Angelina Wang

Appointment

2025- Assistant Professor, Cornell University

Department of Information Science and Cornell Tech

Education and Training

2024-2025 Postdoctoral Fellow, Stanford University

Advisors: Sanmi Koyejo, Daniel E. Ho

Affiliations: HAI, RegLab

2019-2024 **Ph.D. Computer Science**, Princeton University

M.A. Computer Science

Committee: Olga Russakovsky (advisor), Arvind Narayanan, Solon Barocas, Janet Vertesi, Aleksandra

Korolova

Dissertation: Operationalizing Responsible Machine Learning: From Equality Towards Equity

2015-2019 B.S. Electrical Engineering and Computer Science, Philosophy minor, UC Berkeley

Advisors: Pieter Abbeel, Aviv Tamar

Awards

Microsoft AI & Society Fellowship Sociotechnical Approaches to Measuring Harms Caused by AI Systems

Siebel Scholar Class of 2024 (Awarded annually for academic excellence and demonstrated leadership to over 80 top students from the world's leading graduate schools)

EECS Rising Stars 2023 (Intensive academic career workshop hosted at Georgia Tech)

National Science Foundation Graduate Research Fellowship Program (NSF GRFP)

National Defense Science and Engineering Graduate Fellowship Program (NDSEG) (declined)

Mark D. Weiser Excellence in Computing Scholarship (Merit-based award for 1-2 students in Berkeley EECS)

Regents and Chancellors' Scholar (top 2% of incoming class at UC Berkeley)

Berkeley EECS Honors Program, concentration in Philosophy

Phi Beta Kappa (Academic Honor Society)

Eta Kappa Nu (Electrical and Computer Engineering Honors Society)

Tau Beta Pi (Engineering Honors Society)

Journal and Conference Publications

A. Wang, T. Datta, J. P. Dickerson. Strategies for Increasing Corporate Responsible AI Prioritization . AAAI/ACM Conference on AI, Ethics, and Society (AIES) 2024

S. Engelmann, M. Z. Choksi, <u>A. Wang</u>, C. Fiesler. Visions of a Discipline: Analyzing Introductory Al Courses on YouTube. *ACM Conference on Fairness, Accountability and Transparency (FAccT)* 2024 (175/725, 24% acceptance)

A. Wang, X. Bai, S. Barocas, S. L. Blodgett. Measuring Machine Learning Harms from Stereotypes Requires Understanding Who is Being Harmed by Which Errors in What Ways. *ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)* 2023

- A. Wang, O. Russakovsky. Overwriting Pretrained Bias with Finetuning Data. *International Conference on Computer Vision (ICCV) 2023 Oral presentation* (152/8068, 2% acceptance for oral; 2160/8068 accepted overall)
- N. Meister*, D. Zhao*, <u>A. Wang</u>, V. Ramaswamy, R. Fong, O. Russakovsky. Gender Artifacts in Visual Datasets. *International Conference on Computer Vision (ICCV)* 2023 (2160/8068, 27% acceptance)
- A. Wang*, S. Kapoor*, S. Barocas, A. Narayanan. Against Predictive Optimization: On the Legitimacy of Decision-Making Algorithms that Optimize Predictive Accuracy. *Journal of Responsible Computing* (JRC) 2023. Also at *ACM Conference on Fairness, Accountability and Transparency* (FAccT) 2023 (150/608, 25% acceptance)
- J. Katzman*, <u>A. Wang*</u>, M. Scheuerman, S. L. Blodgett, K. Laird, H. Wallach, S. Barocas. Taxonomizing and Measuring Representational Harms: A Look at Image Tagging. *AAAI Conference on Artificial Intelligence (AAAI)* 2023 (1721/8777, 20% acceptance)
- A. Mathur, A. Wang, C. Schwemmer, M. Hamin, B. M. Stewart, A. Narayanan. Manipulative Tactics are the Norm in Political Emails: Evidence from 100K emails from the 2020 U.S. Election Cycle. *Big Data & Society* 2023
- A. Wang, V. V. Ramaswamy, O. Russakovsky. Towards Intersectionality in Machine Learning: Including More Identities, Handling Underrepresentation, and Performing Evaluation. *ACM Conference on Fairness, Accountability and Transparency (FAccT)* 2022 (179/711, 25% acceptance)
- A. Wang, S. Barocas, K. Laird, H. Wallach. Measuring Representational Harms in Image Captioning. ACM Conference on Fairness, Accountability and Transparency (FAccT) 2022 (179/711, 25% acceptance)
- A. Wang, A. Liu, R. Zhang, A. Kleiman, L. Kim, D. Zhao, I. Shirai, A. Narayanan, O. Russakovsky. REVISE: A Tool for Measuring and Mitigating Bias in Visual Datasets. *International Journal of Computer Vision (IJCV)* 2022
- D. Zhao, <u>A. Wang</u>, O. Russakovsky. Understanding and Evaluating Racial Biases in Image Captioning. *International Conference on Computer Vision (ICCV)* 2021 (1617/6236, 26% acceptance)
- A. Wang, O. Russakovsky. Directional Bias Amplification. *International Conference on Machine Learning (ICML)* 2021 (1184/5513, 21% acceptance)
- A. Wang, A. Narayanan, O. Russakovsky. REVISE: A Tool for Measuring and Mitigating Bias in Visual Datasets. *European Conference on Computer Vision* (*ECCV*) 2020 Spotlight presentation (160/5150, 3% acceptance for spotlight; 1360/5150 accepted overall)
- A. Wang, T. Kurutach, K. Liu, P. Abbeel, A. Tamar. Learning Robotic Manipulation through Visual Planning and Acting. *Robotics: Science and Systems (RSS) 2019* (85/272, 31% acceptance)

