

JINGYAN WANG

312 Groseclose Building, 755 Ferst Drive NW, Atlanta, GA 30332
Web: <https://jingyanw.github.io/> Email: jingyanw@gatech.edu

RESEARCH OVERVIEW

My research interests are in *statistical machine learning* and *fairness*. I study the foundations of high-stakes decision making, such as in hiring, admissions and peer review. I draw inspiration from psychology to model real-world phenomena, develop algorithms with provable theoretical guarantees using tools from computer science and statistics, conduct crowdsourcing experiments, and implement policy changes that have made practical impact. My research is interdisciplinary, and has been published in the fields of machine learning, statistics, human computation, artificial intelligence, and economics and computation.

PROFESSIONAL EXPERIENCE

Georgia Institute of Technology <i>President's and Algorithms and Randomness Center (ARC) Postdoctoral Fellow</i> Hosts: Ashwin Pananjady, Juba Ziani	2021 – present
Simons Laufer Mathematical Sciences Institute (SLMath) <i>Research Member</i> Program: Algorithms, Fairness, and Equity	10-12.2023
Simons Institute for the Theory of Computing <i>Visiting Postdoctoral Fellow</i> Program: Computational Complexity of Statistical Inference	11.2021

EDUCATION

Carnegie Mellon University <i>Ph.D., School of Computer Science</i> Thesis: Towards Understanding and Mitigating Biases Advisor: Nihar B. Shah	2015 – 2021
University of California, Berkeley <i>Bachelor of Science, Electrical Engineering and Computer Sciences</i> Minor in Mathematics Graduated with Highest Honors	2011 – 2015

AWARDS

Rising Stars in EECS Workshop	2023
Rising Stars in Data Science Workshop, University of Chicago	2022
Best Lightning Talk from College of Engineering, Fall 2022 Georgia Tech Postdoc Research Symposium	2022
Best Research Talk from College of Engineering, Spring 2022 Georgia Tech Postdoc Research Symposium	2022
Ronald J. and Carol T. Beerman President's Postdoctoral Fellowship, Georgia Tech	2021
ARC (Algorithms & Randomness Center) Fellowship, Georgia Tech	2021
Best Paper Award Nomination, AAMAS 2019	
Best Student Paper Award, AAMAS 2019	
Travel scholarship, AAAI 2020, AAMAS 2019, WiML and HCML workshops at NeurIPS 2019	

Departmental Citation, UC Berkeley <i>Recognition of outstanding undergraduate achievement within the department awarded to one graduating senior annually</i>	2015
James H. Eaton Memorial Scholarship, UC Berkeley <i>For a keen sense of creativity and inventiveness</i>	2015
Kevin K. Gong Memorial Scholarship for Bright Minds and Big Hearts, UC Berkeley <i>For passion about using technology to better the world</i>	2015
Arthur M. Hopkin Award, UC Berkeley <i>For seriousness of purpose and high academic achievement</i>	2014
Berkeley Club of Hong Kong Undergraduate Scholarship, UC Berkeley	2014
Edward Frank Kraft Award for Freshmen, UC Berkeley	2012
Dean's honors list, UC Berkeley	Fall 2011 – Spring 2015

JOURNAL PUBLICATIONS AND UNDER REVIEW

- **Jingyan Wang**, Ashwin Pananjady
Modeling and Correcting Bias in Sequential Evaluation
Under major revision in Operations Research, 2023.
- **Jingyan Wang**, Ivan Stelmakh, Yuting Wei, Nihar B. Shah
Debiasing Evaluations That Are Biased by Evaluations
Accepted with minor revision in Journal of Machine Learning Research (JMLR), 2023.
- Lei Tian, **Jingyan Wang**, Laura Waller
3D Differential Phase-Contrast Microscopy with Computational Illumination Using an LED Array
Optics Letters 39 (1326-1329), 2014.

PEER-REVIEWED CONFERENCE PUBLICATIONS AND PREPRINTS (* indicates alphabetical order)

- Diptangshu Sen, **Jingyan Wang**, Juba Ziani
Equilibria of Data Marketplaces with Privacy-Aware Sellers under Endogenous Privacy Costs
In submission, 2024.
- Krishna Acharya, Varun Vangala, **Jingyan Wang**, Juba Ziani
Producers Equilibria and Dynamics in Engagement-Driven Recommender Systems
In submission, 2024.
- Austin Xu, Andrew D. McRae, **Jingyan Wang**, Mark A. Davenport, Ashwin Pananjady
Perceptual Adjustment Queries and an Inverted Measurement Paradigm for Low-Rank Metric Learning
Conference on Neural Information Processing Systems (NeurIPS), 2023.
- **Jingyan Wang**, Ashwin Pananjady
Modeling and Correcting Bias in Sequential Evaluation
ACM Conference on Economics and Computation (EC), 2023.
- Gregory Kehne*, Ariel D. Procaccia*, **Jingyan Wang***
Recruitment Strategies That Take a Chance
Conference on Neural Information Processing Systems (NeurIPS), 2022.
- **Jingyan Wang**, Carmel Baharav, Nihar B. Shah, Anita Williams Woolley, R. Ravi
Allocation Schemes in Analytic Evaluation: Applicant-Centric Holistic or Attribute-Centric Segmented?
AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2022.

