

Krystal Maughan

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Research Interests: Supersingular Isogeny Cryptography, Trustworthy AI

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| University of Vermont, PhD candidate | 2019-present |
| Supersingular Isogeny Cryptography, Trustworthy AI | |

Peer-Reviewed Workshop Publications:

- | | |
|---|------|
| ❖ “Attribute Differential Privacy” (Pre-print available upon request) | 2021 |
| (Maughan, K. and Near, J.) | |
| ❖ “Towards a Measure of Individual Fairness for Deep Learning” | 2020 |
| (Maughan, K. and Near, J.) - presented as poster for MD4SG 2020 | |
| ❖ “Towards Audibility for Fairness in Deep Learning” | 2020 |
| (Ngong, I., Maughan, K. and Near, J.)- presented as poster for AFCI at NeurIPS | |
| ❖ “Archipelago Pensée” (Maughan, K.) | 2020 |
| - presented artwork and writing as a poster: RAIS (Resistance AI) at NeurIPS | |

RESEARCH EXPERIENCE:

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|-------------------------------------|------------------|
| Research Assistant (Vermont) | 2021-2024 |
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Supervisors: Joe Near, Christelle Vincent: Research on Isogeny Graph Cryptography, VDFs, Elliptic Curves

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| Research Assistant (Vermont) | 2019-2021 |
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Supervisor: Joe Near: Research on Provable Fairness and Privacy

Using Machine Learning. Funded via Amazon Research Award (2020-2022 PI: J. Near, D. Darais)

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|---|-------------|
| Microsoft, Applied Scientist PhD Intern, Summer 2021 (Redmond: remote) | 2021 |
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COSinE Mgmt DI R&D, Azure E+P Enterprise and Security DI

Confidential Project: Wrote Research Proposal, created Prototype and presented results

Mentored by P. Angulo, PhD.

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| Microsoft Research, Independent Contractor, Summer 2021 (New York: remote) | 2021 |
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Reinforcement Learning Open Source Fest participant (1 of 12)

Vowpalwabbit, Integrate Estimator library into Azure Machine Learning (AML)

Mentored by C. Tan and A. Taymanov

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| Research Intern, Autodesk Summer 2020 (Pier 9, San Francisco: remote) | 2020 |
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Research Intern for Forge Team, Renyi-Differential Privacy project

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| Graduate Writing Consultant, Fall 2020 (Vermont) | 2020-2021 |
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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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| 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) | |

INVITED RESEARCH POSTER PRESENTATIONS

- ❖ "Towards Auditability of Individual Fairness for Deep Learning" 2021
Nordic Probabilistic Artificial Intelligence School 2021 (Prob AI)
- ❖ "Towards a Measure of Individual Fairness for Deep Learning" (**first author**) 2021
Mediterranean Machine Learning Summer School (M2L) (Winter cohort)
- ❖ Poster Presentation, 4th **MD4SGD 2020** Annual Proceedings 2020
"Towards a Measure of Individual Fairness for Deep Learning" (**first author**)
- ❖ Poster Presentation, Carnegie Mellon's (CMU) **AI for Social Good Symposium** 2020
"Examining Implicit Bias in Police Data: Lessons Learned about Reproducibility And Transparency in AI"
- ❖ "Towards Auditability for Fairness in Deep Learning" 2020
(Ngong, I., **Maughan, K.** and Near, J.)- presented as poster for **AFCI at NeurIPS**
(Algorithmic Fairness through the lens of Causality and Interpretability)
- ❖ Poster Presentation for **RAIS at NeurIPS** 2020
(1st Resistance AI Workshop Proceedings,) "Archipelago Pensée" (**first author**)

RESEARCH AWARDS

- ❖ Outstanding Poster Award for Brilliant Idea Category, "Towards a Measure of Auditability in Fairness for Deep Learning", Mediterranean Machine Learning Summer School (2021)

OTHER PRESENTATIONS

- ❖ Brown University [SUMS](https://sums.brown.edu/), Maths and Illusion: exhibited a fractal-inspired pop-up book (2021)

