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
Compiler Construction with Haskell (taught by Joe Near)   2020
Advanced Web Design (taught by Bob Erickson)
Programming with Matlab (taught by Radhakrishna Dasari)   2019
Data Privacy with Jupyter, Python (taught by Joe Near)

Graduate Writing Consultant, Fall 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).

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

Used Haskell, GHCJS, Cabal.

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
EaRl 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 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	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)	

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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

OPLSS (Oregon Programming Languages Summer School Grant) - declined offer   *2018*

Developer Conference Grants to attend:
TechTogetherBoston 2020, 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
Women in Data Science talk "Why conferences matter" (40 min NeurIPS inspired talk)	*2020*
"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*
Programming Languages by David Darais using Haskell (Spring)	
Doctoral Research with advisors Joe Near and David Darais (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)	