CURRICULUM VITAE

Sky Qiu

March 19, 2025

Contact

Legal name: Tian Qiu
Email: sky.qiu@berkeley.edu
Web: tq21.github.io

Education

University of California, Berkeley — Expected 2026
PhD in Biostatistics
Advisor: Mark van der Laan

University of California, Berkeley — 2021.08 - 2023.08
MA in Biostatistics

University of Washington, Seattle — 2017.08 - 2021.06
BS in Applied & Computational Math Sciences (Departmental Honors)
Thesis advisor: Elizabeth A. Thompson

Research Experience

Center for Targeted Machine Learning and Causal Inference — 2022.08 - Present
Position: Graduate Student Researcher
Supervisor: Mark van der Laan

Kaiser Permanente, Division of Research — 2022.05 - 2022.08
Position: Summer Research Intern
Supervisor: Romain S. Neugebauer
Description: Supported the implementation of advanced causal inference analyses in comparative effectiveness studies. Lead the development of an automated analytic workflow using the R statistical programming language to generate and report basic summary statistics from large longitudinal data sets extracted from healthcare databases (e.g., electronic health records). The workflow was tested using real-world comparative effectiveness research studies to demonstrate its applicability, flexibility, and relevance to identify data problems that need correcting and to inform discussions between study investigators for guiding subsequent causal inference analyses.

Washington Experimental Mathematics Lab — 2020.03 - 2020.06
Position: Undergraduate Researcher
Supervisors: Jake Levinson; Jarod Alper
Description: Investigated the impact of varying contacts among age groups on the number of infected individuals by applying contact matrices to an age-structured extended SEIR model. Evaluated the effect of social-distancing on the disease spread in King County, Washington.

Publications

Sky Qiu, Jens Tarp, Andrew Mertens & Mark van der Laan. An Estimator-Robust Design for Augmenting Randomized Controlled Trial with External Real-World Data. (2025). *arXiv*. [Link]

Mark van der Laan, **Sky Qiu**, Jens Tarp & Lars van der Laan. Adaptive-TMLE for the Average Treatment Effect based on Randomized Controlled Trial Augmented with Real-World Data. (2024). *arXiv*. [Link]

Zachary Butzin-Dozier, **Sky Qiu**, Alan E Hubbard, Junming Seraphina Shi & Mark van der Laan. Highly adaptive LASSO: Machine learning that provides valid nonparametric inference in realistic models. (2024). *medRxiv*. [Link]

Sky Qiu, Alan E Hubbard, Juan Pablo Gutiérrez, Ganesh Pimpale, Arturo Juárez-Flores, Rakesh Ghosh, Iván de Jesús Ascencio-Montiel & Stefano M Bertozzi. Estimating the effect of realistic improvements of metformin adherence on COVID-19 mortality using targeted machine learning. (2024). *Global Epidemiology*. [Link]

Toru Shirakawa, Yi Li, Yulun Wu, **Sky Qiu**, Yuxuan Li, Mingduo Zhao, Hiroyasu Iso & Mark van der Laan. Longitudinal targeted minimum loss-based estimation with temporal-difference heterogeneous transformer. *ICML 2024*. [Link].

Talks

Adaptive-TMLE for the average treatment effect based on randomized controlled trial augmented with real-world data. 2024.12
18th International Joint Conference on Computational and Financial Econometrics and Computational and Methodological Statistics (CFE-CMStatistics 2024). King's College London.

Optimizing Data Integration with an Estimator-Robust Design. 2024.11
Forum on the Integration of Observational and Randomized Data (FIORD 2024). Bethesda, MD.

Adaptive-TMLE for the average treatment effect based on randomized controlled trial augmented with real-world data. 2024.05
The American Causal Inference Conference, short course on highly adaptive lasso. Seattle, WA.

Super-efficient estimation of average treatment effect based on randomized controlled trial augmented with real-world data. 2024.03
The International Society for Biopharmaceutical Statistics 7th Symposium. Baltimore, MD.

The effect of metformin adherence on COVID-19 mortality in Mexico. 2023.11
American Public Health Association Annual Meeting & Expo. Atlanta, GA.

Super-efficient estimation of average treatment effect based on randomized controlled trial augmented with real-world data. 2023.11
The Forum on the Integration of Observational and Randomized Data Workshop. Washington D.C.

The effect of metformin adherence on COVID-19 mortality in Mexico. 2023.04
Development Engineering Research and Practice Seminar. UC Berkeley.

Posters

Super-efficient estimation of average treatment effect based on randomized controlled trial augmented with external controls or observational study. 2024.05
The American Causal Inference Conference. Seattle, WA.

Super-efficient estimation of average treatment effect based on randomized controlled trial augmented with external controls or observational study. 2024.01
5th Annual CERSI Innovations in Regulatory Science Summit. Stanford University.

Teaching Experience

Teaching Assistant/Graduate Student Instructor

University of California, Berkeley

PH 241: Intermediate Biostatistics for Public Health	Spring 2022
PH 142: Intro to Probability and Stats in Biology and Public Health	Fall 2021

University of Washington, Seattle

INFO 180: Introduction to Data Science	Fall 2020

Grader

University of Washington, Seattle

STAT 311: Elements of Statistical Methods	Spring 2021
STAT 311: Elements of Statistical Methods	Winter 2021

Services

Reviewer: Epidemiologic Methods, PLOS One, The International Journal of Biostatistics, Digital Health.

Activities

President, Biostatistics Graduate Student Association	2023 - 2024
Vice President, Biostatistics Graduate Student Association	2021 - 2023
Violinist, University of Washington Symphony Orchestra	2018 - 2019
Volunteer Statistical Consultant, StatCom	2018 - 2021