

Daniel Cho

770-361-6808 [📞](tel:770-361-6808) — danielspacecho@gmail.com [✉](mailto:danielspacecho@gmail.com) — [linkedin.com/in/daniel-cho-18305922b](https://www.linkedin.com/in/daniel-cho-18305922b) [🌐](https://www.linkedin.com/in/daniel-cho-18305922b)

Education

Boston University

Sept 2021 – May 2025

BA in Mathematics with Honors: Specialty in Statistics; Minor in Data Science

- Graduated Cum Laude; GPA: 3.84/4.0
- Relevant Coursework (*Graduate Level*): Probability, Mathematical Statistics, Analysis of Variance, Linear Models, Generalized Linear Models, *Statistical Machine Learning*, Time Series Econometrics, Introduction to Analysis I/II, Modern Algebra, Introduction to Topology, *Real Analysis*, *Functional Analysis*, Methods of Scientific Computing

Current Interests

My research interests include the probabilistic and statistical foundations of machine learning, functional data analysis, multivariate analysis, numerical methods for statistics, microbiome analysis, spatial transcriptomics, and continuous glucose monitoring.

Presentations

Cho, D. (2025). Knowledge Distillation-based Methods for Federated Learning. Thesis defense presented in partial fulfillment of departmental honors. Reading committee: Drs. Debarghya Mukherjee (Advisor), Huimin Cheng, and Mark Kon.

Walker, M. E., Cheng, H., Cho, D., Lin, H., Dao, C., Spartano, N. L. (2023). Prediabetes and diabetes are associated with distinct gut microbial composition in the Framingham Heart Study. Abstract presented at the American Heart Association EPI—Lifestyle Scientific Sessions 2024, Chicago, IL. (Role: Contributed to data analysis.)

Cho, D., Jasper, R., Osimo, A. (2023). Inferring Cell Types in Low Read Gene Expression Data from a Mouse Hypothalamus. Poster session and presentation at the Big Data Summer Institute Symposium, Ann Arbor, MI. (Role: Contributed to implementing algorithm, assisted with creating poster)

Research

Undergraduate Research Assistant

Boston, MA

Boston University School of Public Health

Sept 2023 – Present

- Assisted Drs. Nicole Spartano and Maura Walker with statistical analyses by computing summary statistics, ran models to identify key predictors of diabetes status, and created plots and heatmaps to illustrate findings
- Investigated associations between gut microbial composition and diabetes mellitus in patients from the Framingham Heart Study
- Created regression models for project exploring how changes in cohabitation status with family members affect diabetes status in conjunction with other variables.

Thesis Advisee

Boston, MA

Boston University Department of Mathematics and Statistics

Sept 2024 – May 2025

- Defended an expository thesis under Dr. Debarghya Mukherjee, focusing on recent advancements in Federated Learning (FL) frameworks.
- Explored and analyzed knowledge distillation-based algorithms to optimize FL systems for distributed and secure data sharing and personalize for client-specific models.

Undergraduate Researcher

Ann Arbor, MI

University of Michigan School of Public Health

June 2023 - July 2023

- Participated in the Big Data Summer Institute, an NIH-funded research summer program in biostatistics
- Worked with the Genomics group under the direction of Dr. Matthew Zawistowski and Dr. April Schoonover
- Attended didactic lectures on topics in statistics, biostatistics, health policy, and computer science
- Presented and created a poster about a project involving Slide-seq and snRNA-seq data of a mouse hypothalamus

Teaching

Grader - MA 751: Statistical Machine Learning

Jan 2025 - May 2025

- Graded and offered feedback for weekly problem sets and mini data analysis projects for a PhD-level course in statistical learning theory as an undergraduate

Teaching Assistant - MA 123: Calculus I

Sept 2024 - Dec 2024

- Led three discussion sections (120+ students total) to review course material through assigning practice problems, encourage collaborative work among students, and address students' questions about content
- Proctor and help grade exams (600 students total)

Course Assistant - DS 121: Foundations of Data Science II

Sept 2022 - Dec 2023

- Served as teaching aide in a linear algebra course catered towards data science
- Held weekly office hours to help students in learning course material and work on problem sets
- Monitored Piazza posts by answering students' questions

Course Assistant - DS 120: Foundations of Data Science I

Sept 2022 - Dec 2022

- Served as teaching aide in a course on an array of topics including probability, discrete mathematics, multivariate calculus, and linear algebra
- Assisted main teaching fellow with leading discussion sections and helping students learn course material
- Held office hours and monitored Piazza posts by answering students questions

Technologies

Programming: R, Python, Julia, SQL, Rust, Java

LaTeX