Workshop Publications

Computer science workshop publications tend to be more "lightly" peer-reviewed

- A. Chan*, C. T. Okolo*, Z. Terner*, <u>A. Wang</u>*. The Limits of Global Inclusion in AI Development. *AAAI 2021 Workshop on Reframing Diversity in AI Spotlight presentation*
- W. Wang, A. Wang, A. Tamar, X. Chen, P. Abbeel. Safer Classification by Synthesis. *NeurIPS* 2017 Aligned Al Workshop

Work Experience

- Summer 2023 Arthur AI, Machine Learning Research Fellow, New York City, NY
 - o Conduct research on corporate motivations for RAI and societal implications of large language models
 - o Mentor: John P. Dickerson

- Summer 2021 Microsoft Research, Research Intern, Remote
 - Measure representational harms in image captioning with MSR FATE (Fairness, Accountability, Transparency, and Ethics) and Cognitive Services teams
 - o Mentors: Solon Barocas, Hanna Wallach, Lijuan Wang, Zhe Gan
- Summer 2019 Google, Software Engineering Intern, Mountain View, CA
 - Worked on Google Shopping infrastructure team to build out new features for metric reporting
 - o Contributed side project of supplementing filtering by different metrics for fairness evaluation
 - Jan 2017 Archer (Technology Nonprofit, archerimpact.com), Engineering Lead, Berkeley, CA
 - Oct 2018 Use Node and React to build web app for conducting open source investigations based off user interviews
 - o Visualize public data and create adjacency matrix scheme to manipulate entity connections using D3
 - o Present products in D.C. and RightsCon 2018 in Toronto, receiving medal from U.S. Treasury
- Summer 2017 Google, Engineering Practicum Intern, Seattle, WA
 - Worked on infrastructure team to improve internal streaming data processing system

Teaching

- Summer 2023 Al4ALL (Al for historically marginalized talent), Responsible Al Curriculum Specialist, Lead present creation of Responsible Al education content for college program
 - Spring 2021 Fairness in Machine Learning (COS 534), Teaching Assistant, Princeton, NJ
 - Fall 2020 Fairness in Visual Recognition (COS IW 08), Teaching Assistant, Princeton, NJ
 - Fall 2020 Computer Vision (COS 429), Teaching Assistant, Princeton, NJ
 - July 2020 AI4ALL, Instructor, Princeton, NJ
 - July 2018 **Introduction to Deep Learning DeCal**, *Student instructor for 200 person course*, Berkeley, CA May 2019
 - July 2018 Robot Learning Lab Outreach, Lead, Berkeley, CA

May 2019

Fall 2018 Introduction to Machine Learning (CS189/289A), Academic Intern, Berkeley, CA

Talks and Panels

- October 2024 **University of Washington RAISE Seminar**, Operationalizing Responsible Machine Learning: From Equality Towards Equity
 - September Arthur Al Fest, LLM Representation of Personas 2024
 - September Nokia Bell Labs Responsible Al Seminar Series, Equality is not equity: Recognizing group differences in Al fairness
 - September Brown University Critical Data and Machine Learning Studies Seminar, Against Predictive Optimization
 - March 2024 Morgan State University National Symposium on Equitable AI, Equality is not Equity: Recognizing Group Differences in AI
 - March 2024 **Cornell Tech Seminar**, Operationalizing Responsible Machine Learning: From Equality Towards Equity
 - March 2024 **Cornell University Information Science Colloquium**, Operationalizing Responsible Machine Learning: From Equality Towards Equity
 - March 2024 University of Southern California Computer Science Colloquium, Operationalizing Responsible Machine Learning: From Equality Towards Equity
- January 2024 **Georgia Tech School of Computational Science and Engineering**, Operationalizing Responsible Machine Learning: From Equality Towards Equity
 - November University of Maryland's Values-Centered Artificial Intelligence (VCAI) Initiative, So-2023 ciotechnically Grounded Responsible Machine Learning

