Jiajing Sun

PhD, CFA, FIMA

Personal Details:

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Employment History:

- **April 2022** **Present**

  School of Economics and Management, University of the Chinese Academy of Sciences

  Position: Deputy director of the Department of Statistics and Data Science

  ➢ I have a core role in curriculum development and updates for the statistics and data science programs, ensuring that they meet the latest academic and industrial standards.

  ➢ I play a core role in organizing departmental seminars and workshops. I have invited academics from various universities to present at these events. I have also participated as a presenter in joint seminars and workshops, such as:
    - ✧ the Joint Seminar on the Frontiers of Econometrics, organized in collaboration with Academia Sinica,
    - ✧ the Gregory C. Chow Lecture, and
    - ✧ the Young Scholar Forum at the School of Economics and Management.

  ➢ I have developed, along with my team, a Fintech index that ranks the capabilities of Chinese small and medium-sized banks in fintech. I also delivered a keynote speech at the China Finance Forum on 14th of December 2024.

  ➢ I presented seminars at School of Mathematics, University of Birmingham, Birmingham Business School, the University of Liverpool Management School, and the Department of Economics and Related Studies at the University of York, and so on. I have given talks at various conferences (see below).

  ➢ I have experience in conference organization.
    - ✧ I had a core leadership role in organizing the 2022 and 2023 Asian Summer Schools in Econometrics and Statistics. The summer schools featured lectures from prominent econometricians such as Professors

Cheng Hsiao, Jiti Gao, Jun Yu, Liangjun Su, Oliver Linton, Whitney Newey, Yongmiao Hong, and Zhijie Xiao. Specific tasks included verifying the list of applicants; contacting the Econometrics Society; liaising with internationally renowned econometricians; preparing speeches, conference abstracts and registration forms; coordinating press releases, teaching contracts, conference hosting; and other tasks.

- ✧ I actively assisted Dongbei University of Finance and Economics in organizing the 2024 Asian Summer School in Econometrics and Statistics, aimed at promoting the development of the field of econometrics and cultivating future talent.
- ✧ I assisted Professor Yongmiao Hong in organizing the "Econometrics - Time Series I" session by inviting participants and reviewing invited submissions for the session at the 2024 Asian Meeting of the Econometric Society.
- ✧ I participated in the paper review process for 6th Chinese Econometricians Forum, Jinan University on 24-25 December 2023.
- ✧ I served as a member of the organizing committee for the China Journal of Econometrics Second Annual Conference on "Big Data Econometrics: Theory and Applications — Theory and Applications of Time-Varying Econometric Models" held on 13-14 May 2023, at Hunan University.
- ✧ I hosted Professors Whitney Newey and Cheng Hsiao in a Doctoral Dissertation Symposium, organized by the Paula and Gregory Chow Institute for Studies in Economics, Xiamen University, on 31 May 2023.

- **November 2018 Present**
  School of Economics and Management, the University of Chinese Academy of Sciences
  Position: Associate Professor

- From November 2018 to present, I have taught and served as module leader for Advanced Time Series Analysis, Financial Data Modelling and Analysis, Financial Econometrics, Financial Econometrics and Statistics, Financial Economics, and Nonparametric Statistics at the School of Economics and Management, University of Chinese Academy of Sciences.
- My teaching is of an excellent standard, as evidenced by various teaching awards.
  - I received the Young Teacher Teaching Special Award from the School of Economics and Management, for my *Financial Statistics and Econometrics* module, for the 2017-18 academic year and the Excellent Postgraduate Course Award in 2019.
  - I was awarded a CNY 15,000 (GBP 1,638.07) from the school to further develop the Financial Econometrics and Statistics module.
  - My course - *Financial Data Modeling and Analysis* was awarded the Excellent Postgraduate Course Award in 2022.
  - In May 2023, I was awarded the Third Prize in the Young Teacher's Basic Teaching Skills Competition held by the University of the Chinese Academy of Sciences.
  - These modules cover regression models and econometric inference; univariate and multivariate time series; cointegration, VAR models, state-space models, volatility modeling, nonparametric and semiparametric methods, HAR inference, autoregressive filtering, continuous-time finance, financial data modelling, empirical finance, and applications using real financial and macroeconomic data. In 2025 and 2026, I taught Advanced Time Series Analysis as lead instructor.

