

# RYAN STEED

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## EDUCATION

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### Carnegie Mellon University

August 2020 - Present

Ph.D., Information Systems and Management

Machine Learning & Public Policy Track

*Advised by Alessandro Acquisti and Alexandra Chouldechova*

### George Washington University

August 2017 - May 2020

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

GPA 3.98

Minor in Philosophy

## RESEARCH EXPERIENCE

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### 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 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.

### 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

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### 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

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- **Steed, R.**, Caliskan, A., “Image representations learned with unsupervised pre-training contain human-like biases,” in review, 2020.
- **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.
- **Steed, R.**, Caliskan, A., “Machines learn appearance bias in face recognition,” in review, 2020.
- **Steed, R.**, “Evolution of innovation in patent citation networks,” poster presentation at GW Research Days, 2019.
- 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

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### 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

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- 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

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### 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

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- Machine learning, privacy, fairness, algorithmic bias, computer vision, deep learning
- Python, Java, Scala, C, JavaScript, 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