Shiying Xiao

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Education

Ph.D. in Statistics — August 2023 – August 2027 (expected)
University of Connecticut — Storrs, CT
Advisor: Prof. Jun Yan

M.Econ. in Statistics — September 2019 – July 2022
Shanxi University of Finance and Economics — Taiyuan, China
Advisor: Prof. Tao Wang

B.Econ. in Insurance — September 2015 – July 2019
Shanxi University of Finance and Economics — Taiyuan, China

Research Interests

Applied Econometrics, Input-Output Analysis, Macroeconomic Statistical Analysis, National Economic Accounting, Network Analytics

Experience

Assistant Professor of Teaching — August 2022 – July 2023
Fuzhou University of International Studies and Trade — Fuzhou, China

- Teaching Activities
    1. Financial Statistics (C010500810): 3 credit undergraduate level; Fall 2022.
    2. Public Finance (C010200160): 2 credit undergraduate level; Fall 2022.
    3. Investment Banking (C010402720): 2 credit undergraduate level; Spring 2023.
    4. Data Visualization Design (C010405620): 2 credit undergraduate level; Spring 2023.
    5. Business Data Mining & Analytics (C010402930): 2 credit undergraduate level; Spring 2023.

- Research Program

    The National Social Science Fund of China, 23CGJ018, Research on the Reconstruction of China-ASEAN Foreign Trade Industry Value Chain and Resilience Enhancement Strategies. PI: Chen Chen.

- Student Awards
    1. First prize, China University Business Elite Challenge Brand Planning Competition, 2023.
    2. Third prize, the 13th "Zhengda Cup" National College Students Market Research and Analysis Competition, 2023.
    3. Third prize, the 14th China Students Service Outsourcing Innovation and Entrepreneurship Competition, 2023.
    4. First prize in Fujian Province, the 13th National College Student "Innovation, Creativity and Entrepreneurship" E-commerce Challenge Competition, 2023.
    5. Third prize, National Competition of Business Administration for College Students, 2023.
    6. Third prize, the 18th "Challenge Cup" National College Students' Extracurricular Academic and Technological Works Competition, "Unveiling the List of Commander-in-Chief" Special Competition, 2023.

Research Assistant — June 2019 – July 2022
Shanxi University of Finance and Economics — Taiyuan, China

- Projects in the area of network analysis and national economic accounting: development of methodology, management activities to maintain research data, implementation of the computer code, and data presentation.

1. The National Social Science Fund of China, 21BTJ013, Research on the Compilation and Application of the International Flow of Funds Table. PI: Tao Wang.
2. National Bureau of Statistics of China, 2018LZ33, Research on the Compilation and Model Application of Inter-Provincial Input-Output Tables in China. PI: Tao Wang.

- Projects in the area of network analysis, input-output analysis, and macroeconomic statistical analysis: ideas, data collection and cleaning, application of statistical to analyze data, and visualization.
    1. Shanxi Provincial Federation of Social Sciences, SSKLZDKT20211075, Study on the Index System of High-Quality Tourism Development in Shanxi Province.
    2. Shanxi Academy of Social Sciences, 2020YY119, Study on the Index System of High-Quality Development in Shanxi.
    3. Shanxi Provincial Bureau of Statistics, KY[2020]046, Study on the Scale Benefit of High-Tech Industry in Shanxi.
    4. Shanxi Provincial Bureau of Statistics, KY[2019]151, Study on the Evaluation Index System of Industrial Competitiveness in Shanxi Province.
    5. Shanxi Academy of Social Sciences, 2019B100, Study on the Monitoring and Evaluation Index System of Rural Social Undertakings in Shanxi Province.

Publications

1. Wang, T.* and **Xiao, S.** (2022). A Comparative Study of Domestic Industrial Circulation between China and the United States from the Perspective of Input-Output Network. *Statistical Research*, 39(11): 32-43. URL (in Chinese with English abstract)

2. **Xiao, S.***, Yan, J. and Zhang, P. (2022). Incorporating Auxiliary Information in Betweenness Measure for Input-Output Networks. *Physica A: Statistical Mechanics and its Applications*, 607: 128200. DOI

3. Wang, T., **Xiao, S.**, Yan, J. and Zhang, P.* (2021). Regional and Sectoral Structures of the Chinese Economy: A Network Perspective from Multi-Regional Input-Output Tables. *Physica A: Statistical Mechanics and its Applications*, 581: 126196. DOI

Preprint

- Wang, T., **Xiao, S.***, and Yan, J. (2024+). Comparison of Sectoral Structures between China and Japan: A Network Perspective. arXiv

Presentations and Posters

- Gaussian Graphical Models for Functional Connectivity Analysis: A Statistical Review and Applications to Alzheimer's Disease Data. Poster presenter. The 33rd Annual Applied Statistics Symposium for the International Chinese Statistical Association (ICSA 2024). Nashville, TN, 06/17/2024.

- Functional Connectivity Analysis in Brain Networks: A Statistical Review and Application to Alzheimer's Disease Data. Invited speaker. The 37th New England Statistics Symposium (NESS 2024). University of Connecticut, Storrs, CT, 05/23/2024.

- Introduction to Data Analysis in R for DIA-based Proteomics Using msDiaLogue. Assistant instructor. The 4th Annual Introduction to Mass Spectrometry-Based Proteomics Workshop. University of Connecticut, Storrs, CT, 03/15/2024.

Software

1. **Xiao, S.**. (2024). PCAperm: Permutation Test for Principal Components Analysis. R package version 0.1.0, `https://shiying-xiao.com/PCAperm`.

2. **Xiao, S.**. (2024). ProductSpace: Analysis and Visualization of Product Space. R package version 0.1.0, `https://shiying-xiao.com/ProductSpace`.

3. **Xiao, S.**, and Moore, T.(2024). metastat: Analysis and Visualization of Metabolomics Data. R package version 0.1.0, `https://uconn-scs.github.io/metastat`.

4. **Xiao, S.**, Moore, T. and Watt, C. (2024). msDiaLogue: Analysis + Visuals for Data Independent Acquisition Mass Spectrometry Data. `R` package version 0.0.4, `https://uconn-scs.github.io/msDiaLogue`.

5. **Xiao, S.**, Yan, J. and Zhang, P. (2024). fcstat: Statistical Methods for Estimating Functional Connectivity in fMRI Data. `R` package version 0.1.0, `https://shiying-xiao.com/fcstat`.

6. **Xiao, S.**, Yan, J. and Zhang, P. (2024). ionet: Network Analysis for Input-Output Tables. `R` package version 0.2.2, `https://CRAN.R-project.org/package=ionet`.

Computer Skills

- **Languages**: R, Python, SAS, C++ (basic)
- **Tools**: Git, LaTeX, Markdown, Stata