

# Krystal Maughan

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Research Interests: *Differential Privacy, Fairness, Machine Learning*

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<b>University of Vermont, PhD candidate</b>	<b>2019-present</b>
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*Differential Privacy, Fairness, Machine Learning*

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

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<b>Teacher's Assistant, Fall/Spring 2019-2020 (Vermont)</b>	<b>2019-2020</b>
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*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)*

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<b>Graduate Writing Consultant, Fall 2020 (Vermont)</b>	<b>2020</b>
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*Writing Mentor and Consultant for graduate students*

*Technical Writing Consultant for fields as broad as Materials Science to History*

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## RELEVANT WORK EXPERIENCE

<b>Autodesk:</b> Software Engineering Intern (Pier 9, San Francisco)	2020
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<b>Mercury:</b> Software Engineering Intern (San Francisco)	2019
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<b>Apple, Inc.:</b> Software Engineering Intern (Sunnyvale)	2019
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<b>Google Summer of Code:</b> Developer for Haskell.org (remote)	2018
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<b>Mozilla:</b> Increasing Rust's Reach Developer (remote)	2018
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## RESEARCH TALKS & POSTER PRESENTATIONS

Carnegie Mellon's (CMU) AI for Social Good Symposium (poster, 2 min talk)	2020
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"Personalized Robotic Control using MISL" for UVM/CS++ Research Day (20 min talk)	2019
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## MERIT-BASED GRANTS / SCHOLARSHIPS

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

<i>LXAI+BAI@GTC Nvidia Digital DLI Workshop Scholarship Award for DLI workshop</i>	2020
<i>"Applications of AI for Anomaly Detection [LDLIW2249] (Deep Learning Institute at GTC)</i>	
<i>ICERM (Brown University) Variable Precision in Mathematical &amp; Scientific Thinking</i>	2020
<i>RWC2020 (Real World Crypto: registration, flight, lodging) Grant via IACR</i>	2020
<i>CRA-WP Grad Cohort for Women (covers flight, registration, lodging)</i>	2019
<i>CRA-WP Grad Cohort for Underrepresented Minorities (flight, registration, lodging)</i>	2019
<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>	
<i>Optimal Transport and applications to machine learning and statistics</i>	2020
<i>Connections for Women:</i>	2019
<ul style="list-style-type: none"><li><i>- Derived Algebraic Geometry, Birational Geometry and Moduli Spaces workshop</i></li><li><i>- Introductory Workshop: Derived Algebraic Geometry and Birational Geometry And Moduli Spaces</i></li></ul>	
<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 &amp; 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

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## **REVIEWER**

<i>Committee Reviewer, HCI Track, GHC (Grace Hopper Conference)</i>	2020
<i>Chair Reviewer, PML4DC (Practical ML for Developing Countries) workshop, ICLR</i>	2020
<i>(International Conference on Learning Representations)</i>	
<i>Reviewer, Tapia Conference (Panels and Workshops)</i>	2020
<i>Reviewer, Travel Grant Applications, Black in AI for AAAI</i>	2020
<i>(Association for the Advancement of Artificial Intelligence)</i>	
<i>Reviewer, Travel Grant Applications, Clojure Conj (2 rounds)</i>	2017

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## **SERVICE**

<i>Member, MD4SG (Mechanism Design for Social Good); Education working group</i>	2020
<i>Chair, AAAI Black in AI Annual Lunch</i>	2020
<i>Panelist, AAAI Try AI Workshop</i>	2020
<i>Student volunteer, ICFP (International Conference Functional Programming)</i>	2018
<i>Student volunteer, PLDI (Programming Languages Design and Implementation)</i>	2018
<i>Student volunteer, POPL (Principles of Programming Languages)</i>	2018
<i>Interviewed for CareerGirls.org Boston (videographed at MIT)</i>	2019

**PUBLICATIONS / POSTS**

Google Summer of Code [\*"Breaking the Time-Space Barrier with Haskell"\*](#) 2018

**INDUSTRY TALKS**

Invited Guest, Corecursive Podcast (Technical Podcast) 2020  
 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  
 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

**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

**CLASSES (PhD)**

Secure Computation; taught by Joe Near using Python (Fall) 2020  
 Machine Learning; taught by Safwan Wshah using Python (Spring)  
 Programming Languages by David Darais using Haskell (Spring)  
 Doctoral Research with advisors Joe Near and David Darais (Spring, Fall)  
  
 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)