Xiaoyi Tang

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Education

Minzu University of China Beijing, China

School of Economics, Innovation Class for Top Talents in Economics (selected 35 people out of 500+ applicants)

Bachelor of Arts in Economics; GPA: 91.9/100 (WES:3.89/4) *October 2020 - July 2024*

Relevant Courses: Intermediate Macroeconomics(95/100), Mathematical Economics(96/100), Econometrics(90/100), Linear Algebra (96/100), Probability and Mathematical Statistics(93/100), Dynamic Optimization(91/100), Intermediate Microeconomics, Statistics, Advanced Mathematics, Game Theory, Analysis of Economic Data(with Python), Regional Economics, Finance, Political Economics

University of California, Berkeley Berkeley, CA

Visiting Student in Economics and Statistics; GPA: 3.89/4 *January 2022 - May 2022*

Relevant Courses: PhD course Industrial Organization(A), Development Economics(A), Concepts of Statistics(A-)

Research Interests

Health Economics, Development Economics, Applied Econometrics

Skills

- **Programming**: Fluent in R (dplyr, ggplot2, lmtest, tidyverse), Python (Pandas, NumPy, matplotlib), Stata; intermediate in MATLAB, QGIS
- **Tools**: SPSS, Latex, Markdown, Microsoft Office, Microsoft Access
- **Languages**: Mandarin Chinese (native), English (IELTS: 7.5, GRE: q170+v152+3.5)
- **Interests**: Cycling, Debate (MUC Outstanding Debater), Social Psychology

Research Experience

- **The Occupational "Sticky Trap" of Digital Labor under Algorithm Control**: Coauthor *January 2022 - May 2023*

  Advisor: Dr. Jing Liu, Professor of Economics (Minzu University of China)

  - Conducted sampling design work: used Probability-Proportional-to-Size Sampling method to select four districts from sixteen districts in Beijing and calculate the optimal sample size
  - Conducted 3-month field study and surveyed more than 200 individuals to know how digital labor feel about the "Sticky Trap" through questionnaires and in-depth interviews; analyzed the formation mechanism of "Sticky Trap" through qualitative research
  - Performed data cleaning and data analysis with Python & R; used Structural Equation Model with R lavaan package to explore the relationship between variables
  - Operated Cronbach test by calculating α values and Exploratory Factor Analysis (EFA) by calculating KMO statistics and Bartlett significances with SPSS

- **Accounting and Prediction of Chinese Green Gross Domestic Product (GGDP)** : Coauthor *February 2023 - May 2023*

  Advisor: Dr. Yanfei Shu, Associate Professor of Economics (Minzu University of China)

  - Collected indicators of environmental quality from OECD Statistics; conducted descriptive statistical analysis with R dplyr
  - Performed data cleaning with Python NumPy & Pandas (e.g.,outliers filtering, data imputation, categories reduction, dummy variables creation and data normalization); conducted data analysis and visualization with Python Pandas & matplotlib and R maps & ggplot2
  - Set up the model of GGDP using the Entropy Weight Method (EWM) and Analytic Hierarchy Process (AHP); operated Multiple Regression Analysis and Time-Series Analysis using ARIMA model with Stata
  - Layout and output of the 19-page research paper using Latex software for high-quality typesetting

- **Empirical Research on Chinese Economic and Social Data**: Research Assistant *April 2022 - October 2022*

  Advisor: Dr. Zhaopeng Frank Qu, Associate Professor of Economics (Nanjing University)

  - Collected data and indicators of economic development such as GDP and Gini Coefficient and integrated databases; performed data cleaning and data analysis with R dplyr & tidyverse and Stata
  - Developed a novel data processing framework for a recently released radiance dataset known as VNP46A2, part of NASA's Black Marble suite of Nightlight (NTL) products; downloaded and processed VNP46A2 data using QGIS, Matlab and Python; calculated zonal economic statistics over multiple rasters in QGIS using VNP46A2 data
  - Attended research meeting with other research assistants and professors every week; shared interesting papers and ideas occasionally

- **Identifying Supply Chain Vulnerability for Synthetic Biology in the USA**: BMSIS YSP Research Associate *June 2022 - September 2022*

  Advisors: Dr. Ivan Glaucio Paulino Lima, Research Scientist (NASA); Jessica Snyder, Affiliate Research Scientist (NASA)

- Designed the questionnaire to audit the resources that synthetic biology needs; sent questionnaires to members in three communities: industry, academia and government
- Collected the answers from the questionnaire and categorized according to the community feedback using SPSS

- **The Effect of News Recommendation on Consumer Behavior**: Research Assistant *March 2022 - June 2022*

  Researchers: Yixiang Xu & Mengyao Huang, PhD candidates (UC Berkeley Haas School of Business)

  - Performed web scraping (e.g., Misrosoft News, New York Times) on more than 60,000 English news articles to collect variables and indicators about consumer behavior with Python Pandas & Beautiful Soap
  - Used Propensity Score Matching and consumer clustering/classification algorithm with Random Forest in Python to explore whether by building up and using consumer side as a basis of a simulated online learning environment can enhance the performance of the recommendation system

- **The Special Needs Trust Model for the Autism Spectrum Disorder (ASD) Patients**: Project participant *July 2021 - June 2022*

  - Conducted 2-month field study to understand the needs of the ASD community for special needs trusts through questionnaires and semi-structural interviews
  - Used the Principal-agent Theory and needs spillover theory from Law and economics to design a special needs trust ecosystem model
  - Conducted literature review on the development of domestic and international special needs trusts

Teaching Experience

Applied Econometrics (with Stata), Minzu University of China Beijing, China

Teaching Assistant for Dr. Yu Bai, Professor of Economics *September 2023 - present*

- Helped the professor prepare for the course materials including Stata guidebooks & real-world data sets & Stata codes and grade assignments & exams
- Organized sessions for students to show how to apply various econometrics methods using Stata with real-world data
- Held office hours every two weeks to address some learning difficulties met by students

Conference

- **2023 Health and Aging Economics Summer Camp**: Organized by PKU-iGHD & Yale Institution for Social and Policy Studies *June 2023*
  - Presented my working paper *Formation Mechanism and Impact of the Digital Laborers' Occupational "Sticky Trap" under Algorithms: Evidence from a Social Survey for Meituan Take-out Riders*

Professional Experience

Ipsos Consulting Company Beijing, China

Assistant Analyst in Quantitative Research Department *June 2022 - August 2022*

Mentor: Junni Zhu

- Assisted mentor to conduct data analysis and wrote key findings (completed the processing of more than 8,000 observations of data); used Microsoft Excel to conduct t-test in A/B Testing
- Operated data visualization by making Pivot Table in Microsoft Excel and drawing bar charts and line charts in Microsoft PowerPoint
- Participated in the design of three medium-sized project questionnaires about consumer preferences; removed unreasonable questionnaire results based on the screening requirements
- Translated more than 110 pages of English project questionnaires and operation manuals; verified the accuracy of data reports to ensure the quality of the final report

Honors and Academic Achievements

Special Prize Award in 2023 Academic Works Competition for College Students in Beijing (Top 0.5%) *May 2023*

First Prize of the 10th MUC Undergraduate Essay Competition (Awarded to recognize students' academic potential)(Top 0.03%) *March 2023*

Honorable Mention in the 2023 Interdisciplinary Contest In Modeling (ICM) *February 2023*

Academic Distinction Scholarship at Minzu University of China (twice) *2021-2023*

Scholarship to Visit Top Universities in the World (RMB 65,500) *May 2022*