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# Yao Zheng

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## EDUCATION

Ph.D. in Statistics, University of Hong Kong, 2017.

B.Sc. (First-class honours) in Actuarial Science, University of Hong Kong, 2013.

*First year study at School of Economics and Management, Tsinghua University, 2009.*

## APPOINTMENTS

Assistant Professor, Department of Statistics, University of Connecticut, 2019–.

Postdoc Fellow & Visiting Assistant Professor, Department of Statistics & School of Industrial Engineering, Purdue University, 2017–2019.

## PUBLICATIONS

[Student co-author\*; Co-first author<sup>§</sup>; Corresponding author<sup>†</sup>]

- [1] Huang, F.\* , Lu, K.\* , **Zheng, Y.** and Li, G. (2025). Supervised factor modeling for high-dimensional linear time series. *Journal of Econometrics*, to appear.
- [2] **Zheng, Y.** (2024). An interpretable and efficient infinite-order vector autoregressive model for high-dimensional time series. *Journal of the American Statistical Association*, to appear.
- [3] Wang, D.\* , **Zheng, Y.**<sup>†</sup> and Li, G. (2024). High-dimensional low-rank tensor autoregressive time series modeling. *Journal of Econometrics*, **238**, 105544.
- [4] Zhu, Q., Tan, S.\* , **Zheng, Y.** and Li, G. (2023). Quantile autoregressive conditional heteroscedasticity. *Journal of the Royal Statistical Society: Series B*, **85**, 1099–1127.
- [5] **Zheng, Y.**, Wu, J. and Li, G. (2023). Least absolute deviations estimation for nonstationary vector autoregressive time series models with pure unit roots. *Statistics and Its Interface*, **16**, 199–216.
- [6] Wang, D.\* , **Zheng, Y.**, Lian, H. and Li, G. (2022). High-dimensional vector autoregressive time series modeling via tensor decomposition. *Journal of the American Statistical Association*, **117**, 1338–1356.
- [7] **Zheng, Y.** and Cheng, G. (2021). Finite time analysis of vector autoregressive models under linear restrictions. *Biometrika*, **108**, 469–489.

- [8] **Zheng, Y.**, Zhu, Q., Li, G. and Xiao, Z. (2018). Hybrid quantile regression estimation for time series models with conditional heteroscedasticity. *Journal of the Royal Statistical Society: Series B*, **80**, 975–993.
- [9] Zhu, Q., **Zheng, Y.**<sup>§,†</sup> and Li, G. (2018). Linear double autoregression. *Journal of Econometrics*, **207**, 162–174.
- [10] **Zheng, Y.**, Li, W.K. and Li, G. (2018). A robust goodness-of-fit test for generalized autoregressive conditional heteroscedastic models. *Biometrika*, **105**, 73–89.
- [11] **Zheng, Y.**, Li, Y., Li, W.K. and Li, G. (2016). Diagnostic checking for Weibull autoregressive conditional duration models. In: Li, W.K., Stanford, D.A., Yu, H. (editors): *Advances in Time Series Methods and Applications: the A. Ian McLeod Festschrift*. Springer-Verlag, New York.
- [12] **Zheng, Y.**, Li, Y. and Li, G. (2016). On Fréchet autoregressive conditional duration models, *Journal of Statistical Planning and Inference*, **175**, 51–66.

## PRESENTATIONS

### Invited Conference Presentations

1. “High-dimensional Nonlinear Granger Causality via Recurrent Neural Networks,” 2024 IMS International Conference on Statistics and Data Science (ICSIDS), Nice, France, *December 2024*.
2. “Tensor Stochastic Regression via CANDECOMP/PARAFAC Decomposition,” 2024 Joint Statistical Meetings, Portland, Oregon, *August 2024*.
3. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” The 37th New England Statistics Symposium (NESS 2024), University of Connecticut, *May 2024*.
4. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” CMStatistics 2023, HTW Berlin, University of Applied Sciences, Berlin, Germany, *December 2023* (online).
5. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” 2023 Joint Statistical Meetings, Toronto, Ontario, Canada, *August 2023*.
6. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” 2023 ICSA Applied Statistics Symposium, University of Michigan, *June 2023*.
7. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” 10th International Purdue Symposium on Statistics (IPSS-2023), Purdue University, *June 2023*.
8. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” ASA/IMS Spring Research Conference, Banff Centre, Alberta, Canada, *May 2023*.
9. “An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” CFE-CMStatistic, King’s College London, *December 2022* (online).