- **March 2013** **November 2018**
  School of Economics and Management, University of Chinese Academy of Sciences
  Position: Assistant Professor
  - Module leader for *Financial Economics*, *Financial Econometrics*, *Financial Statistics and Econometrics*, *English for Finance (MBA)* and *Corporate Finance (MBA)*.
  - Guest lecturer in *Financial Time Series Analysis* at the China University of Political Science and Law.

- **March 2013** **December 2014**
  School of Economics and Management, University of the Chinese Academy of Sciences
  Position: Deputy Director of the International Relationships

- I have organised seminars and hosted prominent academics such as Professor Nicolas Hope, the Director of the Stanford Centre for International Development, and Professor James T'ien, then the Dean of the University of Miami College of Engineering.
- I worked on several Executive Development programmes.
- In September 2013, the school signed a memorandum of understanding (MoU) with the Energy Studies Institute of the National University of Singapore. The MoU specifies that collaborations between our two institutions will focus on aspects such as the exchange of research materials and researchers, the organization of joint training programs, and some scientific activities, for example, seminars and conferences. I served as one of the two representatives of the school, as reflected by the MoU.
- I was also actively involved with AMBA accreditation of the school, for instance, preparing the application materials and translating some relevant materials.

- **September 2011** **November 2012**
  Management School, University of Liverpool
  Position: Lecturer/Teaching Fellow (Grade 7 Teaching and Scholarship)
  - I continued to provide assistance on the modules I worked on as a PhD student. I was also the module leader for *Introduction to Finance*.
  - I acted as a facilitator between the University of the Chinese Academy of Sciences and the University of Liverpool Management School in relation to a bid submitted to the Sino-UK Higher Education Research Partnership for PhD Studies, which was a part of a three-year UK-China Partnership Education Action Plan signed by China's Minister for Education (Guiren Yuan) and the former Secretary of State for Education (Michael Gove).

- **February 2006** **October 2007**
  College of Economics and Management, Tianjin University of Science and Technology
  Position: Assistant Professor
  - I taught *Economics Case Studies*, *Basic Econometrics*, *Microeconomics* and *Business English Foundation*. I was the youngest academic Tianjin University of Science and Technology had ever employed.
  - I was also the econometrics lab coordinator. I was responsible for maintaining the operation of the computer laboratory and making sure that only the correct students were using the facilities.
  - I supervised undergraduate students' dissertations, providing them with support and guidance.

Visiting Fellowship and Part Time Work:

- **July 2024 – July 2027: Honorary Research Fellow, University of Liverpool**
  - Department of Work, Organisation and Management. This honorary/unpaid association supports ongoing research collaboration with the School.
- **June 2019 – Septem ber 2019: Visiting Scholar**
  - I visited the Management School, University of Liverpool.
- **February 2016 – February 2017: Visiting Scholar**
  - I visited the Department of Economics and Related Studies, University of York.
- **November 2015 –December 2015: Visiting Scholar**
  - I visited School of Economics, Singapore Management University.

  During the visit, I exchanged research ideas with Professor Liangjun Su.
- **October 2007 –September 2011: Teaching Assistant/Instructor**
  - At the University of Liverpool, I taught some lectures, workshops, tutorials, and lab sessions for modules such as *Microeconomics*, *Financial Engineering*, *Study Skills for Management*, *Organisation and Management*, *Strategic Management and Business Policy*, *Strategic Business Analysis*, *Introduction to Finance*, *Financial Economics*, *Methods of Economic Investigation 1: Time Series Econometrics*, *Econometric and Statistical Methods*, and *Econometrics and Applied Business Research Methods*.
  - I supervised MSc SBA (*Strategic Business Analysis*) individual business reports; the reports were analogous to an MSc dissertation.

Education:

- **October 2007** **July 2011**

  Management School, University of Liverpool

  PhD in Management Studies (Econometrics)

  Supervisor: Professor Brendan McCabe

  Topic: Analysis of Integer Valued Autoregressive Process

  Research Training Models: *Data Collection Strategies and Techniques*, *Quantitative Methods for Research*, *Data Collection and Analysis Strategies*, *Philosophy of Social Science*, and *Introduction to Research and Information Skills*.