INVITED RESEARCH TALKS

- ❖ "Towards Audit-ability in Individual Fairness for Deep Learning" ; 2021
Career Mentoring Workshop: Grad Cohort for Women (1 of 30)
- ❖ "Towards a Measure of Individual Fairness for Deep Learning" ; 2021
Jane Street PhD Symposium
- ❖ "Towards a Measure of Individual Fairness for Deep Learning" ; 2021
Amazon Science internal presentation (with advisor Dr. J. Near)
- ❖ "Creating an end to end participatory data survey pipeline with 2020
variable constraints" (Data Economies and Governance MD4SG working group)
- ❖ "Towards a Measure of Individual Fairness for Deep Learning" ; 2020
Short Presentation given for UVM/CS++ Research Day (20 min talk)
- ❖ "Personalized Robotic Control using MISL" 2019
for UVM/CS++ Research Day (20 min talk)

GRANT WRITING / PROPOSALS

- ❖ Microsoft Research, Reinforcement Learning Open Source Festival Proposal 2021
(Awarded \$10,000)

GRANT WRITING / PROPOSALS

- ❖ CDS&E Computational and Data-Enabled Science and Engineering Database Grant Proposal for SageMaths (as Key Personnel) (PI Ben Hutz, PhD) (not awarded) 2020
- ❖ Google Summer of Code, Proposal to Haskell.org (Awarded \$6,000) 2018
- ❖ Helium Grant, (for exploring questions on the edge of mainstream thinking) (Awarded \$1000) 2018

MERIT-BASED MENTORSHIPS / RESEARCH MENTORSHIPS

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| Mentee, Google's CS Research Mentorship Program (CSRMP) with A. Lees, PhD | 2021 |
| Mentee, AiC Connectors Program with Facebook with O. Dalleleau, PhD | 2021 |
| Mentee, She256 Blockchain Group with P. Mishra, PhD | 2021 |
| Mentee, Women in Privacy and Security (WISP), D. Sharma, PhD | 2021 |
| Mentee, Global Outreach Mentorship with S. Gupta, PhD (EC 2020) | 2020 |
| Mentee, LatinX in AI Research Workshop Mentorship with J. Barajas, PhD (ICML 2020) | 2020 |
| Mentee, Mentored by Amal Ahmed, PhD (ICFP 2020) | 2020 |
| Mentee, Lighthouse3 AI Ethics Mentoring Externship with F. McEvoy (1 of 20 chosen) | 2020 |
| Mentee, Code2040 Fellowship with Ben Waber, PhD | 2020 |

ACADEMIC REVIEWER

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|---|----------------|
| Reviewer, Springer AI and Ethics Journal | 2020 - present |
| Reviewer, BlackAIR Summer Research Grant Program | 2021 |
| Reviewer, ICLR Distributed and Private Machine Learning workshop | 2021 |
| Committee Reviewer, HCI Track, GHC (Grace Hopper Conference) | 2021 |
| Reviewer, PML4DC (Practical ML for Developing Countries) workshop, ICLR | 2021 |
| Reviewer, Tapia Conference (Panels and Workshops) | 2021 |
| Reviewer for AFCI workshop at NeurIPS (Fairness and Accountability) | 2020, 2021 |
| Reviewer for Black in AI at NeurIPS workshop | 2020 |
| Reviewer and Programme Committee Member, LXAI@ICML Workshop | 2020 |
| Committee Reviewer, HCI Track, GHC (Grace Hopper Conference) | 2020 |
| Chair Reviewer, PML4DC (Practical ML for Developing Countries) workshop, ICLR | 2020 |
| Reviewer, Tapia Conference (Panels and Workshops) | 2020 |
| Reviewer, Travel Grant Applications, Black in AI for AAAI | 2020 |

ACADEMIC JOURNALS (AI/Machine Learning)

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|---------------------------------------|------|
| Board Member, AI and Ethics, Springer | 2020 |
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RESEARCH PhD INVITATIONS

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|---|------|
| Participant, GREPSEC V : | 2021 |
| - (Graduate Students in Privacy and Security Early Career Workshop) | |
| Participant, Nordic Probabilistic Artificial Intelligence School 2021: ProbAI | 2021 |
| - 1 of 60 scholarship recipients (27%) | |
| Participant, Doctoral Consortium, ACM FAccT : | 2021 |
| (ACM Conference on Fairness, Accountability and Transparency) | |

