RYAN STEED

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EDUCATION

Carnegie Mellon University August 2020 - Present
Ph.D., Information Systems and Management GPA 4.00
Machine Learning & Public Policy Track
Advised by Alessandro Acquisti and Alexandra Chouldechova

George Washington University August 2017 - May 2020
B.S. Computational Economics, *summa cum laude* GPA 3.98
Minor in Philosophy

RESEARCH EXPERIENCE

George Washington University September 2018 - September 2020
Research Assistant, Department of Computer Science

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

Duke University May 2017 - January 2018
Research Assistant & Lead Modeler, Social Science Research Institute

- 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 August 2016 - May 2017
Research Affiliate, Department of Political Science

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

PROFESSIONAL EXPERIENCE

GW Innovation Center September 2017 - May 2020
Virtual Jane Project Manager & Technology Fellow

- 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 June 2019 - August 2019
Data Engineering Intern

- 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., "A set of distinct facial traits learned by machines is not predictive of appearance bias in the wild," *AI and Ethics*, 2021. [Online]. Available: https://doi.org/10.1007/s43681-020-00035-y.
- **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.
- Erdemandi, M., Augustine, R., Zhao, L., **Steed, R.,** "Expansion of automated event coding for better international security analysis," 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, 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