- **September 2004** **November 2005**

  Department of Economics, University of Edinburgh

  MSc. in Economics

  Dissertation Title: Applying the Bootstrap in Time Series Analysis

Modules studied included: *Microeconomics*, *Macroeconomics*, *Quantitative Methods*, *Advanced Microeconomics*, *Advanced Quantitative Methods*, and *Economic Policy*.
Quantitative Research Report: Analysis of the US Monetary Market.

- **September 2001** **July 2004**
  Tianjin University of Finance and Economics
  BEcon in International Finance
  (1st)
  Dissertation Title: Mortgage Loan Management in China
  I finished a four-year undergraduate programme in three years with many distinctions.
  Core Modules Studied included: *Calculus*, *Probability and Statistics*, *Linear Algebra*, *Chinese*, *English*, *Accounting*, *Economics*, *Financial Analysis*, *Financial Management*, *International Accounting*, *Financial Statement Analysis*, and *Simulation of Security Dealing*.

Language Skills:

- Mandarin (Mother-tongue)
- English (Fluent)
- German (Basic)

Honours and Prizes:

- **Teaching Awards:**
  - The course "*Financial Statistics and Econometrics*" won the Young Teacher Teaching Special Award from the School of Management for the 2017-18 academic year and the Excellent Postgraduate Course Award in 2019.
  - The course "*Financial Data Modelling and Analysis*" received the Excellent Postgraduate Course Award for the year 2022.
  - In May 2023, I was awarded the Third Prize in the Young Teacher's Basic Teaching Skills Competition.
- **Student Achievements and Recognition:**
  - Many of my students and supervisees have gone on to pursue further study at prestigious universities in China and overseas, including doctoral programmes, while others have built strong careers in academia, finance, data science, public institutions, and industry.

Publications:

- **Selected Journal Articles (in English):**

- Jiang, W., Sun, J., Cole, M., & Zhang, Y. (2026). Virtual Water in Global Supply Chains: Trade Structure, Industrial Composition, and Policy Levers. *Ecological Economics*, accepted for publication.
- Sun, J., Hong, Y., Lin, Z., & Xu, W. (2025). Structural stability of functional data: A new adjusted-range-based self-normalization approach. *Economics Letters*, 253, 112350.
- Sun, J., Zhu, M., & Linton, O. (2025). Adjusted-range-based self-normalized autocorrelation tests. *Economics Letters*, 251, 112315.
- Cole, M., Sun, J., Jiang, W., & Zang, L. (2024). Governmental Capabilities and Responsiveness: Global Investigations into CO_2 Emissions and Decarbonization. The Ultimate Super Wicked Problem! *International Journal of Public Administration*, 1-19.
- Hong, Y., Linton, O., McCabe, B., Sun, J., & Wang, S. (2024). Kolmogorov-Smirnov type testing for structural breaks: A new adjusted-range based self-normalization approach. *Journal of Econometrics*, 238(2), 105603.
- Sun, J., Hong, Y., Linton, O., & Zhao, X. (2022). Adjusted-range self-normalized confidence interval construction for censored dependent data. *Economics Letters*, 110873.
- Hong, Y., Linton, O., McCabe, B., & Sun, J. (2022). A score statistic for testing the presence of a stochastic trend in conditional variances. *Economics Letters*, 213, 110394.
- Jiang, W., Cole, M., Sun, J., & Wang, S. (2022). Innovation, carbon emissions and the pollution haven hypothesis: Climate capitalism and global re-interpretations. *Journal of Environmental Management*, 307, 114465.
- Sun, J., Cole, M., Huang, Z., & Wang, S. (2018). Chinese leadership: Provincial perspectives on promotion and performance. *Environment and Planning C: Politics and Space, 37*(4), 750-772.
- Cui, W., Cheng, H., & Sun, J. (2018). An RKHS-based approach to double-penalized regression in high-dimensional partially linear models. *Journal of Multivariate Analysis*, 168, 201-210.
- Sun, J., & McCabe, B. P. (2013). Score statistics for testing serial dependence in count data. *Journal of Time Series Analysis*, 34(3), 315-329.
- Li, Z., Sun, J., & Wang, S. (2013). An information diffusion-based model of oil futures price. *Energy Economics*, 36, 518-525.
- Sun, J., Chernick, M. R., & LaBudde, R. A. (2011). A bootstrap test for comparing two variances: simulation of size and power in small samples. *Journal of Biopharmaceutical Statistics*, 21(6), 1079-1093.