RESEARCH PhD INVITATIONS

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| Participant, CRAFT workshop at ACM FAccT | 2021 |
| <ul style="list-style-type: none">- Inspecting algorithms ins social media platforms- Rethinking Demographic Data Infrastructures for Algorithmic Fairness | |
| Participant, CHIMe CHI Mentoring Workshop Symposium | 2021 |
| Participant, Mediterranean Machine Learning Summer School (M2L) (Winter cohort) | 2021 |
| Participant, Isogeny-Based Cryptography Winter School | 2021 |
| Participant, Post-Quantum Networks Workshop | 2021 |
| Participant, PRIMA Summer School | 2021 |
| <ul style="list-style-type: none">- Rational curves and moduli spaces in arithmetic geometry | |
| Initiative for Cryptocurrencies and Contracts (IC3) Blockchain Bootcamp | 2021 |
| <ul style="list-style-type: none">- Worked on group project : Fairness consensus for Miner Extractable Value (MEVs)- Implemented Aequitas protocol from paper with authors for fairness simulation- One of top four winning teams chosen | |
| Participant, Scottish Programming Languages and Verification School | 2021 |
| Participant, Winter Institute in Computational Social Science (WICSS) | 2021 |
| Invited Participant, "Key themes for informing a Research Roadmap", The Alan Turing Institute: | 2021 |
| <ul style="list-style-type: none">- Invited Participant, "Threats and Opportunities for AI in Cybersecurity"- Invited Participant, "Society-centric approaches to AI challenges in- Invited Participant, "Environmental Enables for AI challenges in | 2021 2021 2021 |
| Participant, Self Organizing Conference on Machine Learning (SOCML) | 2021 |
| <ul style="list-style-type: none">- Machine Learning, and Privacy session, Moderated by U. Erlingsson- organized by I. Goodfellow (1 of 9 chosen) | 2021 |
| Simons Institute, Innovations in Theoretical Computer Science (ITCS) | 2021 |
| Simons Institute, Geometric Methods in Optimization and Sampling Bootcamp | 2021 |

MERIT-BASED GRANTS / SCHOLARSHIPS

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| Google Grace Hopper Conference (GHC) Scholarship | 2021 |
| WISP & Black Hat USA Briefings Scholarship (1 of 25) | 2021 |
| Kernel Fellowship Block III via Gitcoin (Security: Zero Knowledge Proofs project) | 2021 |
| Gitcoin Scholarship for Women (for Kernel Fellowship Block III) | 2021 |
| She256 Mentorship focused on ZK Snarks (6 months) | 2021 |
| USENIX Security Conference 2021 (via USENIX Diversity Grant via GREPSEC V) | 2021 |
| TechX Social Impact / Harvard Franklin Fellowship (1 of 12) | 2020 |
| USENIX Enigma Grant | 2021 |
| Participant, Algorithmic Game Theory Mentoring Workshop (AMW) (co-located with EC 2020) | 2020 |
| WiML ICML Travel Funding Grant (sponsor QuantumBlack) | 2020 |
| BRAID Funding to attend Grace Hopper Conference (courtesy of UVM) | 2020 |
| Udacity's Machine Learning Scholarship for Microsoft Azure | 2020 |
| NCWIT Change Leader Scholar | 2019-2021 |
| Code2040 2020 Fellow (1 of 80) | 2019 |
| 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

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| Upstate Number Theory Conference 2021 (lodging provided) | 2021 |
| IEEE Symposium on Security and Privacy (student travel grant, complimentary ticket) | 2021 |
| 4th Annual ZK-Proof Workshop (complimentary ticket) | 2021 |
| WISP Privacy+Security Conference | 2021 |
| - EU Data Law / De-Identification Workshop (Scholarship via WISP) | |
| ICERM (Brown University) Variable Precision in Mathematical & Scientific Thinking | 2020 |
| RWC2020 (Real World Crypto: registration, flight, lodging) Grant via IACR | 2020 |
| CRA-WP Grad Cohort for Women (covers registration: remote) | 2019, 2021 |
| CRA-WP Grad Cohort for Underrepresented Minorities (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 |
| 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 |
| MSRI (Mathematical Sciences Research Institute) Grants to attend: | |
| Optimal Transport and applications to machine learning and statistics | 2020 |
| Connections for Women: | 2019 |
| - Derived Algebraic Geometry, Birational Geometry and Moduli Spaces workshop | |
| - Introductory Workshop: Derived Algebraic Geometry and Birational Geometry And Moduli Spaces | |
| 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 |

