Facheng Yu

Contact

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Education

University of Washington - Seattle, USA — Sep. 2023 - Present
M.S. in Statistics (Expected)
Coursework: Statistical Inference, Statistical Learning, Advanced Probability, Special Topic in Advanced Biostatistics

Wuhan University - Wuhan, China — Jun. 2023
B.S. in Mathematics and Applied Mathematics
Thesis: Concentration Inequalities with Applications
Coursework: Stochastic Process, Probability, Real Analysis, Functional Analysis, Mathematical Analysis, Differential Equations, Advanced Algebra

Preprint

Data integration using covariate summaries from external sources.
Facheng Yu, Yuqian Zhang.
Available at *arXiv:2411.15691*.

Research Experience

Graduate Research Assistant — Jun. 2024 - Present
University of Washington - Seattle, USA
Advisor: Zaid Harchaoui, Alex Luedtke

Undergraduate Research Assistant — Apr. 2023 - Present
Renmin University of China - Beijing, China
Advisor: Yuqian Zhang
Project: Data Integration Using Covariate Summaries from External Sources

- Estimated the mean and causal estimands using covariate moments from external sources.
- Conducted asymptotic inference on the estimators under missing completely at random (MCAR) and missing at random (MAR).

Undergraduate Research Assistant — Apr. 2021 - Oct. 2022
Wuhan University - Wuhan, China
Advisor: Weixing Zhang, Yidong Lou
Project: Research on Improved GNSS-PWV Three Factor Threshold Rainfall Forecasting Method
Accepted by Geomatics and Information Science of Wuhan University

- Proposed an improved three-factor monthly threshold method of rain nowcasting based on precipitable water vapor (PWV), PWV increment and rate of PWV increment.
- Redefined evaluation factors within a unified framework, providing a potential standard for similar model evaluation.

Activities

Genome Sciences Hackathon Sep. 2023
Noble Lab, University of Washington - Seattle, USA
Advisor: Gang Li, William Stafford Noble
Project: Matching Cells between Single-Cell Hi-C and Single-Cell RNA-Sequencing Datasets
- Compared existing software tools developed for matching cells across modalities based on HiRES data.

Online Reading Group Aug. - Dec. 2022
University of North Carolina at Chapel Hill - Chapel Hill, USA
Advisor: Guanting Chen
Project: Blackwell's Approachability and Online Learning
- Studied classic literature on online learning and Blackwell's approachability and finished a report on Blackwell's approachability and its applications.

Online Summer School Jul. - Aug. 2021
University of Cambridge - Cambridge, UK
Advisor: Pietro Liò
Project: Video Summarization with Flexible Multi-Agent Reinforcement Learning
- Trained a convolutional neural network with shared information to generate policies based on explored video frames.

Online Winter School Jan. - Feb. 2021
University of Cambridge - Cambridge, UK
Instructor: Guillaume Hennequin
Course: Balanced Network Models of Cortical Circuits
- Studied models of simulating the interactions of the excitatory, the inhibitory, and the external neuron population.

Online Summer School Jun. - Aug. 2020
Yau Mathematical Sciences Center, Tsinghua University - Beijing, China
Instructor: Xiaoming Zhang
Course: Examples and Exercises of Big Data Analysis
- Studied machine learning algorithms with industrial applications.

Talk

Data integration using covariate summaries from external sources
- UW Causal Reading Group, Dec. 2024.

Teaching

Teaching Assistant - University of Washington
- STAT 499: Undergraduate Research, Winter 2024.

Services

Volunteer for American Causal Inference Conference, May 2024.
Grader of STAT 396: Finite Markov Chains and Monte-Carlo Methods, Spring 2024.
Mentor of American Statistical Association DataFest, Mar. 2024.

Awards

Institute for Foundations of Data Science (IFDS) Scholarship, Fall 2024.
Third Prize in Asia and Pacific Mathematical Contest in Modeling, 2022.
Third Prize in the Chinese Mathematics Competition, 2020, 2021.
Excellent Student Scholarship, Wuhan University, 2020, 2021, 2022.

Skills

Programming: R, Python, C++
Language: English (fluent), Chinese (native)