# Yibo Wang

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# **EDUCATION**

#### University of Science and Technology of China

Sept. 2022 - June 2026 (Expected)

B.S. in Statistics, Department of Statistics and Finance, School of Management

• **GPA**: 3.98/4.30 **Weighted Score**: 92.20

### Publications

- 1. Wang, Y., Leng, C., and Tang, C. Y. (2025). Generalized Correlation Regression for Clustered Data. (Working Paper)
- 2. Wu, J., Wang, Y., Pang, X., Zhang, Z. and Zhao, R. (2024). New Quality Productive Forces and Digital Economy: Measurement Index, Coupling Coordinated Degree and Influence Mechanism. (Under Review)

# SCHOLARSHIP AND AWARDS

• China National Scholarship (Top 0.4% Nationwide)	Dec. 2024
- First Prize in $15^{th}$ Chinese Mathematics Competitions in Anhui Province	Dec. 2023
- Bronze Prize in $1^{st}$ USTC Yuqing Cup Campus Software Design Competition	Nov. 2023
• JAC Motors & NIO Joint Scholarship (Top 3 in School)	Oct. 2023
• Student Grants by National Basic Subject Talent Training Plan in USTC	Dec. 2022

### RESEARCH EXPERIENCE

#### Generalized Correlation Regression for Clustered Data

Feb. 2025 - Sept. 2025

Advisor: **Prof.** Chenlei Leng (University of Warwick) and **Prof.** Cheng Yong Tang (Temple University)

- We introduce generalized correlation regression (GCR), a unified framework that models correlations directly as functions of interpretable covariates, while accommodating Gaussian, binary, categorical, and count outcomes.
- GCR simultaneously estimates marginal means and correlation structures, enabling flexible, covariate-dependent modeling of dependence without requiring fully specified joint distributions.
- Through three real-world applications, GCR reveals community-, family- and individual-level drivers of dependence, achieves superior predictive performance, and uncovers insights obscured by standard methods.

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#### Evolution of New Quality Productive Forces and Digital Economy

May 2024 - Oct. 2024

Advisor: Prof. Jie Wu (Department of Management Science, USTC)

- Construct measurement index systems for the new quality productive forces (NQPF) and digital economy (DECO). Employ the cross entropy weight method to measure their levels across 30 provinces in China from 2013 to 2022.
- Analyze the spatiotemporal evolution and coupling relationship of NQPF and DECO, utilizing kernel density estimation, Dagum gini coefficient, and coupling coordination degree model.
- Explore the influence mechanisms between NQPF and DECO by fixed effects model, moderation effects model and threshold regression model, and find that NQPF significantly promoted the development of DECO, with fintech playing a positive moderating role and exhibiting a triple threshold effect.

# Relevant Courses

(OG denotes ongoing courses; \* denotes graduate-level courses)

- Mathematics: Mathematical Analysis B (93, 93, 86), Linear Algebra B (95, 90), Introduction to Differential Equations with Applications (86), Real Analysis (88), Complex Variable (90), Functional Analysis (99), Convex Optimization (100)
- Probability and Statistics: Probability (87), Mathematical Statistics (88), Applied Stochastic Processes (92), Fundamentals of Statistical Algorithm (92), Regression Analysis (96), Time Series Analysis A (96), Multivariate Analysis A (99), Non-parametric Statistics (100), Machine Learning (OG), \*Advanced Probability Theory (OG)
- Computer Science: Computer Programming A (94), Database Technology and Applications (97), Applied Statistical Software (100)

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# ACADEMIC EXPERIENCE

## Visiting Student of University of Warwick

June 2025 - Sept. 2025

Department of Statistics, University of Warwick

• Summer research internship student advised by Prof. Chenlei Leng

#### Zhejiang University 2024 SDG Global Summer School

July 2024

School of Mathematical Sciences, Zhejiang University

• Course: Data Acquisition and Processing

### Oxford Prospects Programmes - 2024 Winter On-Campus Programme

Jan. 2024 - Feb. 2024

OPGDI, Regent's Park College, University of Oxford

• Module: STEM

### Teaching Assistant

# Applied Statistical Software (STAT3002, USTC)

Spring 2025

Department of Statistics and Finance, University of Science and Technology of China

• Lecturer: Prof. Canhong Wen and Prof. Jing Zeng

### LEADERSHIP AND ACTIVITIES

• President of USTC Harmonica Association

Sept. 2024 - June 2025

• Commissioner of USTC Harmonica Association

Sept. 2023 - June 2024