Department of Statistics
University of Connecticut
215 Glenbrook Rd. U-4120
Storrs, CT 06269-4120
(1) 860-486-2641
yao.zheng@uconn.edu
yaozheng-stat.github.io

Yao Zheng

September 2024

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 AND MANUSCRIPTS

[Student co-author*; Co-first author§; Corresponding author†]

[1] Li, S.* and **Zheng, Y.** (2024). Tensor stochastic regression via CANDECOMP/PARAFAC Decomposition, preprint.

[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.**† 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.**[§,†] 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. "Tensor Stochastic Regression via CANDECOMP/PARAFAC Decomposition," 2024 Joint Statistical Meetings, Portland, Oregon, *August 2024*.
2. "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*.
3. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling," CMStatistics 2023, HTW Berlin, University of Applied Sciences, Berlin, Germany, *December 2023* (online).
4. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series," 2023 Joint Statistical Meetings, Toronto, Ontario, Canada, *August 2023*.
5. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series," 2023 ICSA Applied Statistics Symposium, University of Michigan, *June 2023*.
6. "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*.
7. "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*.
8. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series," CFE-CMStatistic, King's College London, *December 2022* (online).
9. "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*.
10. "Tensor Methods for High-Dimensional Time Series Modeling," EcoSta2022, Ryukoku University, Kyoto, Japan, *June 2022* (online).
11. "Tensor Methods for High-Dimensional Time Series Modeling," The 35th New England Statistics Symposium (NESS 2022), University of Connecticut, *May 2022*.

12. “A Novel Computationally Scalable High-Dimensional Vector Autoregressive Moving Average Model,” CMStatistics 2021, King’s College London, *December 2021* (online).
13. “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).
14. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” ISBISKOCHI2020, Cochin University of Science & Technology, India, *December 2020* (online).
15. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” The 33rd New England Statistics Symposium (NESS 2019), University of Connecticut, *May 2019*.
16. “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*.
17. “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

18. “New Advances in High-Dimensional Time Series Modeling,” Summer at Census Seminar, U.S. Census Bureau, *July 2024* (online).
19. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” Hunter College, CUNY, Department of Mathematics and Statistics, *February 2024* (online).
20. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Maryland Baltimore County (UMBC), Department of Mathematics and Statistics, *February 2024* (online).
21. “Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions,” Department of Statistics and Acturial Science, University of Hong Kong, *June 2023*.
22. “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*.
23. “Tensor Methods for High-Dimensional Time Series Modeling,” SUNY Binghamton University, Department of Mathematics and Statistics, *May 2022* (online).
24. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” Shanghai University of Finance and Economics, School of Statistics and Management, *December 2021* (online).
25. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Maryland, Department of Mathematics, *September 2020* (online).
26. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Missouri, Department of Statistics, *September 2020* (online).
27. “High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling,” University of Connecticut, Department of Economics, *September 2020* (online).

28. "Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions," Boston College, Department of Economics, *December 2019.*

29. "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, *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–*.

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; 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
– Member, Education committee of New England Statistical Society