

Samsara Counts

Curriculum Vitae

October 2019

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Education

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| 2015-2019 | B.S. George Washington University | Computer Science and Math, Creative Writing minor | GPA 3.5/4.0 |
| 2019-2020 | Saarland University | Data Science and Artificial Intelligence | visiting M.S. student |

Research Experience

Max Planck Institute for Software Systems | *Research Intern* | October 2019–July 2020 (expected)

- Investigate mechanisms of incorporating fairness and diversity into Machine Learning algorithms
- *Advised by Krishna Gummadi*

George Washington University | *Researcher* | Fall 2017–May 2019

- Used deep learning to recognize images of Eating Disorders and build tools to improve patient health outcomes
- Incorporated geometric and combinatorial diversity into the training process to improve classifier accuracy
- *Advised by Robert Pless*

Microsoft Research | *Research Intern* | Summer 2018

- Used group theory to speed up matrix multiplication algorithms
- Solved an optimization problem over the search space of finite groups
- Implemented and designed abstract algebraic algorithms in GAP
- *Advised by Henry Cohn at Microsoft Research New England*

University of Maryland College Park | *Researcher* | Summer 2017

- Designed a multi-armed bandit algorithm to ensure diversity and fairness in an automated admissions process
- Analyzed past admissions data to investigate the possibility of bias in previous decisions
- Designed a system using deep Reinforcement Learning to choose matching policies for dynamic kidney exchange
- *Advised by John P. Dickerson at the Combinatorics and Algorithms for Real Problems R.E.U. (7% acceptance rate)*

GW Learning Technologies Research Group | *Research Assistant* | August 2016–December 2017

- Used Natural Language Processing to generate reading comprehension questions from input passages
- Developed a mobile app and website using Play framework for adult learners to increase English literacy
- Adapted and improved reading comprehension question-generation algorithm in Java
- Identified high-quality datasets for training NLP algorithms and cleaned datasets using Python
- *Advised by Rahul Simha*

Honors and awards

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| 2019 | CBYX for Young Professionals Fellowship in Germany | US Congress and German Bundestag |
| 2019 | Marvin Green Prize | GW Department of Mathematics |
| 2019 | NCWIT Collegiate Award, Honorable Mention | Natl. Center for Women in Information Technology |
| 2019 | Baer Award for Individual Excellence | GW Center for Student Engagement |
| 2019 | Fulbright Open Research Award to Germany Semifinalist | The Fulbright Commission |
| 2018 | Best Student Paper Presentation | Applied Imagery and Pattern Recognition Workshop |
| 2018 | Google Lime Scholarship | Google |
| 2018 | TOMODACHI Kakehashi Inouye Scholar | TOMODACHI Initiative, US-Japan Council |
| 2018 | NCWIT Collegiate Award, Honorable Mention | Natl. Center for Women in Information Technology |
| 2018 | Susan Shin Memorial Award | GW School of Engineering and Applied Science |
| 2018 | Quip Diversity in Tech Scholarship, Runner Up | Quip |
| 2018 | Lannan Foundation Poetry Fellow | Folger Shakespeare Library |
| 2018 | Academy of American Poets Contest, Honorable Mention | GW English Department |
| 2017 | AnitaB.org Grace Hopper Conference Scholar | AnitaB.org |
| 2016 | Summer Undergraduate Program in Engineering Research | GW School of Engineering and Applied Science |
| 2016 | 1 st Place, Citizen Day Poetry Contest | GW English Department |

Grants

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| 2019 | CRA Distributed Research Experiences for Undergraduate Award (declined). "Deep Learning Tools for Eating Disorder Recovery". <i>Funding from the Computing Research Association and the National Science Foundation.</i> | \$7000 |
| 2018 | GW Undergraduate Research Award. "Multimodal Detection of Deviant Content Online". <i>Funding from the GW Office of the Vice President of Research.</i> | \$5000 |
| 2018 | GW Data MASTER Fellowship. "Recognizing Images of Eating Disorders with Deep Learning". <i>Funding from the National Science Foundation.</i> | \$3000 |
| 2017 | HackHarassment Grant. "A Research-based Hackathon to Combat Online Harassment". <i>Funding from Intel and the Born This Way Foundation.</i> | \$2000 |

Publications

Papers in refereed conference proceedings

1. Schumann, C., S. N. Counts, J. Foster, and J. P. Dickerson (2019). The Diverse Cohort Selection Problem. In: *International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*. Montréal, Québec. <https://arxiv.org/abs/1709.03441>.

