

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, Data Science, Database

RESEARCH & WORK EXPERIENCE

- Graduate Research Assistant** – University of Minnesota August 2023 – Present
Minneapolis, MN
- Conduct methods research on Bayesian Matrix Factorization models to analyze large scale integrated multi-source omics and neuroimaging data.
 - Build pipelines to process and analyze integrated MRI imaging data and clinical data for multiple cohorts to identify sensitive, clinical-ready biomarkers for Friedreich's Ataxia patients.
 - Perform 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

- N. Georgiou-Karistianis, L.A. Corben, E.F. Lock, H. Bujalka, ... **J. Li**, ..., et al. (2024) Neuroimaging Biomarkers for Friedreich Ataxia: A Cross-Sectional Analysis of TRACK-FA. *The Lancet Neurology* (Submitted)
- **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.

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

RELEVANT COURSEWORK

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