Jiakun Li

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Education

University of Minnesota Twin Cities • Minneapolis, MN — August 2023 – Current
Ph.D. in Biostatistics • GPA: 4.0/4.0

College of William & Mary • Williamsburg, VA — August 2019 – May 2023
B.S. in Mathematics • GPA: 3.98/4.0 • *summa cum laude*

Programming & Technical Skills

- R, Python, SQL, MATLAB, Wolfram Mathematica, LaTeX, RMarkdown, Shell Script.
- Statistical & Machine Learning Modelling, Optimization Models

Research & Work Experience

Graduate Research Assistant – University of Minnesota — Aug 2023 – Present
Minneapolis, MN

- Methods research on Bayesian Matrix Factorization models to analyze large scale integrated multi-source longitudinal data.
- Conduct analysis on integrated MRI imaging data and clinical data for multiple cohorts to identify sensitive, clinical-ready biomarkers for Friedreich's Ataxia patients.
- Conduct analysis on UKBiobank GWAS data of up to 500,000 samples and 15,000+ biomolecules to discover causal genes, proteins, and other risk factors for Alzheimer's Disease.
- Specialize in using machine learning methods to analyze and predict multiple integrated data.

Undergraduate Research Assistant – College of William & Mary — Apr 2022 – May 2023
Williamsburg, VA

- Use various machine learning methods including dimensionality reduction, clustering, and time series analysis to investigate the bimodality of neural responses of the Honey Bee antennal lobe.
- Code differential equation models and data visualization in MATLAB and Python.

Undergraduate Independent Research – College of William & Mary — Feb 2022 – May 2023
Williamsburg, VA

- Use a stage structured matrix model to investigate the effects of density dependence and annual catch distribution on Chesapeake Blue Crab population dynamics.
- Build stochastic agent-based models in R and implement MCMC algorithms to analyze survival data.

Publication

- **J. Li**, R. Iaci, M. Patel (2024, in prep) A Novel Classification Method of Neural Response to Mechanosensory Stimuli in the Honey Bee Antennal Lobe.
- **J. Li**, A. C. Hyman, J. Shi, R. Lipcius (2024, in prep) Density-dependent matrix-based modeling of blue crab *Callinectes sapidus* population dynamics in the Chesapeake Bay.

Presentation & Poster

- **J. Li**, Density Dependent Matrix-Based Modeling of Blue Crab Callinectes sapidus Population Dynamics in the Chesapeake Bay. 115th Annual Meeting of the NSA (National Shellfisheries Association). Baltimore, MD. March 27th, 2023
- **J. Li**, A Density-Dependent Stage Structured Population Model of the Chesapeake Blue Crab. W&M Summer 22' Applied Math Research Seminar. William & Mary, July 7th, 2022.

Awards & Honors

- Dean's Ph.D. Scholar's Award
- Phi Beta Kappa
- William & Mary Cissy Patterson Prize
- W&M Summer REU Program Research Fellowship

Relevent Coursework

- Statistical Theory I & II , Optimization for Machine Learning, Advanced Regression Analysis, Probability Theory, Mathematical Statistics, Statistical Learning