

# RYAN STEED

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## EDUCATION

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### Carnegie Mellon University

Ph.D., Information Systems and Management

August 2020 - Present

### George Washington University

B.S. Computational Economics, *summa cum laude*  
Minor in Philosophy

August 2017 - May 2020

GPA 3.98

## RESEARCH EXPERIENCE

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### George Washington University

*Research Assistant, Department of Computer Science*

September 2018 - September 2020

- Under Dr. Aylin Caliskan, researched embedded bias in machine learning; motivated, designed, and conducted experiments to detect cognitive bias in state-of-the-art face recognition models and embedded social biases in unsupervised image classification models.
- Under Dr. Rahul Simha, research evolution of scientific innovation; modeled knowledge transmission in patent citation networks and estimated the effect of policy on innovation over time.

### 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 relationships between political actors; presented work to intelligence officers at the Pentagon.

### University of North Carolina

*Research Affiliate, Department of Political Science*

August 2016 - May 2017

- Collaborated with Dr. Timothy McKeown to parse and analyze foreign policy web archives.
- Constructed Python web crawler to scrape and standardize digital documents from several sources.

## PROFESSIONAL EXPERIENCE

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### 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.
- Serve as product owner and scrum master for mobile virtual reality educational app for the Jane Goodall Institute; hosted Dr. Jane Goodall at GWU for a motion capture scan and creative pitch.
- Recruited and managed for a team of 10 student animators, developers, and content creators; fundraised over \$10,000 for VR equipment.

### 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.
- Leveraged natural language processing tools to write automated query rules for 13 new cyber threat alerts.

## Magic Number

May 2018 - August 2018

*Machine Learning Engineer*

- Researched, designed and tested machine learning classification and clustering models to categorize patent documents into packaged sectors for clients.
- Implemented virtual machine microservice stack to schedule machine learning training and execution, manage model hyperparameters, and serve machine learning predictions.

## PUBLICATIONS

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- **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,” submitted, 2020.
- **Steed, R.**, “Evolution of innovation in patent citation networks,” poster presented at GW Research Days, 2019.
- Erdemandi, 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
- Dean’s List, George Washington University, 2017-18 & 2018-19
- Presidential Scholarship with Honors, George Washington University, May 2017 - Present
- 2nd Prize, Politics & Economics, GW Research Showcase Poster Competition, April 2019
- Strasser Writing Prize, GW Honors Program, January 2018

## SERVICE

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### SolveForGood

June 2020 - September 2020

*Volunteer Data Scientist*

- With an international team of volunteers, contributed to an algorithmic transparency tool for the Assessor’s Office in Cook County, Chicago.

## PRESENTATIONS

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- “Machine Learning Document Classification,” *GW ACM*, November 2018.
- “The Practice and Promise of Open Source Intelligence and Computational Security Studies,” *International Studies Association South*, Orlando, 2017.