ANGELA ZHOU

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EDUCATION

Postdoc at FODSI, UC Berkeley *Fall 2021*
Hosted by Bin Yu; Michael I. Jordan.

Fellow at Simons Institute Program on Causality *Spring 2022*

Incoming Assistant Professor, USC Marshall Data Science & Operations *June 2022-*

Cornell University *September 2016 - May 2021*
Department of Operations Research and Information Engineering.
Undergraduate: Princeton University. Class of 2016, Operations Research and Financial Engineering. Summa cum laude.

RESEARCH INTERESTS

Data-driven decision-making under uncertainty and ambiguity, (robust) causal inference, (robust and trustworthy) statistical machine learning; basic research inspired by applications in e-commerce, healthcare, public policy.

SELECTED PUBLICATIONS

Author order is alphabetical by default, following Operations Research convention.

Stateful Offline Contextual Policy Evaluation and Learning Submitted.
With N. Kallus

Confounding-Robust Policy Evaluation in Infinite-Horizon Reinforcement Learning
Neurips 2020
With N. Kallus

Minimax-Optimal Policy Learning Under Unobserved Confounding Management Science, 2021.
With N. Kallus

Preliminary results appeared in Neurips 2018 under the title "Confounding-Robust Policy Improvement".

Assessing Algorithmic Fairness with Unobserved Protected Class Using Data Combination Management Science, 2021.
With N. Kallus and X. Mao

REFEREED PUBLICATIONS

Fairness, Welfare, and Equity in Personalized Pricing Accepted at FAccT 2021.
With N. Kallus

Assessing Disparate Impacts of Personalized Interventions: Identifiability and Bounds
Proceedings of Neurips 2019.
With N. Kallus

The Fairness of Risk Scores Beyond Classification: Bipartite Ranking and the xAUC Metric Proceedings of Neurips 2019.
With N. Kallus

Interval Estimation of Individual-Level Causal Effects Proceedings of AISTATS 2019.
With N. Kallus and X. Mao

Residual Unfairness in Fair Machine Learning from Prejudiced Data Proceedings of ICML 2018
With N. Kallus

Policy Evaluation and Optimization with Continuous Treatments Proceedings of AISTATS 2018
With N. Kallus

INTERDISCIPLINARY REFEREED PUBLICATIONS

I think an important aspect of use-inspired basic research is understanding use, i.e. deep engagement with application domains. These interdisciplinary papers follow different author orderings from the core methodological work.

It's COMPASlicated: The Messy Relationship between RAI Datasets and Algorithmic Fairness Benchmarks Neurips 2021 Datasets and Benchmarks Track, Oral
M. Bao, A. Zhou, S. Zottola, B. Brubach, S. Desmarais*, A. Horowitz*, K. Lum*, S. Venkatasubramanian**

* alphabetical; otherwise contributional.

An Empirical Evaluation of the Impact of New York's Bail Reform on Crime Using Synthetic Controls Working paper
A. Zhou, A. Koo, N. Kallus, R. Ropac, R. Peterson, S. Koppel, T. Bergin.

HONORS/AWARDS

Rising Star in AI (Harvard CRCS)	2021
Rising Star in Data Science (University of Chicago CDAC)	2020
Winner, INFORMS Data Mining Best Paper Award (Confounding-Robust Policy Improvement)	2018
Finalist for Best Paper of INFORMS Data Mining and Decision Analytics Workshop	2017
National Defense Science and Engineering Graduate Fellowship	2016
Ahmet S. Cakmak Thesis prize winner for undergraduate thesis	2016

ADVISING/MENTORSHIP

Andrew Koo	Cornell Tech Master's Student

PROFESSIONAL EXPERIENCE

Microsoft Research New York City 2019

(Hosts: Jenn Wortman Vaughan and Miro Dudik)

PlaceIQ Data Science 2016

AppNexus Data Science/Optimization 2015

INVITED TALKS

JSM 2022

NYU Langone 2022

Keynote, CPAIOR masterclass on Machine Learning and Optimization 2022

INFORMS Annual Meeting 2021

Berkeley Causal Inference Research Group; BLISS; Semi-Autonomous Systems 2021

INFORMS Healthcare conference 2021

Center for Causal Inference Seminar 2021

ANU HMI Seminar Series 2021

Health Data Science Workshop 2021

Harvard CRCS AI for Social Impact 2021

Minimax-Optimal Policy Learning under Unobserved Confounding:

Northwestern IEMS 2021

USC Marshall School of Business, Operations 2021

UNC Kenan-Flagler School of Business 2021

Cornell Johnson School of Business 2021

Stanford Management Science and Engineering 2021

MIT Sloan/Schwarzman 2021

UBC Sauder Operations and Logistics 2020

Berkeley Haas (Operations and IT) 2020

Columbia IEOR 2020

University of Minnesota ISYE 2020

Columbia Biostatistics Causal Inference Learning Group 2020

Facebook Core Data Science 2020

Kellogg-Wharton OM Workshop 2020

Duke Fuqua Workshop on Operations Research and Data Science 2019

Confounding-Robust Policy Evaluation in Infinite-Horizon Reinforcement Learning:

INFORMS 2020.

Assessing Algorithmic Unfairness with Unobserved Protected Class:

HMI DAIS Seminar at Australian National University 2021

Experian DataLab Brazil 2020

CMU Fairness/Ethics/Accountability Reading Group 2020

Assessing Fairness of Personalized Interventions:

INFORMS 2019

Confounding-Robust Policy Improvement:

INFORMS Conference on Healthcare 2019

Princeton 2019

MSR NYC 2018

INFORMS 2018

Residual Unfairness:

Crime Lab New York (UChicago Urban Labs) 2018

Policy Evaluation and Optimization with Continuous Treatments:

Spotify 2017

INFORMS 2017

SERVICE AND REFEREEING

Journal refereeing:

Management Science (MS), Manufacturing & Service Operations Management (M&SOM), Journal of Machine Learning Research (JMLR), Journal of the American Statistical Association (JASA), Annals of Statistics (AOS), Biometrika, INFORMS Journal on Computing, Naval Research Logistics, Statistics in Medicine

Conference review:

NeurIPS 2018-2021, ICML 2018-2021, AISTATS 2019/22, FAT* 2020, MD4SG Conference 2020. Top reviewer designations at NeurIPS and ICML (top 400, top 5%, top 33%). Expert reviewer ICML 2021. Neurips 2021 Datasets and Benchmarks. Conference on Causal Learning and Reasoning (CLeaR) 2022.

Program co-chair: ACM Equity and Access in Algorithms, Mechanisms, and Optimization (EEAMO) (2022).

Senior Program Committee: Theory Area Chair for EEAMO 2021.

Grant review: NSF Panelist (2021).

Other: Judge, INFORMS Applied Probability Society Student Paper Competition (2021).

Program Committee (incl. reviewing):

Theoretical Foundations of Reinforcement Learning (ICML 2020), Workshop on Reinforcement Learning Theory (ICML 2021), Causal Inference for Sequential Decision-Making (Neurips 2021), Strategic Machine Learning (Neurips 2021)

Workshop Co-organizing

"Do the right thing: machine learning and causal inference for improved decision making" Neurips 2019

Participatory Approaches to Machine Learning ICML 2020

Workshop on Consequential Decision Making in Dynamic Environments Neurips 2020

Machine Learning Meets Econometrics Neurips 2021