10. “An Interpretable, Sparse and Tractable Parametric Approach to VARMA-type Time Series Modeling,” The 22nd IMS Meeting of New Researchers in Statistics and Probability, George Mason University, *August 2022*.
11. “Tensor Methods for High-Dimensional Time Series Modeling,” EcoSta2022, Ryukoku University, Kyoto, Japan, *June 2022* (online).
12. “Tensor Methods for High-Dimensional Time Series Modeling,” The 35th New England Statistics Symposium (NESS 2022), University of Connecticut, *May 2022*.
13. “A Novel Computationally Scalable High-Dimensional Vector Autoregressive Moving Average Model,” CMStatistics 2021, King’s College London, *December 2021* (online).
14. “A Novel Computationally Scalable High-Dimensional Vector Autoregressive Moving Average Model,” The 34th New England Statistics Symposium (NESS 2021), University of Rhode Island, *October 2021* (online).
15. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” ISBISKOCHI2020, Cochin University of Science & Technology, India, *December 2020* (online).
16. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” The 33rd New England Statistics Symposium (NESS 2019), University of Connecticut, *May 2019*.
17. “Hybrid Quantile Regression Estimation for Time Series Models with Conditional Heteroscedasticity,” The 1st International Conference on Econometrics & Statistics (EcoSta2017), Hong Kong University of Science and Technology, Hong Kong, *June 2017*.
18. “Linear Double Autoregressive Time Series Model and Its Conditional Quantile Inference,” The 6th International IMS-FIPS (Finance, Insurance, Probability and Statistics) Workshop, University of Alberta, Canada, *July 2016*.

### **Invited Seminars and Scholarly Presentations**

19. “New Advances in High-Dimensional Time Series Modeling,” Summer at Census Seminar, U.S. Census Bureau, *July 2024* (online).
20. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” Hunter College, CUNY, Department of Mathematics and Statistics, *February 2024* (online).
21. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Maryland Baltimore County (UMBC), Department of Mathematics and Statistics, *February 2024* (online).
22. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” Department of Statistics and Acturial Science, University of Hong Kong, *June 2023*.
23. “Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series,” Department of Information Systems and Statistics, Zicklin School of Business, Baruch College, *March 2023*.
24. “Tensor Methods for High-Dimensional Time Series Modeling,” SUNY Binghamton University, Department of Mathematics and Statistics, *May 2022* (online).
25. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” Shanghai University of Finance and Economics, School of Statistics and Management, *December 2021* (online).

26. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Maryland, Department of Mathematics, *September 2020* (online).
27. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Missouri, Department of Statistics, *September 2020* (online).
28. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Connecticut, Department of Economics, *September 2020* (online).
29. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” Boston College, Department of Economics, *December 2019*.
30. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” Indiana University-Purdue University Indianapolis, Department of Mathematics, *October 2018*.

## FUNDING

- (PI) National Science Foundation (DMS-2311178), *Advances in High-dimensional Time Series Modeling and Its Interface with Deep Learning*, 09/01/2023–08/31/2026.
- (PI) UConn OVPR Research Excellence Program, *Novel Statistical Modeling Techniques for High-Dimensional Time Series Data*, 06/01/2021–12/31/2022.

## HONORS AND AWARDS

- Makuch Faculty Fellowship, University of Connecticut, 01/01/2023–12/31/2024.
- Elected Member of the International Statistical Institute (ISI), *Since 2022*.
- Institute of Mathematical Statistics (IMS) New Researcher Travel Award, 2022.
- Excellence in Teaching Recognition, University of Connecticut, *Fall 2019*.
- University of Hong Kong:
  - Best Teaching Assistant Award, *Fall 2013, Fall 2014, Fall 2016 & Spring 2017*.
  - University Postgraduate Scholarship, 2013–2017.
  - Undergraduate Research Fellowship & Excellent Poster Presentation Award, 2012.
  - Statistics & Actuarial Science Scholarship, 2011.
  - C.V. Starr Scholarship for Exchange Study at University of California, Los Angeles, 2010.
  - Summer Research Fellowship & Best Poster Presentation Award, 2010.

