

RYAN STEED

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EDUCATION

Carnegie Mellon University

Ph.D., Information Systems and Management

Machine Learning & Public Policy Track

Advised by Alessandro Acquisti and Alexandra Chouldechova

August 2020 - Present

GPA 4.00

George Washington University

B.S. Computer Science & Economics, *summa cum laude*

Minor in Philosophy

August 2017 - May 2020

GPA 3.98

RESEARCH EXPERIENCE

George Washington University

Research Assistant, Department of Computer Science

September 2018 - September 2020

- Under Dr. Aylin Caliskan, designed and executed experiments to study embedded social bias in computer vision. First-authored 2 manuscripts (under review) and open-source software.
- Under Dr. Rahul Simha, modeled knowledge transmission in patent citation networks and estimated the effect of policy on innovation. Developed computational economics curricula.
- Independently developed a new heuristic-based preference aggregation method for participatory machine learning. Manuscript accepted to a peer-reviewed workshop at ICML 2020.

Duke University

Research Assistant & Lead Modeler, Social Science Research Institute

May 2017 - January 2018

- Contributed to the design and training of a deep learning model to classify political actions reported in the news; presented at ISA academic conference.
- Coordinated development of social network analysis algorithms & random graph models for political simulations; presented work to intelligence officers at the Pentagon, leading to grant renewal.

University of North Carolina

Research Affiliate, Department of Political Science

August 2016 - May 2017

- Collaborated with Dr. Timothy McKeown to scrape and curate a foreign policy digital archive.

PROFESSIONAL EXPERIENCE

GW Innovation Center

Virtual Jane Project Manager & Technology Fellow

September 2017 - May 2020

- Co-founded George Washington University's first Innovation Center and student-run maker space.
- Recruited and managed for a team of 10 student VR animators and developers; fundraised over \$10,000 for equipment and stipends. Hosted Dr. Jane Goodall for motion capture scan.

Capital One

Data Engineering Intern

June 2019 - August 2019

- Designed and tested novel cluster sampling algorithm for active learning in analyst-in-the-loop cybersecurity models.

Magic Number

May 2018 - August 2018

Machine Learning Engineer

- Researched, tested, and implemented machine learning classification and clustering microservices to categorize patent documents into packaged sectors for clients.

PUBLICATIONS

- **Steed, R.**, Caliskan, A., “Image representations learned with unsupervised pre-training contain human-like biases,” in *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, forthcoming, 2021.
- **Steed, R.**, Caliskan, A., “Machines learn appearance bias in face recognition,” forthcoming in *AI and Ethics*, 2021.
- **Steed, R.**, Williams, B., “Heuristic-based weak learning for automated decision-making,” in *Workshop on Participatory Machine Learning at the 2020 International Conference on Machine Learning*, 2020.
- Erdemendi, M., Augustine, R., Zhao, L., **Steed, R.**, “Expansion of automated event coding for better international security analysis,” in *International Studies Association South*, 2017.
- Rivera, W. A., Rogers, A., **Steed, R.**, “The practice and promise of open source intelligence and computational security studies,” in *International Studies Association South*, 2017.

FELLOWSHIPS & GRANTS

Social Good Fellowship

September 2017 - May 2020

GW Innovation Center

Data MASTER Fellowship

May 2018 - May 2019

GW Mathematics And Statistics Training, Education, and Research Program

Sigelman Undergraduate Research Enhancement Award

October 2018, 2019

George Washington University

HONORS & AWARDS

- Phi Sigma Tau, 2020
- Presidential Scholarship with Honors, George Washington University, *May 2017 - May 2020*
- 2nd Prize, Politics & Economics, GW Research Showcase Poster Competition, *April 2019*

SERVICE

SolveForGood

June 2020 - September 2020

Volunteer Data Scientist

- With an international team of volunteers, built an algorithmic transparency tool for the Assessor’s Office in Cook County, Chicago. Designed and implemented model explainability visualizations.

SKILLS

- Machine learning, privacy, fairness, algorithmic bias, computer vision, deep learning
- Python, Java, Scala, C, JavaScript/AJAX, R, HTML5/CSS/jQuery, PHP, SQL, Mongo; AWS EC2, AWS RDS, Docker; Pandas, Keras, Tensorflow, Scikit-Learn, PyTorch, PySpark
- Project Management, Public Speaking, Design Thinking, Agile/Scrum, Git