Kealyssa Makana Castillo-Martin
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Education

University of Maryland College Park, *Expected 2023*

- Ph.D. Candidate, Computer Science (GPA 3.7)
- Current Research: Pool-based active learning guarantees in adversarial settings
- Advisor: Prof. Jonathan Katz

Reed College, *2018*

- B.A., Math and Computer Science (GPA 3.6)
- Honors: Phi Beta Kappa
- Thesis: Bridging Natural Language and SMT Solvers, from Grammatical Framework to SBV
- Advisor: Prof. Dylan McNamee

Research Experience

Research Assistant *University of Maryland, 2019-Present*

- Current projects:
  - Investigating guarantees in pool-based active learning in the adversarial setting. Establishing bounds on the VC-dimension of the experts' advice and connecting it to bounds on query sample sizes.
  - Designing a scalable content determination system that is provably robust to adversarial attempts at perturbing the outcome (in collaboration with Facebook Research).
- Advisor: Prof. Jonathan Katz
- Focus and interests: Cryptography, adversarial machine learning/crowdsourcing, privacy, secure computation

REU-CAAR Undergraduate Researcher *University of Maryland, Summer 2017*

- Project: Used PyTorch to implement a self-interactive model trained on Quiz Bowl Clues. Investigated questions such as information retrieval and efficacy of various loss models in the learning process.
- Advisor: Prof. Hal Daumé III
- Focus: Machine learning, query generation and reformulation, modeling conversation history.

Teaching and Work Experience

Teaching Assistant *University of Maryland, 2018-2019*

- Performed regular assistant duties for Algorithms (CMSC 351) and Cryptology (CMSC 456).
- Directed weekly group tutoring hours.

Web Development Intern *Wieden & Kennedy, Summer 2018*

- Began transitioning W&K internal sites from .NET framework to Angular
- Completed various debugging tasks.

Teaching Assistant and Individual Tutor *Reed College, 2016-2018*

- Performed regular assistant duties for Intro to Computer Science, Computer Science II, and Algorithms & Data Structures. Programming languages/topics covered included Python, C, functional programming (SML), concurrency (Go), assembly language, and digital logic.
- Directed lab sections and taught group review sessions for Intro to Computer Science and Computer Science II.
- Individual Tutor for the courses above in addition to Calculus and Computability & Complexity.
- Recommended by Profs. Adam Groce and Jim Fix.

Leadership

Cryptography Reading Group Organizer *Maryland Cybersecurity Center, 2019-2020*

Student Advisory Committee for Diversity and Inclusion *University of Maryland, 2019-Present*

– Takes action aimed toward increasing minority enrollment and creating a more inclusive department. Brings student concerns to the attention of the department and working with department representatives to create and enact plans that address those issues.

Individual and Group Mentor *University of Maryland, 2018-Present*

– Mentor to women undergraduates, providing guidance and support based on my own experiences for women in both academic and industry paths.

Awards and Honors

AISES Intel Growing the Legacy Scholarship *Intel, 2019-2020*

AISES VGT an Aristocrat Company Scholarship *VGT, 2019-2020*

Grace Hopper Conference Scholarship *AnitaB.org, 2019*

Crypto Travel Grant *IACR, 2019*

Dean's Fellowship *University of Maryland, 2018-2020*

National Science Foundation S-STEM Scholarship *Reed College, 2015-2018*

Japanese Critical Language Scholarship *U.S. Department of State, 2016*

Other activities

Conference on Computer and Communications Security Sub-Reviewer *ACM, 2019*

Privacy Faculty Summit Participant *Facebook, 2019*

URMD Grad Cohort Participant *Computing Research Association, 2019*

Women's Grad Cohort Participant *Computing Research Association-Women, 2019*