Austin P. Wright

Civic AI + *Social Computing* researcher

I'm a Ph.D. student in the College of Computing at Georgia Tech advised by Polo Chau.

My research in **Civic AI** aims to solve problems intersecting machine learning, human-computer interaction, and public policy, by using a strong principled basis in both mathematical and human centered principles to actualize the potential of new technologies for social good with *usability*, *interpretability*, and *fairness*.

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📄 CV PDF   🎓 Google Scholar

Education

Fall 2019 —
Present
Ph.D. in Machine Learning
Georgia Institute of Technology
Advisor: Duen Horng (Polo) Chau

Fall 2018 —
Fall 2019
Msc. in Computing with Specialism in Machine Learning
Imperial College London
Thesis: Comparison of Syntactic and Semantic Representations of Programs in Neural Embeddings
Degree Class: Merit

Fall 2014 —
Spring 2018
B.A. in Physics and Computer Science
University of California, Berkeley
Overall GPA: 3.63 Physics GPA: 3.59 CS GPA: 3.87

Research Experience

Fall 2019 —
Present
Georgia Institute of Technology, Atlanta, GA
Graduate Research Assistant, School of Computational Science and Engineering
Advisor: Duen Horng (Polo) Chau
Member of the Polo Club of Data Science where we bridge and innovate at the intersection of data mining and human-computer interaction to synthesize scalable, interactive, and interpretable tools that amplify human's ability to understand and interact with big data.

Fall 2019 —
Present
Centers for Disease Control and Prevention, Chamblee, GA
ORISE Fellow, National Center for Injury Prevention and Control
Mentor: Steve Sumner
Introduced natural language processing and data visualization tools for detecting emerging trends in the opiod epidemic.

Summer 2018
Los Alamos National Laboratory, Los Alamos, NM
Graduate Researcher, Dr. G. Robert Keepin Nonproliferation Summer School
Mentor: Karen Miller
Designed and built machine learning data analysis models and visualization dashboards for facility characterization, and spent fuel measurement using disparate stream data fusion.

Winter 2017 — Spring 2018 **Nuclear Science and Security Consortium**, Berkeley, CA
Undergraduate Affiliate, Complex Systems Group
Mentor: Bethany Goldblum
Developed multiplex network modeling for nuclear nonproliferation and multisensor security systems, with a focus on machine learning in particular deep recurrent neural networks.

Summer 2017 **CITRIS and the Banatao Institute**, Berkeley, CA
Undergraduate Research Assistant, Phoebe A. Hearst Museum of Anthropology
Mentor: Chris Hoffman
Lead creation of novel photogrammetry pipeline for Phoebe A Hearst Museum of Anthropology in collaboration with the CITRIS Pacific Research Platform.

Honors and Awards

2019, 2020 Georgia Tech President's Fellowship
For "exemplary levels of scholarship and innovation"

2019, 2020 Oak Ridge Institute of Science Education Fellowship

2017 U.S. Department of Energy Network Science and Nuclear Nonproliferation Challenge 1st Prize
For novel deep recurrent neural network architectures to infer facility operations.

2016 Pioneers in Engineering Outstanding Mentor Award
For dedication to my students and enthusiasm in teaching

Publications

RECAST: Interactive Auditing of Automatic Toxicity Detection Models
Austin P. Wright, Omar Shaikh, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng (Polo) Chau
arXiv:2001.01819. 2020.
🔗 Project   📄 PDF   📋 BibTeX

The nuclear network: multiplex network analysis for interconnected systems
Bethany L. Goldblum, Andrew W. Reddie, Thomas C. Hickey, James E. Bevins, Sarah Laderman, Nathaniel Mahowald, Austin P. Wright, Elie Katzenson, Yara Mubarak
Applied Network Science volume 4, Article number: 36 (2019). 2019.
🔗 Project   📄 PDF   📋 BibTeX

Smart Monitoring of Nuclear Facilities: Implementation Concepts and Development Status
Paul Michael Mendoza, Karen Ann Miller, Emily Michele Casleton, Janette Rose Frigo, Rosalyn Cherie Rael, Kendra Lu Van Buren, Jonathan Lee Woodring, Vlad Henzl, Austin P. Wright
LA-UR-19-26663. 2019.
🔗 Project   📄 PDF   📋 BibTeX

Disparate Data Integration for Advanced Facility Monitoring
Karen Ann Miller, Kendra Lu Van Buren, Janette Rose Frigo, Max Zeyen, Joshua P. Sackos, Paul Michael Mendoza, Austin P. Wright
IAEA Symposium on International Safeguards. 2018.
🔗 Project   📄 PDF   📋 BibTeX

Talks

Canary Project Review
June 2018 Department of Energy (DOE) National Nuclear Security Administration (NNSA) Defense Nuclear Nonproliferation Research and Development (DNN R&D) University Program Review (UPR)., Ann Arbor, Michigan

Canaries in a Nuclear Mine: Complexity Science for Nuclear Security
August 2017 Institute for Nucelar Materials Managment, Sandia National Laboratories, Albuquerque, New Mexico

Mentoring

Fall 2019 —
Present

Omar Shaikh

B.S. in Computer Science, Georgia Institute of Technology

Natural Language Processing and Social Computing

References

Dr. Polo Chau, Associate Professor
School of Computational Science and Engineering
Georgia Institute of Technology
Atlanta, GA, USA
cc.gatech.edu/~dchau/

Dr. Karen Miller, Researcher
Nuclear Engineering and Nonproliferation
Los Alamos National Laboratory
Los Alamos, NA, USA

Dr. Bethany Goldblum, Researcher
Nuclear Engineering
University of California, Berkeley
Berkeley, CA, USA
nuc.berkeley.edu/people/bethany-goldblum/

Dr. Christopher R. Hoffman, Associate Director of Research IT
Research IT
University of California, Berkeley
Berkeley, CA, USA
research-it.berkeley.edu/people/christopher-r-hoffman

Contact

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