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

April 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

[Co-first author*; Corresponding author†]

[1] **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.

[2] Wang, D., **Zheng, Y.**† and Li, G. (2024). High-dimensional low-rank tensor autoregressive time series modeling. *Journal of Econometrics*, to appear.

[3] 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.

[4] **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.

[5] 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.

[6] **Zheng, Y.** and Cheng, G. (2021). Finite time analysis of vector autoregressive models under linear restrictions. *Biometrika*, **108**, 469–489.

[7] **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.

[8] Zhu, Q., **Zheng, Y.**[*,†] and Li, G. (2018). Linear double autoregression. *Journal of Econometrics*, **207**, 162–174.

[9] **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.

[10] **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.

[11] **Zheng, Y.**, Li, Y. and Li, G. (2016). On Fréchet autoregressive conditional duration models, *Journal of Statistical Planning and Inference*, **175**, 51–66.

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*.

PRESENTATIONS

Invited Conference Talks

1. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", CMStatistics 2023, HTW Berlin, University of Applied Sciences, Berlin, Germany, *December 2023* (online).
2. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series", 2023 Joint Statistical Meetings, Toronto, Ontario, Canada, *August 2023*.

3. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series", 2023 ICSA Applied Statistics Symposium, University of Michigan, *June 2023*.

4. "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*.

5. "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*.

6. "An Interpretable and Efficient Infinite-Order Vector Autoregressive Model for High-Dimensional Time Series", CFE-CMStatistic, King's College London, *December 2022* (online).

7. "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*.

8. "Tensor Methods for High-Dimensional Time Series Modeling", EcoSta2022, Ryukoku University, Kyoto, Japan, *June 2022* (online).

9. "Tensor Methods for High-Dimensional Time Series Modeling", The 35th New England Statistics Symposium (NESS 2022), University of Connecticut, *May 2022*.

10. "A Novel Computationally Scalable High-Dimensional Vector Autoregressive Moving Average Model", CMStatistics 2021, King's College London, *December 2021* (online).

11. "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).

12. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", ISBISKOCHI2020, Cochin University of Science & Technology, India, *December 2020* (online).

13. "Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions", The 33rd New England Statistics Symposium (NESS 2019), University of Connecticut, *May 2019*.

14. "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*.

15. "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 Departmental Seminars

16. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", Hunter College, CUNY, Department of Mathematics and Statistics, *February 2024* (online).

17. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", University of Maryland Baltimore County (UMBC), Department of Mathematics and Statistics, *February 2024* (online).

18. "Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions", Department of Statistics and Acturial Science, University of Hong Kong, *June 2023*.

19. "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*.

20. "Tensor Methods for High-Dimensional Time Series Modeling", SUNY Binghamton University, Department of Mathematics and Statistics, *May 2022* (online).

21. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", Shanghai University of Finance and Economics, School of Statistics and Management, *December 2021* (online).

22. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", University of Maryland, Department of Mathematics, *September 2020* (online).

23. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", University of Missouri, Department of Statistics, *September 2020* (online).

24. "High-Dimensional Low-Rank Tensor Autoregressive Time Series Modeling", University of Connecticut, Department of Economics, *September 2020* (online).

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

26. "Finite Time Analysis of Vector Autoregressive Models under Linear Restrictions", Indiana University-Purdue University Indianapolis, Department of Mathematics, *October 2018*.

PROFESSIONAL ACTIVITIES AND SERVICES

Professional Service

- Secretary/Treasurer, Business and Economic Statistics (B&E) Section, American Statistical Association (ASA), *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; 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; 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 Service

– Member, Committee on Colloquium, *2019–*.

– Member, Committee on Alumni and Friends Receptions at JSM or other major conferences, *2019–*.

– Member, Committee on Makuch Distinguished Lecture Series, *2019–*.

– Member, Committee on Library/Tech Reports, *2019–*.

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

STUDENT ADVISING

PhD Students

– Shibo Li, *current*.

Undergraduate Students

– Miles Kee, Summer Research Assistant, *2022 & 2023*.

– Christine Nguyen, McNair Scholar Program, *2022*.

TEACHING

University of Connecticut:

– STAT 3675Q Statistical Computing (4 cr., undergraduate level; *Spring 2022 & 2023*).

– STAT 4825/5825 Applied Time Series (3 cr., undergraduate and graduate levels; *Fall 2021–2023, Spring 2024*).

– STAT/BIST 5515 Design of Experiments (3 cr., graduate level; *Fall 2019–2023*).

– STAT/BIST 5815 Longitudinal Data Analysis (3 cr., graduate level; *Spring 2020 & 2021*).

Purdue University:

– STAT 511 Statistical Methods (3 cr., undergraduate level; *Spring & Summer 2019*).