

Cheng Guo

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Shanghai Jiao Tong University, Shanghai, China

EDUCATION

Antai College of Economics and Management, Shanghai Jiao Tong University

Sep 2022 – Present

- B.A. major in Economics, minor in Big Data Management and Application, GPA: 3.82/4.30, Average: 88.86/100
- Main courses: Linear Algebra (97), Python Programming (93), Calculus I (86), Calculus II (85), Probability and Statistics (78), Business Statistics (89), Regression analysis (95), Optimization Methods in Economics (93), Stochastic Process (in process), Ordinary Differential Equation (in progress), Machine Learning (in progress).

Vancouver School of Economics, University of British Columbia

Sep 2024 – Dec 2024

- Exchange, major in Economics, Average: 87.3/100

RESEARCH EXPERIENCES

Data-Driven Decision Optimization in NGO

Jan 2025 – Present

Research Assistant, Advisor: Prof. Cheng Hua, Shanghai Jiao Tong University

- Investigating an optimization problem of resource allocation within a non-governmental organization, utilizing real-world data.
- Applied Decision Focused Learning (DFL) method to solve a Restless Multi-Armed Bandits (RMABs) model, and formulated the research problem as an RMABs model.
- Implemented the algorithm for solving RMABs problems using the DFL method from prior research through a Python program.

Participation in Research Program (PRP), Analysis of Supply Chain Resilience

Mar 2024 – Jan 2025

Research Assistant, Advisor: Prof. Ming Dong, Prof. Guanghua Han, Shanghai Jiao Tong University

- Formulated a multi-tiered, multi-metric assessment framework to evaluate the resilience of supply chains in the chip industry in China, leveraging real-world enterprise data to quantify supply chain resilience. This initiative enhanced the understanding of risk mitigation strategies within complex supply networks.
- Pioneered a novel mediating effect model hypothesis in collaboration with my advisors, developing a mathematical framework to explore underlying causal mechanisms. This work contributed to advancing theoretical insights in the field of operational dynamics.
- Combined the mediating effect model with Structural Equation Modeling (SEM) to conduct a comprehensive analysis, utilizing STATA for data processing and executing rigorous SEM evaluations. The results were robust and significant, supporting the hypothesis and enhancing the validity of the proposed model.
- Authored the manuscript of the research paper, covering critical sections such as literature review, theoretical framework, hypothesis formulation, model development, results analysis, and conclusions. This experience strengthened my ability to conduct independent research and synthesize complex information.
- Presented my research findings to senior faculty members, demonstrating the application of advanced analytical techniques and highlighting the implications for operational efficiency and decision-making processes.

Summer Research Internship, Quantum Machine Learning

Jun 2023 – Sep 2023

Research Assistant, Advisor: Prof. Cheng Hua, Shanghai Jiao Tong University

- Conducted research in quantum machine learning under the mentorship of my advisor, and explored the application of quantum annealing algorithm to real-world problems.
- Acquired the fundamentals of optimization algorithms through solving practical problems and reviewing relevant literature.
- Implemented quantum annealing algorithm using Python.

ACADEMIC ACTIVITIES

Microeconomics Theory Reading Group (MTRG)

Sep 2024 – Present

Presenter, Advisor: Prof. Xi Zhi "RC" Lim, Shanghai Jiao Tong University

- Extracted key insights from the paper *Pathological Outcomes of Observational Learning*, compiled them into an

academic presentation, and shared with the group.

- Engaged in discussions by posing questions and offering supplementary insights during others' talks, and presented constructive ideas and perspectives.

SKILLS & STANDARDIZED TESTS

- GRE: Verbal 145 +Quantitative 167 +Analytical Writing 4.0
- TOEFL: Total 108 (Reading 28+Listening 26+Speaking 27+Writing 27)
- Proficient in utilizing Python code for programming and reconstructing algorithms.
- Skilled in utilizing STATA for data processing and analysis.
- Capable of authoring clear and concise mathematical proofs using Overleaf.