Aoqi Xie

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Toronto, Ontario, Canada

Education

- **Ph.D in Biostatistics** *Sept 2024 - Present*
  Dalla Lana School of Public Health, University of Toronto Toronto, Canada
  - Supervision under Dr. Clement Ma

- **M.Sc. in Biostatistics** *2022 - 2024*
  Dalla Lana School of Public Health, University of Toronto Toronto, Canada
  - Supervision under Dr. Clement Ma
  - GPA: 4.0/4.0
  - Selected Coursework: Categorical Data Analysis, Survival Analysis I, Applied Bayesian Methods, Advanced Statistical Methods for Clinical Trials, etc.

- **B.Sc. in Mathematics and Statistics** *2017 - 2022*
  University of Toronto Toronto, Canada
  - Graduated with Distinction

Research Experience

- **Dalla Lana School of Public Health** *Oct 2024 - Present*
  Practicum Student under supervision of Dr. Pingzhao Hu Toronto, Canada
  - Working on the ongoing research project titled "Developing Bayesian Computational Method for Enhanced Cell Segmentation in Spatial Transcriptomics" at The Hu Lab (https://phulab.org/)
    * Created synthetic data in Python and implemented conformal prediction to quantify the uncertainty in regression and classification problems using Logistic Regression and Multilayer Perceptron.

- **Centre for Addiction and Mental Health** *May 2023 - Present*
  Research Assistant under supervision of Dr. Clement Ma Toronto, Canada
  - Master's Thesis: "A Novel Sequential Multiple Assignment Randomized Trial Design with Internal Pilot Study and Unblinded Sample Size Re-estimation (SMARTIES)".
    * Wrote R functions for implementing the methods and analysis plan
    * Conducted numerical analysis using a simulation study to compare the operating characteristics of the proposed design with three sample size re-estimation methods
    * Our proposed design can shorten the trial's duration, ensure sufficient statistical power based on interim results, and develop personalized treatments for people living with mental health or substance use disorders.
  - Systematic Review Project: "Use of SMART design in mental health and addiction trials in children and youth".
    * Collaborated with librarian and research team at CAMH, we are currently reviewing 1200+ abstracts to identify relevant trials for our review.

- **Institute for Work and Health** *Oct 2022 - Aug 2023*
  Practicum Student under supervision of Dr. Victoria Landsman Toronto, Canada
  - Engaged in the project "Comparison of methods for measuring change from partially paired data using real-world longitudinal survey data" for measuring the effectiveness of Working At Heights (WAH) program mandated in Ontario
  - Utilized R language to write modular functions for existing and newly proposed statistical methods
  - Produced numerical results using mixed effect model, GEE method, and statistical hypothesis tests for measuring change on the WAH data
  - Designed and conducted a simulation study for comparing the performance of each methods

Industry Experience

- **KingKong Technology Co., Ltd.** *May 2021 - Aug 2021*
  Data Analyst Intern Nanjing, China
  - Developed R programs to create a link to the remote database and utilized SQL queries to extract general public budget tables
  - Performed R on data cleaning & analysis, and summarized expenditures of different types including housing, security, energy conservation, education and environmental protection expenditures
  - Utilized leaflet package in R language to plot a zoomable Heat Map, displaying the number of alarming with corresponding shades with 100,000+ geospatial data

Teaching Experience

- **Teaching Assistant** *May 2022 - Present*
  University of Toronto
  - **STA130: Introduction to Statistical Reasoning**: Winter 2024, 2025
  - **STA220: The Practice of Statistics I**: Fall 2024
  - **STA302: Methods for Data Analysis**: Spring 2022, 2024; Summer 2023; Fall 2022, 2023

  Main responsibilities include: holding office hours, grading, leading tutorials, and exam invigilation.

Honours and Awards

- **SGS Conference Grant** *2024*
  University of Toronto
- **SSC Annual Meeting Student Travel Grant** *2024*
  Statistical Society of Canada

Manuscripts

[1] Xie, A., Wang, P., Mitani, A., Aitken, M., Lou, W., Ma, C. (2024) "A novel Sequential Multiple Assignment Randomized Trial (SMART) with Internal Pilot Study and Unblinded Sample Size Re-estimation" (in preparation)

Conference Presentations

[1] Xie, A., Wang, P., Mitani, A., Aitken, M., Lou, W., Ma, C. (2024) "A novel Sequential Multiple Assignment Randomized Trial (SMART) with Internal Pilot Study and Unblinded Sample Size Re-estimation" 2024 SSC Annual Meeting (SSC2024) (Oral Presentation)

[2] Min, S., Xie, A., Yang, M., Zou, Y. (2023) "Understanding how Canada's economy might be impacted by climate change" 2023 SSC Annual Meeting (SSC2023) (Poster Presentation at SSC Case Study Competition)

Volunteer Experience

- **Biostatistics Division Student Representative** *Sept 2023 - Present*
  Public Health Student Association (PHSA), University of Toronto
  - I was the Master's Biostatistics student representative from 2023 - 2024, and now I am the PhD Biostatistics and International PhD student representative at PHSA.
  - Participated in PHSA monthly general council meetings and engaged in discussion for event organization and improving students' academic experience
  - Helped with collecting students' feedback and summarizing insights for divisional student townhalls
- **Biostatistics Section Abstract Reviewer** *June 2024*
  University of Toronto Journal of Public Health (UTJPH), University of Toronto
  - Reviewed and commented on 10 abstracts

Technical Proficiencies

- **Programming Languages**: R, Python, SAS, SQL
- **Database Management**: SQL, MySQL, Oracle
- **Data Analysis and Visualization**: R, Python, SAS, SQL, Tableau, Excel
- **Technical Writing and Documentation**: LaTeX, Microsoft (Word, PowerPoint)

Languages

- **English (Fluent)**
- **Mandarin (Native)**

Membership

Statistical Society of Canada (SSC) *2023 - Present*