JINGYU CUI

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CURRENT POSITION

Postdoctoral Associate *February 2024 - current*
Yale School of Public Health, New Haven, CT, U.S.
Supervisor: Professor Donna Spiegelman

EDUCATION

Ph.D. in Statistics *September 2019 - February 2024*
Western University, London, ON, Canada
Thesis Title: Multivariate Regression Analysis for Data with Measurement Error, Missing Values, and/or Sparsity Structures.
Supervisors: Professors Grace Y. Yi and Jörn Diedrichsen

M.Sc. in Statistics *January 2017 - August 2019*
University of New Brunswick, Fredericton, NB, Canada
Thesis Title: Tweedie Generalized Linear Models with Crossed Random Effects
Supervisors: Professors Renjun Ma and Hasan, M. Tariqul

RESEARCH INTERESTS

Measurement Error; Missing Values; Variable Selection; Adaptive Study Design; Meta Analysis; High-Dimensional Analysis

RESEARCH WORK

Peer-Reviewed Publications and Submissions

1. Cui, J. and Yi, G. Y. (2025). Estimation and variable selection in multivariate regression with mixed measurement error and misclassification in covariates and missingness in responses. *Major revision at Electronic Journal of Statistics.*

2. Cui, J. and Yi, G. Y. (2025). Multivariate regression with measurement error: bias analysis and estimation. *Journal of Nonparametric Statistics*, 37(4), 1257–1297.

3. Wang, S., Bai, C., Li, G., Cui, J., Mao, R., Tian, J., Lv, D., Zhang, T., Liu, Y., Feng, Z., & Zhu, H. (2025). Dietary vitamin E intake, life expectancy, and mortality risk among adults in the United Kingdom and the United States. *International Journal of Surgery.* In press.

4. Cui, J. and Yi, G. Y. (2024). Variable selection in multivariate regression models with measurement error in covariates. *Journal of Multivariate Analysis*, 202, 105299.

5. Cui, J., Lu, J., Weng, Y., Yi, G. Y., and He, W. (2022). COVID-19 impact on mental health. *BMC Medical Research Methodology*, 22(15):1-11.

6. Liu, D., Du, Y., Charvadeh, Y. K., Cui, J., Chen, L.-P., Deng, G., Zhang, Q., Cai, K., He, J., He, W., et al. (2020). A real time and interactive web-based platform for visualizing and analyzing COVID-19 in Canada. *International Journal of Statistics and Probability*, 9(5):23–29.

7. Spiegelman, D., Xu, D., Bing, A., Tong, G., Abdo, M., Cui, J., Goss, C., Kiggundu, J. B., Longenecker, C. T., Nelson, L., Semitala, F., Zhou, X., & Lok, L. J. (2025). Optimizing complex health intervention packages through the Learn-As-you-GO (LAGO) design. *Manuscript submitted for publication in Research Methods and Reporting (RMR).*

Manuscripts in Preparation

8. Cui, J., Lok, J., Spiegelman, D. and Zhou, X. (2025). Learn-As-you-GO (LAGO): An adaptive design for stepped-wedge trials via linear mixed models.
9. Cui, J., Spiegelman, D. and Zhou, X. (2025). Integrating direct effects from mediation analysis to improve total effect estimation in meta-analysis.
10 Cui, J., Abdo, M., Spiegelman, D., Lok, J. L., and Zhou, X. (2025). Learn-As-you-GO (LAGO) design in PULESA-Uganda: A stepped-wedge trial to integrate HIV and hypertension services.
11 Bing, A., Bui, M. T., Cui, J., Nevo, D., Spiegelman, D., and Lok, J. L. (2025). LAGO: an R package for intervention optimizations in Learn-As-you-GO (LAGO) trials.

HONOURS AND AWARDS

Poster Awards June 2023
The 2nd CANSSI-NISS Health Data Science Workshop

Title: Variable selection in multivariate regression models with measurement error in covariates

Student Travel Award May 2020
Statistical Society of Canada

Talk Title: Influence of spatial noise covariance on Bayesian analysis of human functional brain imaging data

Student Travel Award May 2019
Statistical Society of Canada

Talk Title: Generalized linear mixed model with crossed random effects

Dr. Stefan Rinco Memorial Prize 2019
University of New Brunswick, Canada

WORKING EXPERIENCE

Postdoctoral Associate February 2024 - current
Center for Methods in Implementation and Prevention Science (CMIPS), Department of Biostatistics, Yale School of Public Health