- **Comments on Published Work:**
  - Hong, Y., Linton, O., Sun, J., & Zhu, M. (2023). Yongmiao Hong, Oliver Linton, Jiajing Sun, and Meiting Zhu's contribution to the Discussion of "the Discussion Meeting on Probabilistic and statistical aspects of machine learning". *Royal Statistical Society. Series B: Statistical Methodology*.

- **Selected Journal Articles (in Chinese):**
  - Jiajing Sun, Zhuo Lin, & Brendan McCabe. (2026). Model averaging for count data autoregressive models with covariates. *China Journal of Econometrics (计量经济学报)*, accepted for publication.
  - Hong, Y., Sun, J., McCabe, B., & Wang, S. (2022). An Adjusted-Range Based on Self-Normalized Statistic for Testing Structural Breaks. *Statistical Research*, 39(4), 122-133. "Statistical Research (统计研究)" (monthly) is published by the Chinese Statistical Society and the Statistical Science Research Institute of the National Bureau of Statistics and is a top Chinese journal in statistics.
  - Sun, J., McCabe, B., Cui, W., & Li, G. (2020). Integer-Valued Autoregressive Process with Katz Arrivals and Its Application in Predicting the Count of Cases of Respiratory Disease. *Chinese Journal of Applied Probability and Statistics*, 36(6), 551-568. "Applied Probability and Statistics (应用概率统计)" is published by the Probability and Statistics Society of the Chinese Mathematical Society and is a top Chinese journal in probability and statistics.

- **Book Chapters:**
  - Li, Z., & Sun, J. (2015). Mechanisms and Performance of Chinese Bear Markets and Policy Suggestions. In: Li, Z., & Cheng, S. (eds.) *China's Stock Market Review and Outlook: 2002-2013*; Science Press, Beijing, China.
  - Li, Z., Sun, J., & Cole, M. (2015). Mechanisms and Performance of Chinese Bear Markets and Policy Suggestions. In: Li, Z., & Cheng, S. (eds.) *The Chinese Stock Market Volume II* (pp. 125-189). Palgrave Macmillan, London, UK.

- **Book Projects:**
  - Sun, J., Hong, Y., & Linton, O. (forthcoming 2026). Financial Econometrics: Theory, Cases, and R Language (in Chinese). Higher Education Press.
  - Hong, Y., Linton, O., & Sun, J. (forthcoming 2026). Econometrics and Time Series Methods: Theory, Applications, and R Implementation. Springer.
  - Sun, J., Hong, Y., Wang, S., & Yang, Y. (forthcoming 2026). FinTech. Higher Education Press.
  - Johansson, P., & Sun, J. (forthcoming 2026). Regression with R and Python: Description, Prediction, and Causal Inference. Springer. Publishing agreement signed.

- **Working Papers:**
  - Sun, J., Taamouti, A., & Lin, Z. (2026). Self-Normalized Inference for Relevance-Based Functional Granger Causality. Revise and resubmit, Journal of Financial Econometrics.

- Lin, Z., Sun, J., Härdle, W. K., & Zhu, M. (2026). Monitoring Relevant Shifts in Functional Time Series. Working paper.
- Sun, J., & Hong, Y. (2026). Online Monitoring of Loading-Space Instability in Large Factor Models via Self-Normalized DFT Spectral Scores. Working paper.
- Sun, J., Taamouti, A., & Hong, Y. (2026). Online Monitoring of Distributional Granger Causality. Working paper.
- Sun, J., Cole, M., & Härdle, W. K. (2026). Using Machine Learning for Prediction and Policy Analysis in Economics. Working paper.
- Sun, J., Zhu, M., Härdle, W. K., Linton, O., & Lin, Z. (2026). When to Refresh a Functional Representation: Online Monitoring of Structural Change in Functional Time Series. Working paper.
- Sun, J., Zhang, Q., Wu, J., Yan, X., Wei, X., Yau, S.-T., & Long, F. (2026). GLMY Path Homology Reveals Structural Reorganization in Cryptocurrency Options Markets. Working paper.
- Sun, J., et al. (2026). Mathematical Sciences for Trustworthy AI Corpora. Working paper.
- Sun, J., Cole, M., Yan, F.-C., & Han, Y. Membership Rules and the Pricing of Local Public Goods: Evidence from China's Hukou System. Working paper.
- Li, J., Sun, J., Zhang, Q., Cole, M., & Hong, Y. Megaregion Enlargement and the Geography of Gains: Evidence from the Yangtze River Delta. Working paper.
- Zhu, M., Hong, Y., Sun, J., & Linton, O. Sequential Change Point Detection for Time Series - An Adjusted-Range Based Approach. Revise and resubmit, under revision at Journal of Business & Economic Statistics.

