli Spaces workshop*
- *Introductory Workshop: Derived Algebraic Geometry and Birational Geometry And Moduli Spaces*

NASA L'Space NPWEE Concept Proposal writing programme participant *2019*
NASA L'Space Proposal/Review Academy (patentable research proposal for funding) *2019*
NASA L'Space Academy (virtual team & mentorship with NASA scientists Level 1) *2019*
Racket Summer School (National Science Foundation Grant) *2018-2019*
PLMW (Programming Languages Mentorship Workshop) *2018*
ICFP (International Conference Functional Programming)
PLMW(Programming Languages Mentorship Workshop) *2018*
PLDI (Programming Languages Design and Implementation)
OPLSS (Oregon Programming Languages Summer School Grant) - declined offer *2018*

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[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

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*

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

Interviewed for CareerGirls.org Boston (videographed at MIT)	*2019*
Google Developer Student Club Lead (for University of Vermont)	*2019*

RESEARCH TALKS

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

PUBLICATIONS / POSTS

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

INDUSTRY TALKS

"My first time at Neurips" (5-minute talk for Vermont Coders Connection)	*2019*
"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 using Python (Spring)	*2020*
Compiler Construction; taught by Joe Near using Haskell (Spring)	
Evolutionary Robotics; taught by Josh Bongard using Python and Ludobots (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)	