ACADEMIC SERVICE

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|---|------|
| Co-chair, ICLR Diversity, Equity and Inclusion | 2022 |
| Privacy Enhancing Technologies Symposium, Student Co-Organizer | 2021 |
| Black in AI Logistics Co-Chair (NeurIPS) | 2020 |
| WiML Senior Program and Mentorship Co-Chair, WiML (NeurIPS) | 2020 |
| Committee Member, Zoom Infrastructure, EMNLP | 2020 |
| Session Facilitator, ICML 2020 for "Recommender System Research in Industry" (1 of 2) | 2020 |
| Volunteer ACL (Association of Computational Linguistics) | 2020 |
| Co-organizer, ACL (Association of Computational Linguistics) Black in AI Socials | 2020 |
| Volunteer, ICML 2020 (International Conference on Machine Learning) | 2020 |
| Volunteer, EC'20 (Economics and Computation) | 2020 |
| Volunteer, ICLR (International Conference on Learning Representations) | 2020 |
| Member, MD4SG (Mechanism Design for Social Good); Education working group | 2020 |
| Member, MD4SG Data and Governance working group | 2020 |

ACADEMIC SERVICE

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| <i>Chair, AAAI Black in AI Annual Lunch</i> | 2020 |
| <i>Panelist, AAAI Try AI Workshop</i> | 2020 |
| <i>Invited Panelist, CRAFT workshop, FAT* conference (declined offer)</i> | 2020 |
| <i>Panelist, PhD recruiting event (included multiple schools, sponsored by CodePath)</i> | 2020 |
| <i>Student Volunteer, ICFP (International Conference Functional Programming)</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>Student volunteer, SPLASH</i> | 2018 |
| <i>(Systems, Programming, Languages, and Applications) (declined offer)</i> | |

INDUSTRY PhD INVITATIONS

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| <i>Participant, JP Morgan, Advancing Black Pathways in AI & Quantitative Modeling Summit</i> | 2021 |
| <i>Participant, Facebook, Amplified: Above & Beyond Computer Science Program (PhDs)</i> | 2021 |
| <i>Participant, Galois 1st Summer School on Trustworthy Machine Learning (1 of 35)</i> | 2021 |
| <i>Participant (via CSRMP), Google PhD Fellowship Summit</i> | 2021 |
| <i>Participant, Jane Street PhD Symposium (New York, remote)</i> | 2021 |
| <i>Participant, JP Morgan, Advancing Black Pathways in Data Science</i> | 2021 |
| <i>Participant, TwoSigma Mock Interview Day for Early Career Women in STEM</i> | 2021 |
| <i>Participant, Adobe, "The Future of Creativity" (Virtual)</i> | 2020 |
| <i>Participant, Microsoft Research, Frontiers in Machine Learning (Redmond, remote)</i> | 2020 |
| <i>Participant, Discover Bloomberg: Women in Engineering event (New York, remote)</i> | 2020 |
| <i>Participant, Twitter PhD ML Flock Event (New York, Boston office)</i> | 2019 |

RELEVANT WORK EXPERIENCE

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| Mercury Banking (Haskell fintech) : Software Engineering Intern (San Francisco) | 2019 |
| Apple, Inc.: Software Engineering Intern (Sunnyvale) | 2019 |
| Google Summer of Code: Developer for Haskell.org (remote) | 2018 |
| Mozilla: Increasing Rust's Reach Developer (remote) | 2018 |

NON-ACADEMIC SERVICE

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| <i>Invited Finalist Judge, Technovation, AI for Good</i> | 2021 |
| <i>Participant, Git Contributors Inclusion Summit</i> | 2020 |
| <i>Reviewer, Code2040 Application Essays</i> | 2020 |
| <i>Reviewer, OpenMined Differential Privacy articles</i> | 2020 |
| <i>Judge, DataKind, Data.org, Inclusive Growth and Recovery Challenge</i> | 2020 |
| <i>Google Developer Student Club Lead (for University of Vermont)</i> | 2019 |
| <i>Reviewer, Travel Grant Applications, Clojure Conj (2 rounds)</i> | 2017 |

PRESS

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| <i>Featured in the "Black Girls CODE the Future" Coloring Book</i> | 2021 |
| <i>NCWIT, chosen (1 of 2) to Congratulate Dr. Gladys West for Pioneer Award (virtual)</i> | 2021 |
| <i>MacArthur Foundation profile on Black in AI organization's Impact</i> | 2021 |
| <i>VentureBeat "AI needs systemic solutions to systemic bias, injustice and inequality"</i> | 2020 |
| <i>Featured by Women of Silicon Valley, June Edition, 16 "Caribbean Techies"</i> | 2020 |