Workshop papers

1. Pless, R., R. Begtrup, L. Alkulaib, S. N. Counts, J. Harnett, J.-L. Manning, H. Xuan, and D. A. Broniatowski (2017). Recognizing Images of Eating Disorders in Social Media (Abstract). In: *Social Media Mining for Health Applications Workshop at Conference of the American Medical Informatics Association (AMIA)*. Washington, DC.
2. Counts, S. N., J.-L. Manning, and R. Pless (2018). Characterizing the Visual Social Media Environment of Eating Disorders. In: *Applied Imagery Pattern Recognition Workshop (AIPR)*. Washington, DC.

Selected talks and panels

- *It's Nothing Personal: Investigating Bias in the ImageNet Person Synset*, GW Bias in Artificial Intelligence course, Washington, May 2019.
- *Characterizing the Visual Social Media Environment of Eating Disorders*, Applied Imagery and Pattern Recognition Workshop, Washington, October 2018. **Best Student Paper Presentation**
- *2018 Panel of Computing Students with Disabilities* (with R.E. Ladner, R. Ayanzadah, K. Krishnaswami and K. Wolfe), SIGCSE Conference, Baltimore, February 2018.
- *The Diverse Cohort Selection Problem*, GW Chapter of the Association for Computing Machinery, Washington, February 2018.
- *Recognizing Images of Eating Disorders with Deep Learning*, GW Dean's Council of Women in Technology, Washington, January 2018.
- *Creating Technological Solutions to Combat Online Harassment*, Hackital, Washington, November 2017.

Poster presentations

- *Deep Learning Tools for Eating Disorder Recovery*
 - GW Research Days, Washington, April 2019
- *Recognizing Images of Eating Disorders in Social Media*
 - GW Research Days, Washington, April 2018. **2nd Place for Best Engineering Poster**
 - GW SEAS R&D Showcase, Washington, February 2018. **Finalist for Best Undergraduate Poster (Theoretical)**
- *The Diverse Cohort Selection Problem*
 - GW SEAS R&D Showcase, Washington, February 2018. **Finalist for Best Undergraduate Poster (Theoretical)**
 - Aligned AI Workshop at NIPS-17, Long Beach, December 2017.
 - Women in Machine Learning (WiML) Workshop at NIPS-17, Long Beach, December 2017.

Teaching

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| 2018 | Introduction to Software Development | <i>Teaching Assistant</i> | George Washington University |
| 2018 | Discrete Structures II | <i>Learning Assistant</i> | George Washington University |
| 2017 | Introduction to Computer Science | <i>Learning Assistant</i> | George Washington University |
| 2017 | Algorithms and Data Structures | <i>Learning Assistant</i> | George Washington University |
| 2016 | Introduction to Computer Science | <i>Learning Assistant</i> | George Washington University |
| 2015 | 8th Grade Chemistry | <i>Teaching Fellow</i> | Breakthrough Collaborative |
| 2014 | 8th Grade Chemistry | <i>Teaching Assistant</i> | Breakthrough Collaborative |

Languages and technology

Programming Languages: Python, Java, C, MATLAB, LaTeX, Bash, HTML, CSS, SQL, GAP

Software: Git, PyTorch, Mathematica, Django

Spoken Languages: Spanish (C1), German (B1), English (native)

Involvement and service

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| 2019-2020 | US Junior Ambassador in Germany | United States Department of State |
| 2016-2019 | Academic Affairs Chair | GW Association for Computing Machinery |
| 2016-2019 | Mentor | SEAS Student Peer Advisory Network |
| 2016-2019 | Mentor | GW Women in Computer Science |
| 2017-2018 | Founder and Chair | GW Dean's Council of Women in Technology |
| 2017-2018 | Organizer | Hackital |
| 2016 | Camp Counselor | GW Cybersecurity Camp for Middle School Girls |
| 2015-2016 | Freshman Representative | The Association of Queer Women and Allies |

Technical workshops

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| 2017-2019 | Git, Command Line, and Linux Workshop | GW Association for Computing Machinery |
| 2018 | Have a Productive Programming Summer | GW Association for Computing Machinery |

Large-scale community events organized

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| 2019 | kc claffy: 10 Things You Need to Know About the Internet | Internet Distinguished Speaker Series, GW Dept. of Computer Science |
| 2019 | Vint Cerf: The Unfinished Internet | Internet Distinguished Speaker Series, GW Dept. of Computer Science |
| 2018 | Christine Darden: One of NASA's Hidden Figures | GW Black History Month, GW Dean's Council of Women in Technology |
| 2017 | Hackital | GW Association for Computing Machinery |