## PROFESSIONAL ACTIVITIES AND SERVICES

### Professional Service

- Program Chair-Elect 2025, Business and Economic Statistics (B&E) Section, American Statistical Association (ASA).
- Secretary/Treasurer, ASA B&E Section, 2023–2024.
- Member, ASA B&E Section Student Paper Awards Committee, 2023 & 2024.
- Chair, NESS Student Poster Awards Committee, 2022 & 2024.
- Member, NESS Student Paper & Poster Awards Committees, 2021.

- Member, Education Committee, New England Statistical Society, 2020–.

### **Editorial Service**

- Associate Editor, *Sankhya Series A*, 2024–.

### **Referee Service**

*Annals of Statistics; Applied Stochastic Models in Business and Industry; Canadian Journal of Statistics; Communications in Statistics-Simulation and Computation; Computational Statistics; Computational Statistics and Data Analysis; Contemporary Clinical Trials; Data Science in Science; Economics Letters; Electronic Journal of Statistics; JMIR Public Health and Surveillance; Journal of Business & Economic Statistics; Journal of Data Science; Journal of Econometrics; Journal of Multivariate Analysis; Journal of Statistical Computation and Simulation; Journal of the American Statistical Association; Journal of the Korean Statistical Society; Journal of the Royal Statistical Society: Series B; Journal of Time Series Analysis; Open Health; Oxford Bulletin of Economics and Statistics; Quantitative Finance; Sankhya; Statistica Sinica; Statistical Analysis and Data Mining; Statistics and Its Interface; Statistics and Probability Letters; Statistics in Medicine; The Econometrics Journal.*

### **Grant Proposal Reviewer**

- Reviewer for the National Science Foundation (NSF)

### **Conference Service**

- Organizer, invited session on “Modern Methods in Time Series and Econometrics,” 2024 Joint Statistical Meetings, Business and Economic Statistics Section, *August 2024*.
- Guest panelist, Virtual Time Series Seminar, “Tensor Principal Component Analysis” (Speaker: Andrii Babii), *September 2023*.
- Guest panelist, Virtual Time Series Seminar, “Sparse Identification and Estimation of Large-Scale Vector AutoRegressive Moving Averages” (Speaker: David Matteson), *January 2023*.
- Organizer, invited session on “Modern Statistical Learning Methods for Dynamic Models,” 2022 Joint Statistical Meetings, Business and Economic Statistics Section, *August 2022*.
- Organizer, invited session on “New Advances in High-dimensional Time Series Analysis,” the International Chinese Statistical Association (ICSA) Applied Statistics Symposium, *September 2021*.
- Organizer, invited session on “New Advances in Time Series Analysis,” the 63rd International Statistical Institute (ISI) World Statistics Congress 2021, *July 2021*.
- Organizing committee, the Pfizer/ASA/UConn Distinguished Statistician Series, *Since 2019*.
- Organizer, invited session on “High Dimensional Dependent Data Analysis,” the 33rd New England Statistics Symposium, University of Connecticut, *May 2019*.

### **Department Level Service**

- Member, Committee on Graduate Students, Faculty and Distinguished Alumni Awards, *2023–*.
- Member, Committee on Alumni and Friends Receptions at JSM or Other Major Conferences, *2019–*.
- Member, Committee on Colloquium, *2019–*.
- Member, Committee on the Pfizer/ASA/UConn Distinguished Statisticians Series, *2019–*.

- Member, Committee on Makuch Distinguished Lecture Series, *2019–*.
- Member, Committee on Library/Tech Reports, *2019–2024*.

**Professional Memberships**

- Elected member, International Statistical Institute
- Member, American Statistical Association
- Member, Institute of Mathematical Statistics
- Member, New England Statistical Society