

Jieru Shi

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<https://herashi.github.io/>

EDUCATION	Ph.D. in Biostatistics , University of Michigan Supervised by Dr. Walter Dempsey and Dr. Zhenke Wu. M.S. in Biostatistics , University of Michigan B.S. in Statistics Sichuan University • Exchange student, Statistics, City University of Hong Kong	Aug 2020–Aug 2023 Aug 2018–Apr 2020 Sep 2014–Jun 2018 Jan–May 2016
ACADEMIC APPOINTMENTS	Postdoctoral Research Associate , StatsLab, University of Cambridge Supervised by Dr. Qingyuan Zhao on causal inference Graduate Research Assistant , University of Michigan Principal Investigators: Brahmajee K. Nallamothu & Jessica R. Golbus • The Virtual AppLIcation-Supported ENvironment To INcrease Exercise During Cardiac Rehabilitation Study (VALENTINE) Study Graduate Student Consultant , University of Michigan Director: Kerby Shedden • Consulting for Statistics, Computing and Analytic Research (CSCAR) Graduate Research Assistant , University of Michigan Principal Investigators: Srijan Sen & Amy Bohnert • The PROviding Mental health Precision Treatment (PROMPT) Precision Health Study	Sep 2023–present May 2022–May 2023 Sep 2021–May 2022 Aug 2020–Aug 2021
TEACHING	Statistics • Part IB Supervision in DPMMS, University of Cambridge. Graphical Models: Statistical Learning and Causal Inference • Guest lecture in Cambridge Part III Systems Biology, Modelling, and Analysis of Networks. Causal Inference • Part III Example Class in DPMMS, University of Cambridge. Statistical Modeling • Part II Supervision in DPMMS, University of Cambridge. Time-Varying Causal Effect Estimation in Mobile Health Studies • Guest lecture in BIOS 653, Biostatistics, University of Michigan.	Jan–Mar 2024 Jan 2024 Oct–Dec 2023 Oct–Dec 2023 Nov 2022
PUBLICATIONS	[1] J Shi , Z Wu, W Dempsey, “Assessing time-varying causal effect moderation in the presence of cluster-level treatment effect heterogeneity and interference”. <i>Biometrika</i> , Volume 110, Issue 3, 2023, Pages 645–662, doi: 10.1093/biomet/asac065 . [2] Golbus, J. R., Gupta, K., Luff, E., Shi, J. , Dempsey, W., ... & Nallamothu, B. K. “A randomized trial of a mobile health intervention to augment cardiac rehabilitation”. 2023, <i>npj Digit. Med.</i> 6, 173. doi: 10.1038/s41746-023-00921-9 . [3] 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”. <i>Cardiovascular Digital Health Journal</i> , 4(5), S4-S5. doi: 10.1016/j.cvdhj.2023.08.010	
PREPRINTS	[4] J Shi , Z Wu, W Dempsey, “Estimating time-varying direct and indirect causal excursion effects for binary outcomes”. 2022, <i>arXiv</i> : 2212.01472 [stats.ME]	

- [5] **J Shi**, Z Wu, W Dempsey, “Incorporating auxiliary variables to improve the efficiency of time-varying treatment effect estimation”. 2023, *arXiv: 2306.17260 [stats.ME]* (Journal of the American Statistical Association, Reject & Resubmit)
- [6] **J Shi**, W Dempsey, “A meta-learning method for estimation of causal excursion effects to assess time-varying moderation”. 2023, *arXiv: 2306.16297 [stats.ME]*
- [7] EK Huch, **J Shi**, MR Abbott, JR Golbus, A Moreno, WH Dempsey. “Debiased machine learning and network cohesion for doubly-robust differential reward models in contextual bandits”. 2023, *arXiv: 2312.06403 [stats.ML]* (Submitted to the International Conference on Machine Learning, 2024)
- [8] **Shi, J.**, Golbus, J. R., Gupta, K., Luff, E., Dempsey, W., Boyden, T., ... & Nallamothu, B. K. “Text messages to promote physical activity in patients with cardiovascular disease: a micro-randomized trial of a just-in-time adaptive intervention”. 2023, *Circulation: Cardiovascular Quality and Outcomes* (In press).

TALKS AND PRESENTATIONS

- [1] *Causal Inference Reading Group at the University of Cambridge* (Feb 2024), “Incorporating auxiliary variables to improve the efficiency of time-varying treatment effect estimation”.
- [2] *International Conference of Statistics and Data Science (ICSIDS)* (contributed talk, Dec 2023), “A meta-learning method for estimation of causal excursion effects to assess time-varying moderation”.
- [3] *American Causal Inference Conference (ACIC)* (poster, May 2023), “A meta-learning method for estimation of causal excursion effects to assess time-varying moderation”.
- [4] *Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS)* (contributed talk, Mar 2023), “A meta-learning method for estimation of causal excursion effects to assess time-varying moderation”.
- [5] *ENAR Spring Meeting* (contributed talk, Mar 2023), “Estimating time-varying direct and indirect causal excursion effects for binary outcomes”.
- [6] *e-HAIL Symposium: Artificial Intelligence and Health, University of Michigan*, (poster, Sep 2022), “The Virtual AppLication-Supported ENvironment To INcrease Exercise (VALENTINE) during cardiac rehabilitation study”.
- [7] *Joint Statistical Meeting, Washington D.C.*, (contributed talk, Aug 2022), “Assessing time-varying causal effect moderation in the presence of cluster-level treatment effect heterogeneity”.
- [8] *American Causal Inference Conference (ACIC)* (poster, May 2022), “Assessing time-varying causal effect moderation in the presence of cluster-level treatment effect heterogeneity”.
- [9] *Joint Statistical Meeting, virtual*, (contributed talk, Aug 2021), “Assessing time-varying causal effect moderation in the presence of cluster-level treatment effect heterogeneity”.

SERVICES

- Local Organization Committee Member** *Jun 2023*
- International Chinese Statistical Association (ICSA) 2023 Applied Statistics Symposium
- Organizer** *Sep 2022–Apr 2023*
- Graduate Student Working Group in the Biostatistics Department, University of Michigan
- Program Committee Member** *Dec 2021*
- Causal Inference Challenges in Sequential Decision Making Workshop at NeurIPS
- Program Co-Organizer** *Dec 2020*
- Machine Learning for Mobile Health Workshop at NeurIPS

AWARDS

- Honorable Mention** *Mar 2023*
- The oral presentation session, 2023 Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS) at Ann Arbor, MI.
- Student Travel Award Recipient** *Jan 2023*
- 2023 the 14th International Conference on Health Policy Statistics (ICHPS) at Scottsdale, AZ.

Junior Researcher Travel Grant*May 2022*

- American Causal Inference Conference (ACIC) at Berkeley, CA.

Rackham Travel Grant

- Joint Statistics Meeting (JSM) at Washington, D.C.
- Joint Statistics Meeting (JSM), virtual.

*Aug 2022**Aug 2021*

LANGUAGES

Mandarin Chinese (*native*), **English** (*working proficiency*)