- **Review and Editing Experiences:**
  - I have served as a reviewer for Journal of Business & Economic Statistics, Statistics Sinica, Journal of Environmental Management, Journal of Institutional Economics, and other international journals; I also serve as Associate Editor for Review of Mathematical Economics, Digital Finance, and Management & Marketing.
  - I served as a reviewer for Youth and General grants for the National Natural Science Foundation of China (NSFC).
  - I worked extensively on developing the proposal for the book titled "*The Chinese Stock Market*" for Palgrave Macmillan.
  - I have proof-read "*Econometrics by Example (1st edition)*" by Damodar Gujarati for Palgrave Macmillan; and reviewed the second version of "*Econometrics by Example (2nd edition)*" for Bloomsbury Academic.
  - I have helped with proof reading, editing and indexing a book by Dr. Chernick and Dr. Robert LaBudde - "*An Introduction to the Bootstrap with Applications in R*" for Wiley.

Editorial Service:

- Associate Editor, Review of Mathematical Economics (International Press of Boston).
- Associate Editor, Digital Finance (Springer Nature).
- Associate Editor, Management & Marketing (Springer Nature).

Research Grants:

- "Adjusted Range-Based Self-normalization in Time Series Analysis", Principal Investigator, NSFC General Project, January 2022 - December 2025, CNY 480,000 (GBP 52,418.34).
- "Study on the Impact of the COVID-19 Epidemic on the Chinese Economy and Finance and Policy Recommendations Using Synthetic Control Methods", Principal Investigator, School of Economics and Management, University of the Chinese Academy of Sciences, September 2021 - February 2022, CNY 50,000 (GBP 5,460.24).
- "Research on Talent Cultivation in the Fields of Economics and Digital Technology", Co-investigator, Collaborative Project with Xiamen International Bank, May 2023 - December 2025, CNY 500,000 (GBP 54,602.44).
- "Economic Theories and Empirical Research on Employment, Subjective Well-being, Public Service Satisfaction, and Labor Market Efficiency in Major Chinese Cities", Principal Investigator, Chinese Academy of Sciences Program, January 2019 - December 2020, CNY 200,000 (GBP 21,840.98).
- "Sparse Parameter Models in Big Data", Principal Investigator, Chinese Academy of Sciences Program, September 2015 - December 2017, CNY 120,000 (GBP 13,104.59).
- "Spatial Integer-Valued Autoregressive Moving Average Models and Their Application in Socio-Economic Analysis", Principal Investigator, NSFC Youth Project, January 2015 - December 2017, CNY 200,000 (GBP 21,840.98).
- "Spatial Integer-Valued Autoregressive Moving Average Models and Their Application in Socio-Economic Analysis", Principal Investigator, University of the Chinese Academy of Sciences, June 2013- June 2015, CNY 100,000 (GBP 10,920.49).
- "Basic Research on Financial Futures Market Monitoring and Early Warning from the Perspective of Major Asset Classes", Co-investigator, the Institution of Financial Derivatives of China (owned by China Financial Futures Exchange), January 2018 - December 2018, CNY 90,000 (GBP 9,828.44).
- "Investor Sentiment and Stock Market Policy Failure: Analysis and Empirical Evidence Based on Internet Big Data", Co-investigator, NSFC General Project, January 2017 - December 2020, CNY 470,000 (GBP 51,326.29).
- "Nonlinear Mixed Frequency Data Models and Their Application in Economics", Co-investigator, Ministry of Education, January 2015 - December 2017, CNY 8630.27 (GBP 942.47).

