Andrew Zheng

CONTACT INFORMATION
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EDUCATION

Massachusetts Institute of Technology 2023 (Expected)
Ph.D. in Operations Research
Advisor: Vivek Farias

Northwestern University 2014
B.S. in Industrial Engineering, M.S. in Computer Science

INTERESTS

Experimentation, causal inference, bandits, and reinforcement learning for online platforms.

PAPERS

Markovian Interference in Experiments
with Vivek Farias, Andrew A. Li, and Tianyi Peng
NeurIPS 2022
⋆ Finalist, *2022 APS Best Student Paper Award*
⋆ Finalist, *2022 RMP Jeff McGill Student Paper Award*

Synthetically Controlled Bandits
with Vivek Farias, Ciamac Moallemi, and Tianyi Peng
MSOM Service Management SIG 2022

The Limits to Learning a Diffusion Model
with Jackie Baek, Vivek Farias, Andreea Georgescu, Retsef Levi, Tianyi Peng, Deeksha Sinha, Joshua Wilde
Submitted to *Management Science*
Preliminary version: *ACM conference on Economics and Computation, 2021*
⋆ Finalist, *Post-Pandemic Supply Chain and Healthcare Management Best Paper Competition 2021*

Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the US
with COVID-19 Forecast Hub
Proceedings of the National Academy of Sciences, 2022

Optimizing Offer Sets in Sublinear Time
with Vivek Farias, Andrew A. Li, and Deeksha Sinha.
Major Revision at *Management Science*.

Non-parametric Approximate Dynamic Programming via the Kernel Method
with Nikhil Bhat, Vivek Farias, and Ciamac Moallemi.
To appear in *Management Science*.

Computing Estimators of Dantzig Selector type via Column and Constraint Generation
with Rahul Mazumder and Stephen Wright.

Practical Experience

Bytedance San Francisco, CA
Research Engineer Intern 2022
Implemented estimation techniques for experimentation under interference, at industry scale. Applications include livestreaming and online retail.

COVID-19 Alliance Cambridge, MA
Data Scientist 2020 - 2021
Developed models to predict COVID-19 hospitalization rates, used to allocate resources for hospitals in a large U.S. state. Built and deployed an automated communication system (SMS and email) with senior residential facilities in NH, used daily 2020-2021.

Uber San Francisco, CA
Data Scientist 2015-2017
Developed matching algorithms, experimentation methods, and simulations for dispatch on UberPOOL and UberCommute.

Facebook Menlo Park, CA
Data Scientist Intern Summer 2014
Quantified the impact of app reliability on user engagement.

Teaching Experience

15.778: Introduction to Operations Management 2020, 2021, 2022
Inventory management, queueing, capacity analysis. Core class for the Sloan Fellows MBA program for mid-career professionals. Developed an interactive revenue management game, now also used at several other universities.

15.003: Analytics Tools 2019, 2021
Data science tools in R and Python, for the Masters of Business Analytics program.

15.774: Analytics of Operations Management 2019
MBA class on recommender systems, social networks analysis, choice modeling, regression.

15.S60: Computing in Optimization and Statistics 2018
Data science tools in R and Python.

Service

Reviewer for *Operations Research, Management Science*
Session Chair, INFORMS Annual Meeting 2022
Student Coordinator, MIT OM Seminar Series 2022

Honors and Awards

Finalist, RMP Jeff McGill Student Paper Award 2022
Finalist, APS Student Paper Award 2022
Honorable Mention, INFORMS Undergraduate Student Research Award 2015

Talks

Markovian Interference in Experiments
NeurIPS Conference 2022
INFORMS Annual Meeting 2022
Lyft Rideshare Labs Seminar 2022

Synthetically Controlled Bandits
MSOM Service Management SIG 2022
RMP Conference 2022
INFORMS Annual Meeting 2022

The Limits to Learning a Diffusion Model
INFORMS Annual Meeting 2021

Other

U.S. Citizen
Interests: Music (saxophone, piano)