

Jieru Shi

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Education

University of Cambridge	Cambridge, UK
Postdoc, Statistics	<i>Nov 2025</i>
University of Michigan	Ann Arbor, MI, USA
Ph.D., Biostatistics	<i>Aug 2023</i>
University of Michigan	Ann Arbor, MI, USA
Master of Science, Biostatistics	<i>Apr 2020</i>
Sichuan University	Chengdu, Sichuan, China
Bachelor of Science, Statistics	<i>Jun 2018</i>
City University of Hong Kong , Exchange student, Statistics	<i>Jan-May 2016</i>

Publication

Method

1. **Shi, J.**, Wu, Z., & Dempsey, W. (2022). Assessing Time-Varying Causal Effect Moderation in the Presence of Cluster-Level Treatment Effect Heterogeneity. *Biometrika*.
2. **Shi, J.**, Wu, Z., & Dempsey, W. (2022). Estimating Time-Varying Direct and Indirect Causal Excursion Effects for Binary Outcomes. *arXiv*.
3. **Shi, J.**, Wu, Z., & Dempsey, W. (2023). Incorporating auxiliary variables to improve the efficiency of time-varying treatment effect estimation. *arXiv*. (JASA Reject & Resubmit)
4. **Shi, J.**, Dempsey, W. (2023). A meta-learning method for estimation of causal excursion effects to assess time-varying moderation. *arXiv*.
5. Huch, E. K., **Shi, J.**, Abbott, M. R., Golbus, J. R., Moreno, A., & Dempsey, W. H. (2023). Debiased Machine Learning and Network Cohesion for Doubly-Robust Differential Reward Models in Contextual Bandits. *arXiv*. (Submitted to ICML 2024)

Applied

6. Golbus, J. R., Gupta, K., Luff, E., **Shi, J.**, Dempsey, W., ... & Nallamothu, B. K. (2023). A Randomized Controlled Trial of a Remotely Delivered Mobile Health Intervention to Augment

Cardiac Rehabilitation: The Virtual AppLication-supported ENvironment To INcrease Exercise (VALENTINE) Study. *NPJ Digital Medicine*, 6(1), 173.

7. **Shi, J.**, Golbus, J. R., Gupta, K., Luff, E., Dempsey, W., Boyden, T., ... & Nallamotheu, B. K. (2023). Text Messages to Promote Physical Activity in Patients with Cardiovascular Disease: A Micro-Randomized Trial of a Just-In-Time Adaptive Intervention. *Circulation: Cardiovascular Quality and Outcomes*.
8. Gupta, K., **Shi, J.**, Dempsey, W., Mukherjee, B., Kheterpal, S., Klasnja, P., ... & Golbus, J. (2023). CONTEXTUALLY TAILORED TEXT MESSAGES TO AUGMENT CARDIAC REHABILITATION: THE VIRTUAL APPLICATION-SUPPORTED ENVIRONMENT TO INCREASE EXERCISE (VALENTINE) STUDY. *Cardiovascular Digital Health Journal*, 4(5), S4-S5.

Honors and Awards

Honorable Mention of the oral presentation session, 2023 Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSIIS) at Ann Arbor, MI.

Student Travel Award Recipient, 2023 the 14th International Conference on Health Policy Statistics (ICHPS) at Scottsdale, AZ.

Junior Researcher Travel Grant, 2022 American Causal Inference Conference (ACIC) at Berkeley, CA.

Rackham Travel Grant, 2022 Joint Statistics Meeting (JSM) at Washington, D.C.

Rackham Travel Grant, 2021 Joint Statistics Meeting (JSM) virtual.

Presentations and Talks

The Virtual AppLication-Supported ENvironment To INcrease Exercise During Cardiac Rehabilitation Study (VALENTINE) Study

- e-HAIL Symposium: Artificial Intelligence and Health (poster), September 2022.

Assessing Time-Varying Causal Effect Moderation in the Presence of Cluster-Level Treatment Effect Heterogeneity

- JSM (contributed talk), August 2021 & August 2022.
- American Causal Inference Conference (ACIC) (poster), May 2022.

A Meta-Learning Method for Estimation of Causal Excursion Effects to Assess Time-Varying Moderation

- Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSIIS), March 2023.

- American Causal Inference Conference (ACIC) (poster), May 2023.
- International Conference of Statistics and Data Science (ICSIDS), December 2023.

Estimating Time-Varying Direct and Indirect Causal Excursion Effects for Binary Outcomes

- ENAR 2023 Spring Meeting (contributed talk), March 2023.
- Causal Inference Reading Group at the University of Cambridge, February 2024.

Teaching

Time-Varying Causal Effect Estimation in Mobile Health Studies

- Invited lecture in BIOS 653, Biostatistics, University of Michigan, November 2022.

Graphical Models: Statistical Learning and Causal Inference

- Guest lecture in Cambridge Part III Systems Biology, Modelling, and Analysis of Networks (MAN), January 2024.

Causal Inference

- Example Class in Cambridge Part III, DPMMS, Michaelmas 2023.

Statistical Modeling

- Supervision in Cambridge Part II, DPMMS, Michaelmas 2023.

Statistics

- Supervision in Cambridge Part IB, DPMMS, Lent 2024.

Professional Service

International Chinese Statistical Association (ICSA) 2023 Applied Statistics Symposium, Organizing committee.

Graduate Student Working Group in the Biostatistics Department, University of Michigan, 2022-2023, Organizer.

Causal Inference Challenges in Sequential Decision Making at NeurIPS 2021, Program committee member.

Machine Learning for Mobile Health at NeurIPS 2020, Co-organizer.