

Jiajun Zhang

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EDUCATION

M.Sc in Statistics, University of British Columbia

2026 - Present

Supervisor: Jiahua Chen

BSc. McGill University

2022-2026

Major: Honors Applied mathematics

RESEARCH INTERESTS

Mathematical Statistics, Biostatistics, Statistical Learning, Bayesian Statistics, Finite Mixture Models, Empirical Likelihood.

MATHEMATICAL COURSEWORK

Probability; Mathematical Statistics; Regression & ANOVA; Generalized Linear Models; Deep Learning; Differential Equations; Dynamical Systems; Real Analysis; Complex Analysis; Abstract Algebra; Numerical Analysis; Calculus; Linear Algebra

RESEARCH EXPERIENCE

McGill Honors Research Project

2025.2 - 2025.8

- Research Title: Analyzing Incident and Prevalent Cohort Survival Data
- Research Supervisor: Professor Masoud Asgharian
- Written Report: *Analyzing Incident and Prevalent Cohort Survival Data*

This research provides a review of techniques in analyzing right-censored, left-truncated cohort survival data.

McGill Honors Independent Study

2026.1 - Present

- Research Title: Imbalanced Classification and Sparsity
- Research Supervisor: Professor Abbas Khalili
- Written Report: *Inbalanced Classification and Sparsity*

McGill Directed Reading Program

2026.1 - Present

- Research Title: Modeling Rental Price in Calgary Under Spatial Bayesian Paradigms
- Mentor: Peiyuan Huang, PhD in Statistics, McGill University

UNDERGRADUATE PROJECTS

▪ Physics-informed Neural Networks

2025.12

- Project Report: Small PINNs
- Project Supervisor: Professor Masoud Asgharian

We propose a smaller neural network model that is inspired from the Tiny Recursion Model (TRM).

▪ Deep Learning and Neural Networks

2025.11 - 2025.12

- Project Report: VC Dimension, Probabilistic Bounds and Neyman-Pearson Classification
- Project Supervisor: Professor Masoud Asgharian

This projects studies the theory of Vapnik-Chervonenkis dimension through a probabilistic point of view, and we study Neyman-Pearson classification and its applications.

- **High-Dimensional Regression** 2025.10 - 2025.12
 - Project Report: A Survey on High-Dimensional Regression
 - Project Supervisor: Professor Mehdi Dagdoug

This project studies different regularization methods for high-dimensional regression and the theory of variable selections using Lasso.

- **Dynamical Systems** 2025.3 - 2025.4
 - Project Report: Introduction to Circular Restricted Three-Body Problem
 - Project Supervisor: Professor Antony R. Humphries

This project studies the dynamics of a circular restricted three body problem. We derive the set of Lagrange points of the third body as well as the orbits and stability.

PUBLICATIONS

- **Statistical Inference for Survival Data** 2025.3
 - *The Delta Epsilon*, Issue No.9, ISSN 1911-8996.

TALKS AND CONFERENCES

- **Directed Reading Program** 2026.4.30
 - Topic: Modeling Rental Price in Calgary Under Spatial Bayesian Paradigms
- **Seminar in Undergraduate Mathematics in Montreal, 2026** 2026.01.10
 - Topic: An Introduction to Survival Analysis

TEACHING AND MENTORING EXPERIENCE

McGill Peer Tutor 2023.9 - Present

- Provided individualized help to mentee in mathematics via advice and tutoring. Had tutored over 15 different students with excellent feedback.

McGill Undergraduate Mathematics Helpdesk Mentor 2024.9 - Present

- Offer open office hours each week to guide students in need and help them with their mathematics coursework.

McGill Undergraduate Course Assistant (MUCA)

- Grade student's homework and provide feedback to professors.
 - MUCA for MATH 340: Discrete Mathematics 2026.1 - Present
 - MUCA for MATH 357: Honors Statistics 2026.1 - Present
 - MUCA for MATH 254: Honors Analysis 1 2025.9 - 2025.12
 - MUCA for MATH 248: Honors Vector Calculus 2024.9 - 2024.12
 - MUCA for MATH 223: Linear Algebra 2023.9 - 2024.4

HONORS AND AWARDS

McGill Tomlinson Undergraduate Award 2025.3 and 2024.10

- Awarded to undergraduate course assistants.

VOLUNTEERING EXPERIENCE

McGill Math & Stats Buddy Mentorship Program

2025.9 - 2025.12

- This program matches upper year undergraduate students from math department with freshman students, where mentor will provide advice and help for mentee.

McGill Robotics Club

2023.9 - 2024.4

- Duty: Working with Drone Group as a software developer on drone's vision system.

EXTRACURRICULAR PROJECTS

- Math Resources Website: [Math Resources](#)
- Math Video Channel: [Video Channel](#)

SKILLS

- **Technical Skills:** LaTeX, Github, R, Python, Java