- Working for the NIH-funded grant titled "Learn-As-you-GO (LAGO): An innovative adaptive design for multi-component intervention studies in cardiology and public health" led by the Principal Investigator Professor Donna Spiegelman.
  - Collaborate with the team from Uganda on analyzing PULESA data from a stepped-wedge cluster randomized trial of implementation strategies to integrate hypertension care into HIV clinics of Kampala and Wakiso District. Collaborate with the team from Nigeria to analyze MAP-IT data from a stepped-wedge cluster randomized trial using a practical implementation strategy as a model for hypertension-HIV integration.
  - Writing a theoretical paper examines how the LAGO design can be applied to stepped-wedge trials while incorporating center-level random effects: *Analysis of "Learn-As-you-GO" (LAGO) in Stepped Wedge Design with Center Random Effects.*

- Working for the NIH-funded grant titled "New Epidemiologic Methods for Reducing Measurement Error and Misclassification Bias in Cancer Epidemiology," led by Professor Molin Wang from Harvard University, and Professor Donna Spiegelman.
  - Course dissemination: Disseminating the proposed methods by developing and delivering short courses and workshops at international conferences. The proposal has been accepted by the Eastern North American Region (ENAR) and the Society for Epidemiologic Research (SER).
- Working on a project aiming to integrate the direct effect measures to estimate the total effect in meta-analysis
- Preparing K award application focused on adaptive design and AI-powered tools for cardiovascular disease.

Data Analysis Consultant September 2022 - August 2023
Western Data Science Solutions (WDSS)

· Organizing and presenting data science workshops: introductory and intermediate R and Python workshops

· Providing cross-departmental statistical consulting to faculty and students, from question formulation to analytic solutions. Below are some projects I have done for clients

- Investigating the impact of child welfare involvement on mental health and care planning needs by proportional odds model.
- Identifying the role of Non-HLA antibodies in Kidney transplantation outcomes by proportional odds model.
- Meta-analysis for the risk of candida infection in patients with psoriasis receiving IL-17 inhibitor drug agents.

TEACHING EXPERIENCE AND CERTIFICATES

Research Assistant and Teaching Asistant, University of New Brunswick *2017-2019*

Research Assistant and Teaching Asistant, Western University *2019-2023*

Lecturer of Big Data Summer Immersion at Yale (BDSY) *June-July, 2025*

Workshop Lecturer in Eastern North American Region (ENAR) and Society for Epidemiologic Research (SER) *2026*

Certificate of the Teaching Assistant Training Program (TATP) *August 20, 2020*

LEADERSHIP

Team Leader of Case Study May 2022
Annual Meeting of Statistical Society of Canada

Case Study Title: Developing quantitative and qualitative evaluations for physician performance in critical care.

Team Leader of Case Study May 2021
Annual Meeting of Statistical Society of Canada

Case Study Title: Impact of COVID-19 on mental health: a longitudinal study using penalized logistic regression.

Core Developer for the COVID-19 Canada Site 2020
Grace-Wenqing-Data-Science-Research-Group (GW-DSRG)
`https://covid-19-canada.uwo.ca/index.html`

PUBLIC PRESENTATION

DahShu Data Science Symposium, University of Connecticut 2025

Poster: Learn-As-you-GO (LAGO) in stepped wedge cluster randomized trials

Joint Statistical Meetings, Nashville, Tennessee 2025

Talk: Learn-As-you-GO (LAGO) in stepped wedge cluster randomized trials

2nd CANSSI-National Institute of Statistical Sciences (NISS) Health Data Science Workshop, University of Waterloo 2023

Poster: Variable selection in multivariate regression models with measurement error in covariates

Annual Meeting of the Statistical Society of Canada (SSC), Online 2022

Talk: Multivariate regression model with measurement error
Case study: Developing quantitative and qualitative evaluations for physician performance in critical care

Annual Meeting of SSC, Online 2021

Talk: Penalized low-rank matrix regression for studying brain connectivity patterns
Case study: Impact of COVID-19 on mental health: a longitudinal study using penalized logistic regression

Annual Meeting of SSC, Online 2020

Talk: Influence of spatial noise covariance on Bayesian analysis of human functional brain imaging data

Annual Meeting of SSC, Calgary 2019

Talk: Generalized linear mixed model with crossed random effects

SERVICES

· **Journal Reviewer** 2025
Journal of the American Statistical Association; Biometrics; Journal of Multivariate Analysis.

Joint Statistical Meetings, Nashville, US 2025
Session Chair: Causal Inferences and Robust Estimators

Internal and External Secretary 2019-2020
Canada Statistics Student Conference (CSSC) Committee

- Arranging regular committee meetings, and other events; helping with communications between members from different subcommittees.