INDUSTRY TALKS

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| <i>Featured by Women of Silicon Valley, May Edition</i> | 2020 |
| <i>Interviewed for CareerGirls.org Boston (videographed at MIT)</i> | 2019 |
| <i>Student Presenter for Microsoft Research's Reinforcement Learning Open Source Fest</i> | 2021 |
| <i>Invited Panelist, Springer AI and Ethics Board for The Algol Conference</i> | 2021 |
| <i>Invited Panelist, Technovation AI Prize</i> | 2021 |
| <i>Featured by Coursera (Learner Story)</i> | 2017 |
| <i>Speaker, EGG on Air Conference (human-centred AI)</i> | 2020 |
| <i>Speaker, EGG at Morgan State (talk on Human-centred AI and research)</i> | 2020 |
| <i>Presenter, VentureBeat's Transform 2020 Wrap-up for panel on Ethics and AI</i> | 2020 |
| <i>Moderator, VentureBeat's Transform 2020 panel on Ethics and AI</i> | 2020 |
| <i>Interviewed for Podcast, The Data Standard</i> | 2020 |
| <i>Interviewed for OpenMined course (Privacy-Preserving Machine Learning and Fairness)</i> | 2020 |
| <i>Interviewed for YouTube Series, Tech Girl Thursdays</i> | 2020 |
| <i>Interviewed for Podcast, Women of Silicon Valley</i> | 2020 |
| <i>Invited Panelist, Career Girls AI Virtual Camp</i> | 2020-2021 |
| <i>Invited Speaker, Autodesk Design (Boston Office) on Differential Privacy</i> | 2020 |
| <i>Interviewed for Podcast on Black in AI (1 of 2 persons), iPhone Life Interview</i> | 2020 |
| <i>Invited Speaker, Sister to Sister International, Inc (STSI) on AI, Privacy, Ethics</i> | 2020 |
| <i>Invited Panelist, Morehouse@Momentum Coding School, "The Data Don't Lie"</i> | 2020 |
| <i>Invited Guest, Corecursive Podcast (Technical Podcast)</i> | 2020 |
| <i>Featured Session Clip, End of Year Corecursive Podcast (Technical Podcast)</i> | 2020 |
| <i>Women in Data Science talk "Why conferences matter" (40 min NeurIPS inspired talk)</i> | 2020 |
| <i>"Magic Gnomes: A GHC Compiler talk (5-minute talk at Github for Sentry's Show & Tell)</i> | 2019 |
| <i>"Denotational Semantics" (2 minute Lightning Talk for Meetup group)</i> | 2018 |
| <i>"Recap of Google I/O 2018" (20 minute presentation at Google Developer Group LA)</i> | 2018 |

OTHER (NON-INDUSTRY) TALKS

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| <i>"Isogeny Graph Cryptography", School for Poetic Computation, Re-learning to love Maths</i> | 2021 |
| <i>"Isogeny Graph Cryptography", School for Poetic Computation, "Learning to Love Maths"</i> | 2021 |
| <i>Invited Panelist, Peer-connected Undergraduate Research Exploration in Computer and Information Science and Engineering (PRE.CISE)</i> | 2021 |
| <i>University of Vermont, CIS196, Privacy Law Research Talk</i> | 2021 |
| <i>BlackAIR Research Grant speaker</i> | 2021 |
| <i>MIT Hacking Racism in Healthcare Challenge (keynote speaker)</i> | 2020 |
| <i>PLAID Lab speaker, "What Scientists can learn from Artists"</i> | 2020 |
| <i>PLAID Lab Speaker, "Information Theory: from Spacecraft to Blockchain"</i> | 2021 |
| <i>CS Crew Project talk : contributing to Maths software (CodeWorld, SageMaths)</i> | 2019 |
| <i>CS Crew GSoC talk (40-minute talk about Google Summer of Code and Internships)</i> | 2019 |
| <i>University of Vermont, CS293 Technical Interviewing Workshop Talk</i> | 2019 |

CLASSES (PhD)

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| <i>Doctoral Research with advisors Joe Near and Christelle Vincent</i> | 2021-present |
| <i>Abstract Algebra: Focusing on Fields, taught by Christelle Vincent (Spring)</i> | 2022 |
| <i>Elementary Number Theory, taught by Christelle Vincent (Spring)</i> | 2022 |
| <i>Abstract Algebra I taught by Puck Rombach (Commutative Group theory) (Fall)</i> | 2021 |

