

Jieru Shi

Ph.D. candidate,
Biostatistics, School of Public Health,
University of Michigan, Ann Arbor, USA

(+1) 734-2391171
herashi@umich.edu
<https://herashi.github.io/>

Education

University of Michigan

Ph.D. candidate, Biostatistics

Ann Arbor, MI, USA

Expected: Summer 2023

University of Michigan

Master of Science, Biostatistics

Ann Arbor, MI, USA

Apr 2020

Sichuan University

Bachelor of Science, Statistics

Chengdu, Sichuan, China

Jun 2018

City University of Hong Kong, Exchange student, Statistics

Jan-May 2016

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. (submitted to *Biometrics* for publication).
3. **Shi, J.**, Wu, Z., & Dempsey, W. (2022+). Incorporating auxiliary variables to improve efficiency of time-varying treatment effect estimation. (**In progress**).
4. **Shi, J.**, Dempsey, W. (2022+). Debiased machine learning of causal excursion effects to assess time-varying moderation. (**In progress**).

Applied

5. **Shi, J.**, Golbus, J. R., Gupta, K., Luff, E., Dempsey, W., Boyden, T., ... & Nallamotheu, B. K. (2022). 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. (**In progress**)

Academic Employment

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

Graduate student research assistant

May 2022 - present

- In collaboration with a statistician, pre-process and aggregate raw Apple Watch and Fitbit activity data in preparation for statistical analysis.
- Conduct primary analysis to test whether contextually tailored smartwatch notifications could augment physical activity levels and support patients in maintaining increased physical activity levels over time.
- Conduct secondary analysis of the intervention arm and develop a framework for evaluating future micro-randomized trials based on the data from the VALENTINE Study.

Consulting for Statistics, Computing and Analytic Research (CSCAR)

Graduate student consultant

Sep 2021 - Apr 2022

- Teach 12 researchers weekly how to use and apply statistical software (R and Python) to solve challenges that arise in their investigations;
- Communicate advanced statistical knowledge to U-M researchers through individual consultations to answer questions and advise on steps to further improve researchers' quantitative analysis;
- Organize weekly client meetings in collaboration with faculty including scheduling and communicating agenda items to ensure open communication between clients and faculty;
- Advance statistical knowledge and research problem-solving skills through participating in weekly faculty discussions for key consultation projects.

The PROviding Mental health Precision Treatment (PROMPT) Precision Health Study

Graduate student research assistant

Sep 2020 - Aug 2021

- Proposed methods to provide mental health precision treatment to reduce the burden of depression by expanding and matching the use of mobile technology-delivered interventions;
- Collected and transformed raw FitBit data into MySQL from the CareEvolution database to prepare unruly data for statistical analysis;
- Applied general estimating equations to the mobile technology, and environmental data collected from patients and used LASSO to identify 2 key predictors for the treatment response.

Honors and Awards

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

Time-Varying Causal Effect Estimation in Mobile Health Studies

- Invited lecture in BIOS 653, November 2022.

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

Incorporating auxiliary variables to improve efficiency of time-varying treatment effect estimation

- University of Michigan, Department of Biostatistics, Mobile Health Workshop, July 2022.
- University of Michigan, Department of Biostatistics, seminar, June 2022.

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

- University of Michigan, Department of Biostatistics, Graduate Student Working Group, April 2022.

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.

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

Industrial Experience

National Institution of Drug Clinical Trial Lab, Beijing, China

Data analyst intern, Sep 2017 - Jan 2018

Yhd.com Shanghai, China

Data scientist intern, May 2016 - Aug 2016

Language

Native Chinese (Mandarin)

Fluent English