- April 2023 **Yale University's Data (Re)Makes the World**, Against predictive optimization: on the legitimacy of decision-making algorithms that optimize predictive accuracy
- November **Princeton University's Data-Driven Social Science Initiative**, *Machine learning mistakes* 2022 *aligned with stereotypes are more harmful*
- September Princeton University Psychology's Susan Fiske Lab, ML mistakes aligned with stereotypes are more harmful than mistakes which are not
- August 2022 AAAI/ACM Conference on AI, Ethics, and Society (AIES), Student presentation: Fairness implications behind the technical assumptions of machine learning
 - May 2022 University of Chicago Psychology's Perception and Judgment Lab, Stereotypes in machine learning
 - April 2022 Canadian Parliament Hearing for Facial Recognition Technology before the Information, Privacy and Ethics Committee, Expert witness
 - June 2021 **CVPR Learning with Limited and Imperfect Data Workshop**, *Mitigating bias and privacy concerns in visual data (with advisor Prof. Olga Russakovsky)*
 - June 2021 **CVPR Women in Computer Vision Workshop Keynote**, Perception, interaction and fairness: key components of visual recognition (with advisor Prof. Olga Russakovsky)
 - April 2021 Out in Tech Panel for Macy's Pride ERG, Panelist
 - June 2020 **CVPR's Seventh Workshop on Fine-Grained Visual Categorization**, Revealing and mitigating biases in visual datasets (with advisor Prof. Olga Russakovsky)
 - November **Berkeley CS10**, Guest Lecture on AI 2018

Service

Reviewer: NeurIPS (2023, 2024), ICML Ethics (2024), FAccT (2023, 2024), AIES (2022), CVPR (2022, 2023, 2024), ECCV (2022), Responsible Computer Vision Workshop (CVPR 2021, ECCV 2022), Regulatable ML Workshop (NeurIPS 2024), IJCV

Organizing Committee: Tutorial at FAccT 2022 (Fairness in Computer Vision: Datasets, Algorithms, and Implications), Workshop at ECCV 2022 (Responsible Computer Vision), Workshop at CVPR 2021 (Responsible Computer Vision)

Leadership

- Fall 2021 **Princeton Pre-Application Support Program** coordinate department-wide program that present matches graduate school computer science applicants to current students to review application materials; grants application fee waivers to all participants (159 applicants in recent year)
- Fall 2020 **Bias in Al Reading Group** organize biweekly reading group centered on topics of bias and present fairness in machine learning at Princeton University
- Fall 2020 **RISE (Research Inclusion Social Event)** co-organize monthly department social event with Spring 2022 discussions centered around diversity and inclusion issues in computer science

Outreach

Some under "Leadership"

- Fall 2019 **Society of Women Engineers** mentor for undergraduates present
- Fall 2021 **Q'nnections Mentor** mentor for LGBTQ+ students at Princeton Fall 2022
- Fall 2019 ${f Out}$ in ${f Tech}$ ${f Mentor}$ mentor for LGBTQ+ youth ages 17-24 interested in technology Fall 2022

Research Mentorship

Amaya Dharmasiri, PhD student at Princeton Computer Science

Xinran Liang, PhD student at Princeton Computer Science

Allison Chen, PhD student at Princeton Computer Science

Dora Zhao, Undergraduate and Master's student at Princeton, Current: PhD student at Stanford Computer Science

Nicole Meister, Undergraduate student at Princeton, Current: PhD student at Stanford Electrical Engineering

Kara Liu, Undergraduate student at UC Berkeley, Current: PhD student at Stanford Computer Science

Anat Kleiman, Master's student at Princeton, Current: PhD student at Harvard Computer Science

Alexander Liu, Undergraduate student at Princeton

Ryan Zhang, Undergraduate student at Princeton

Leslie Kim, Undergraduate student at Princeton

Iroha Shirai, Undergraduate student at Princeton

Frelicia Tucker, Undergraduate student at Princeton