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, 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 CodeWorld[1],
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***
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

Code2040 2020 Fellow (1 of 80)	*2019*
WiCyS Student Scholarship (Women in Cybersecurity)	*2019*
Udacity Technology Scholarship powered by Bertelsmann	*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

Neurips Conference Travel Grant (includes free registration)	*2019*
Sage-Days-104 (St. Louis University): To work on SageMath Software	*2019*
Simons Institute (Berkeley) Error-Correcting Codes and High-Dimensional Expansion Boot Camp (attendee)	*2019*
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 Connections for Women:	*2019*
- 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*

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*

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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

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*

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

"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)