- "Risk Assessment and Optimization of Emergency Material Distribution Systems Under Sudden Natural Disasters", Co-investigator, NSFC Youth Project, January 2015 - December 2017. CNY 250,000 (GBP 27,301.22).

Conference:

- 2026 4th IMA Conference on Mathematics of Finance and Insurance (Liverpool, UK). "*Online Monitoring of Financial Functional Time Series: When Should a Functional Representation Be Refreshed?* "
- 2025 The 17th CEA (Europe) & 36th CEA (UK) Annual Conference, 7 August 2025, Glasgow, UK, "*Sequential Change-Point Detection in Time Series: An Adjusted-Range-Based Self-Normalization Approach*", session presentation.
- University of Leicester, 19 March 2025, "*Sequential Change-Point Detection in Time Series: An Adjusted-Range-Based Self-Normalization Approach*", invited seminar.
- Renmin University of China, 18 April 2025, "*Sequential Change-Point Detection in Time Series: An Adjusted-Range-Based Self-Normalization Approach"*, invited seminar.
- 75th European Meeting of the Econometric Society, 29 August 2024, Rotterdam, Netherlands, "*Confidence interval construction based on the adjusted-range self-normalization approach*", session presentation.
- 2024 Asian Meeting of the Econometric Society, 28 June 2024, Hangzhou, China, "*Sequential change point detection for time series – an adjusted-range based approach*", session presentation.
- Gregory C. Chow's Young Scholar Forum, 18 April 2022, Beijing, China, "*Kolmogorov-Smirnov type testing for structural breaks: A new adjusted-range based self-normalization approach*", invited speech.
- CFE-CMStatistics, 18-20 December 2021, London, UK, "*Confidence interval construction - a new self-normalization approach based on adjusted-range*", online presentation.
- Tsinghua University Statistics and Data Science Young Scholar Forum, 23-24 October 2021, Beijing, China, "*Confidence interval construction - a new self-normalization approach based on adjusted-range*", session presentation.
- Australian Meeting of the Econometric Society, 7-9 July 2021, University of Melbourne, Melbourne, Australia, "*Testing for structural breaks - a new self-normalization approach based on the adjusted sample range*", online presentation.
- Thirteenth Annual SoFiE Conference (North America), 15-17 June 2021, Rady School of Management at the University of California, San Diego, USA, "*A score statistic on testing the presence of stochastic trends in conditional variance*", online presentation.
- 2021 North American Summer Meeting of the Econometric Society, 13-19 June 2021, Université du Québec à Montréal, Montreal, Canada, "*Testing for structural*

breaks - a new self-normalization approach based on the adjusted sample range", online presentation.

- 13th International Conference of the ERCIM WG on Computational and Methodological Statistics - 14th International Conference on Computational and Financial Econometrics, 19-21 December 2021, London, UK, "*Testing structural breaks - a new self-normalization approach based on the adjusted sample range*", online presentation.
- The 4th China Econometricians Forum, 19-20 December 2020, Shanghai Academy of Social Sciences, Shanghai, China, "*Testing structural breaks - a new self-normalization approach based on the adjusted sample range*", session presentation.
- 12th Econometric Society World Congress, 17-21 August 2020, Milan, Italy, "*Model averaging of integer-valued autoregressive model with covariates*", online presentation.
- 2019 Asian Meeting of the Econometric Society, 14-16 June 2019, Xiamen University, China, "*Model averaging of integer-valued autoregressive model with covariates*", session presentation.
- CES (China Economic Society), 8-9 June 2019, annual conference, Dongbei University of Finance and Economics, Dalian, China, "*The subjective well-being of internal migrants: lessons from China*", session presentation.
- 9th ERCIM WG on Computational and Methodological Statistics; 10th International Conference on Computational and Financial Econometrics, 9 December 2016, University of Seville, Spain, "*RKHS-based approach to SCAD-penalized regression in high-dimensional partially linear models*", session presentation.
- IEEE Symposium on Analytics and Risk, 14 August 2015, University of Chinese Academy of Sciences, Beijing, China, "*Commodity shocks and the macroeconomy*", session presentation.