XINHAO QU

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No. 422 Siming South Road, Xiamen 361005, Xiamen University

EDUCATION

Xiamen University Xiamen, China Sep 2021-Jun 2024
- Master of Science in Statistics (Direction of Mathematical Statistics), Supervisor: Wei Zhong | GPA: 3.64/4.00
- Leader of Machine Learning Group, WISERCLUB Sep 2022-Jun 2023
- Specialized Courses (PHD level): *Statistical Data Analysis*: 92 (Top 3%), *Statistical machine learning*: 92, *Multivariate Statistical Analysis*: 97 (Top 1%), *Large Sample Theory*: 100 (Top 1%), *Advanced Econometrics I*: 91, *Advanced Econometrics II*: 89 (Top 1%)
- Stat-Center Summer School at **Peking University** Beijing, China Jul 2023-Aug 2023

Zhengzhou University Henan, China Sep 2017-Jun 2021
- Bachelor of Economics in Economic Statistics, Supervisor: Yanan Hu | GPA: 3.75/4.00 (1/31)
- Honors: Graduation Highlight (2021), First-class Scholarship (2018&2020), "Zhong' An Cotton" Scholarship (2019), Second place of 16th National Challenge Cup Competition (Top 1‰)
- Exchange Program: **Stanford University & U.C. Berkeley** Berkeley, CA Feb 2019
  - Honors: Second Place (7/56) of Global Business Plan Competition (GBPC)

PAPER&MEETING

Xinhao Qu, Wei Zhong. Guided Transfer Learning for High-Dimensional Linear Regression, ***Working Paper.***
Xinhao Qu (Supervisor: Wei Zhong). Partial Transfer Learning Under High-Dimensional Confounding, ***Master's Graduation Thesis***, Sep 2023.
Yanan Hu, **Xinhao Qu**. Double/Debiased Machine Learning for Spatial Quantile Regression Model and Its Applications, ***International Workshop on Statistical Theory and Related Fields (STARF)***, Dec 2021.
Yanan Hu, **Xinhao Qu**, Maozai Tian. Smoothed GMM for Spatial Quantile Regression Model, ***Seminar on Modern Statistics of Xiamen University***, Dec 2020.

RESEARCH&TEACHING EXPERIENCE

Guided Transfer Learning for High-Dimensional Linear Regression Sep 2023-present
Working Paper, Co-author: Wei Zhong Xiamen, China
- Enhanced debiasing procedure with data-driven adaptive weight and group-wise indicator inspired by Li et al. (2021).
- Utilized theoretical frameworks from Li et al. (2021) and Zou (2006) for rate of convergence with relaxed assumptions.
- Improved estimation and prediction performance evident in R simulation and GTEx application, resulting in smaller RMSE and error rate.

Partial Transfer Learning Under High-Dimensional Confounding Jun 2022-Jul 2023
Master's Graduation Thesis, Supervisor: Wei Zhong Xiamen, China
- Enhanced transfer learning framework based on Li et al. (2021) with a focus on latent confounding and heterogeneous transferrable sources.
- Developed detection algorithms using Tian and Feng (2022)-type cross-validation techniques, and sequential estimation algorithms based on DML, SCAD (Oracle) penalty and cross-fitting, suitable for extended scenarios, including federated cases with differential privacy.
- Large sample theory showed consistency and asymptotic normality of Partial Transfer Learning;
- Conducted extensive simulations and empirical analysis on GTEx database, demonstrated improved estimation and prediction performance of Partial Transfer Learning, by a faster rate of convergence and an average of 22.65% reduce in prediction error.

Teaching Assistant: Introduction to Data Science 2022 Fall
- Covered Python basic, 'NumPy', 'pandas', OOP , classic classification and regression models, deep learning framework.
- Corrected weekly assigned homework from students based on Python and answered questions in class.

Preference Detecting for Heterogeneous Community Based on Comment Text May 2022
'MEITUAN' National Business Analysis Elite Competition (22/1296, Top 2%), Core Team Member Online

Statistical Inference of Spatial Quantile Regression Model for High-dimensional Data Sep 2019-Jun 2021
The National Social Science Fund of China (NSSFC Youth Project: No.19CTJ010), Main Participant Henan, China
- Analyzed high-dimensional spatial data with quantile heterogeneity. Conducted empirical research using Python to preprocess data from CHINA CITY STATISTICAL YEARBOOK, visualizing smog emissions' heterogeneity at different quantile points using Tableau.
- Applied and compared DML and Smoothed Generalized Method of Moments methods in spatial quantile regression, demonstrating superior performance over Instrumental Variable Quantile Regression through extensive simulations.

The Impact of Decentralization on the Quality of Farmers' Income Sep 2018-Oct 2019
Second place of 16th National Challenge Cup Competition (Top 1‰), Core Team Member Beijing, China

SKILLS&INTERESTS

Programming Language: R; Python; LaTeX
Research Interest: High-Dimensional Statistics; Transfer Learning; Causal Inference; Reinforcement Learning; Differential Privacy