CLASSES (PhD)

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| <i>Abstract Algebra III taught by Christelle Vincent : Prep for Maths Quals (Fall)</i> | 2021 |
| <i>(Post-quantum) Mathematical Cryptography, taught by Christelle Vincent (Spring)</i> | 2021 |
| <i>Privacy, Law and Policy, taught by Ryan Kriger (Spring)</i> | 2021 |
| <i>Secure Distributed Computation; taught by Joe Near using Python (Fall)</i> | 2020 |
| <i>Machine Learning; taught by Safwan Wshah using Python (Spring)</i> | 2020 |
| <i>Doctoral Research with advisors Joe Near and David Darais (Spring, Fall)</i> | 2019-2020 |
| <i>Data Privacy; taught by Joe Near using Python (Fall)</i> | 2019 |
| <i>Software Verification; taught by David Darais using Agda (Fall)</i> | 2019 |
| <i>Computer Human Interaction; taught by Josh Bongard (Fall)</i> | 2019 |

CLASSES (AUDIT)

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| <i>Stanford EE 374 : Internet-Scale Consensus in the Blockchain Era</i> | 2021 |
| - Taught by Dr. David Tse through Stanford University | |
| - Audited class, scribed for Lecture 11, Spring 2021 | |

CLASSES (RELATED)

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| <i>Rewriting the Code (RTC) Blockchain Basics + Developer Workshop</i> | 2021 |
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WORKSHOPS (RELATED)

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| <i>R Orange County Book Club (8 weeks Open Statistics)</i> | 2021 |
| - Presented review of chapter 4 and exercises for chapter 7 | |
| <i>R Orange County Book Club (6 weeks Mastering Spark with R)</i> | 2021 |
| - Presented Chapters 10 and 11 (Distributed R, Extensions in Spark using R) | |
| <i>R Orange County Book Club (6 weeks Text Mining with R)</i> | |
| - Presented Chapter 7 (Twitter data Case Study in Text Mining with R) | |
| - Presented R code exercises relevant to assigned chapters | |
| <i>R Orange County Workshops</i> | 2021 |
| - Modeling Normally Distributed Data with Repeated Measures (February) | |
| - Transforming Data into Dashboards with Tableau (March) | |
| - R Virtual Science Hackathon (April) (project-based) | |
| <i>R Nimble virtual short course (C. Paciorek)</i> | 2021 |
| - Basic concepts on converting BUGS and JAGS models | |
| - MCMC sampling, model components for Bayesian non-parametric distribution | |
| <i>University of Vanderbilt Regression Modeling Strategies Short Course</i> | 2021 |
| - Four day course on regression modeling and causal models | |
| - Linear models, logistic and ordinal regression (F. Harrell, Jr., PhD, D. Levy, PhD) | |

HACKATHONS

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|---|------|
| <i>R Data Hackathon 2021, <u>First Place</u>, "Cast and Gender Roles in Movie Data"</i> | 2021 |
| - Our group won First place at the R Data Hackathon 2021 for Best Visualization | |
| <i>Initiative for Cryptocurrencies and Contracts (IC3) Blockchain Bootcamp</i> | 2021 |
| - Worked on group project : Fairness consensus for Miner Extractable Value (MEVs) | |
| - Implemented Aequis protocol from paper with authors for fairness simulation | |
| - One of top four winning teams chosen | |

Skills: Python, R, Haskell, Matlab, Sage, (learning Rust), LaTeX, Jupyter, SQL, AWS, PySpark, Sparklyr, Tensorflow, Git

ACADEMIC ASSOCIATION FOR COMPUTING MACHINERY (ACM) MEMBERSHIPS

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|---|---------------------|
| <i>Student Member, International Association of Cryptologic Research (IACR)</i> | <i>2020-present</i> |
| <i>SIGecom Special Interest Group on Economics and Computation</i> | <i>2020-2021</i> |

NON-ACADEMIC MEMBERSHIP

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|---|---------------------|
| <i>Community Board, Black In AI</i> | <i>2020-present</i> |
| <i>Member, Women in Number Theory</i> | <i>2018-present</i> |
| <i>Member, She256</i> | <i>2021-present</i> |
| <i>Member, Women in Security and Privacy (WISP)</i> | <i>2020-present</i> |