YUEQI XU

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EDUCATION

University of Washington Seattle, WA
Ph.D. in Biosatistics *Sep. 2023 – Present*

University of Washington Seattle, WA
Master of Science in Biosatistics *Sep. 2022 – Jun. 2023*
- Transferred to Ph.D. program

University of Washington Seattle, WA
Bachelor of Science in Statistics *Sep. 2017 – Mar. 2022*
Minor in Informatics & Mathematics
Honors: Dean's List, Graduated Magna Cum Laude

PROJECTS & RESEARCH

Analytical Methods for Compositional Data with Applications in the OPACH Study *Jun. 2024 – Present*
Supervisor: Dr. Chongzhi Di
- Developed analytical methods for processing accelerometer-measured physical activity data, including functional data analysis and compositional analysis tools for quantifying dose-response relationships between activity patterns and health outcomes.
- Conducted a comprehensive comparison of the new methods against existing techniques using simulation studies.
- Applied the developed methods to physical activity data from the Objective Physical Activity and Cardiovascular Health in Older Women (OPACH) study.

Development and Comparison of Multiple-Testing Methods *Jul. 2023 – Present*
Supervisor: Professor Gary Chan
- Conducted a comprehensive literature review on existing methodologies for multiple hypothesis testing.
- Replicated findings from the study "*Detecting Multiple Replicating Signals using Adaptive Filtering Procedures*".
- Developed a large-scale hypothesis-testing method designed to enhance testing power.
- Designed and executed simulation studies to compare the performance of existing methods with the newly developed method.

CLASS PROJECTS

Predicting Student Performance in Game-Based Education
Instructor: Professor Brian Leroux *Apr. 2023 – Jun. 2023*
- Utilized logistic regression, random forest, and gradient boosting algorithms to predict student performance in an educational game using game logs.
- Conducting a thorough evaluation and comparison of each method's performance.

A Comparison of Clustering Methods *May. 2023 – Jun. 2023*
Instructor: Professor Marina Meila
- Implemented **mean shift clustering** and **hierarchical clustering** algorithms on a given dataset using **R**, comparing their performance through visual assessment, stability analysis, and internal evaluation.

Review on A Spatial Analysis of Multivariate Output from Regional Climate Models
Instructor: Professor Vincent Roulet *Feb. 2022 – Mar. 2022*
- Conducted a comprehensive literature review on hierarchical spatial spatial analysis method of multivariate output from Regional Climate Models (RCMs).

A Predictive model for Perfume Prices *Jan. 2022 – Mar. 2022*

- Conducted **exploratory data analysis** (EDA) and developed **predictive models** in **R** to analyze key factors contributing to retail perfume prices. Employed **step-wise backward selection** to identify the best model and evaluated model performance using **cross-validation**.

Method Review of the BNT162b2 Vaccine Phase III Trial

Instructor: Professor Ranjini Grove *May. 2021 – Jul. 2021*

- Analyzed the **Bayesian work-flow**, specifically the prior belief and parameter transformations, proposed in the efficacy trial of BNT162b2, the Pfizer-BioNTech Covid-19 vaccine. Visualized analytical results with **ggplot2**.
- Developed alternative justifiable Bayesian work-flows, emphasizing our favored philosophy of prior selection, and utilized **grid approximation** to determine parameters that satisfy the proposed prior belief.

TEACHING EXPERIENCES

University of Washington, Department of Biostatistics

Teaching Assistant *Sep. 2023 - Jun. 2024*

- BIOST 511: Medical Biometry I *Autumn 2023*
  - Instructor: Professor Lloyd Mancl
- BIOST 512: Medical Biometry II *Winter 2024*
  - Instructor: Professor Lurdes Inoue
- BIOST 513: Medical Biometry III *Spring 2024*
  - Instructor: Professor Susanne May

SKILLS

Statistical Analysis: Regression, Longitudinal Data Analysis, Survival Analysis, Functional Data Analysis, Compositional Data Analysis, Bayesian Analysis, Non-parametric Analysis, semi-parametric analysis, Time Series, Inferential Statistics

Programming Languages

- Proficient: R
- Advanced: SQL, Python
- Basic: Java, JavaScript, HTML5, CSS

Software and Tools

- Proficient: LaTex, R Markdown
- Advanced: Excel, Word, PowerPoint, Git
- Basic: Tableau, d3.js

Soft Skills: Communication, Collaboration, Time Management, Planning, Critical Thinking, Problem-Solving

PROFESSIONAL ASSOCIATIONS

American Statistical Association 2019 – *Present*