- Komal Dhull, **Jingyan Wang**, Nihar B. Shah, Yuanzhi Li, R. Ravi
A Heuristic for Statistical Seriation
Conference on Uncertainty in Artificial Intelligence (UAI), 2021.
- **Jingyan Wang**, Ivan Stelmakh, Yuting Wei, Nihar B. Shah
Debiasing Evaluations That Are Biased by Evaluations
AAAI Conference on Artificial Intelligence (AAAI), 2021.
- **Jingyan Wang**, Nihar B. Shah, R. Ravi
Stretching the Effectiveness of MLE from Accuracy to Bias for Pairwise Comparisons
International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
- **Jingyan Wang**, Nihar B. Shah
Your 2 is My 1, Your 3 is My 9: Handling Arbitrary Miscalibrations in Ratings
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2019.
Best Student Paper Award
Nomination for Best Paper Award
Appeared as invited paper “Ranking and Rating Rankings and Ratings” in Sister Conference Track at AAAI Conference on Artificial Intelligence (AAAI), 2020.
- **Jingyan Wang**, Olga Russakovsky, Deva Ramanan
The More You Look, the More You See: towards General Object Understanding through Recursive Refinement
Winter Conference on Applications of Computer Vision (WACV), 2018.
- KV Rashmi, Preetum Nakkiran, **Jingyan Wang**, Nihar B. Shah, Kannan Ramchandran
Having Your Cake and Eating It Too: Jointly Optimal Codes for I/O, Storage and Network-bandwidth in Distributed Storage Systems
Conference on File and Storage Technologies (FAST), 2015.
Picked as the Best Paper by StorageMojo
- Steve Yadlowsky, Preetum Nakkiran, **Jingyan Wang**, Rishi Sharma, Laurent El Ghaoui.
Iterative Hard Thresholding for Keyword Extraction from Large Text Corpora
International Conference on Machine Learning and Applications (ICMLA), 2014.

INVITED TALKS

- *Understanding and Improving Evaluation: People, Algorithms, and Design*
EECS Special Seminar, Massachusetts Institute of Technology 2023
IDEAL Institute, Northwestern University 2023
Ethics & Algorithms Seminar, University of California, Santa Cruz 2023
Peking University 2023
Carnegie Mellon University 2022
- *Modeling and Correcting Bias in Sequential Evaluation*
Information Theory and Applications Workshop (ITA) 2024
BLISS Seminar, UC Berkeley 2023
Algorithms, Combinatorics and Optimization Research Network (ACORN) Meeting 2023
Rising Stars in Data Science Workshop, University of Chicago 2022
INFORMS Annual Meeting 2022
Information Theory and Applications Workshop (ITA) 2022
- *Debiasing Evaluations That Are Biased by Evaluations*
Dagstuhl Seminar 2024
Simons Laufer Mathematical Sciences 2023

INFORMS Annual Meeting	2023
Women in EconCS, International Joint Conference on Theoretical Computer Science (IJTCS)	2021
• <i>Towards Understanding and Mitigating Biases</i>	
Georgia Institute of Technology	2021
Harvard University	2021
Nanyang Technological University	2021
Peking University	2019
• <i>Understanding Biases in Assessment Problems</i>	
The Auton Lab, Carnegie Mellon University	2019
• <i>The More You Look, the More You See: Towards General Object Understanding through Recursive Refinement</i>	
National Robotics Engineering Center (NREC)	2017

TEACHING EXPERIENCE

• Co-Instructor:	
ISYE 8813 (Algorithmic Foundations of Ethical Machine Learning), Georgia Tech	Fall 2023
• Guest Lecturer:	
IST402 (Crowdsourcing and Crowd-AI Systems), Penn State	Spring 2023
PIC 16B (Python with Applications II), UCLA	Winter 2023
ISYE 6740 (Computational Data Analysis), Georgia Tech	Fall 2022
• Teaching Assistant: 16-720 (Computer Vision), CMU	Fall 2017
• Lab Assistant: EE 20N (Signals and Systems), UC Berkeley	Fall 2013

PROFESSIONAL SERVICE

- Journal reviewer: Journal of Artificial Intelligence Research (2022, 2023), IEEE Journal on Selected Areas in Information Theory (2023), Annals of Statistics (2020)
- Conference reviewer: ICML (2024), ICLR (2024), CHI (2024), WWW (2024), NeurIPS (2023), AAAI (2021, 2022, 2023, 2024), ISIT (2021), STOC (2020), WiML NeurIPS (2019)
- Program committee member: COLT (2024), FAccT (2023), WINE (2023), HCOMP (2022, 2023), Learning with Strategic Agents workshop, AAMAS (2022)
- Admissions committee member: Robotics Institute Summer Scholars (2019)
- Student volunteer: AAAI (2020), AAMAS (2019), ICML (2016)

OUTREACH ACTIVITIES

Speaker, Seminar on Diversity, Equity, Inclusion (DEI) and Bias, GT INFORMS Student Chapter	2022
Presenter, Mission Possible Summer Camp, Georgia Tech	2022
<i>Led activities for high-school students to learn about crowdsourcing through storytelling the DARPA Red Balloon Challenge</i>	
Grand award judge, Regeneron International Science and Engineering Fair (ISEF)	2022
Panelist, Tea with Summer Undergraduates, CMU	2019
Interview participant, the Girls Who Code	2019
<i>Featured in the article https://womeninics.github.io/future.html</i>	
Student volunteer, PhD student open house, CMU	2019, 2021
Graduate student mentor, Robotics Institute Summer Scholars (RISS), CMU	2018
<i>Mentored undergraduate students through the graduate school application process and provided suggestions on the writing material</i>	

Outreach officer and webmaster, Society of Women Engineers (SWE) <i>Organized middle and high school outreach events and designed the chapter's website</i>	2011 – 2015
Member, Eta Kappa Nu Honor Society (HKN)	2013 – 2015

INDUSTRIAL EXPERIENCE

Facebook Inc. Software Engineering Intern, Privacy Infrastructure Team	6.2014 – 8.2014
EMC Corporation Software Engineering Intern, Advanced Storage Division	6.2013 – 8.2013