

Jiajun Zhang

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EDUCATION

Bachelor of Science in Honors Applied Mathematics

McGill University

2022-Present

First Class Honors

Graduation Time: Summer 2026

UNDERGRADUATE COURSEWORK

- 4 semesters of calculus (Single Variable Differential Calculus; Single Variable Integral Calculus; Multi-Variable Calculus and Vector Calculus)
- 5 semesters of analysis (Single Variable Real Analysis I, II; Measure Theory and Lebesgue Integration Theory; Functional Analysis; Complex Analysis (Will be taken in 2026))
- 2 semesters of linear algebra
- 2 semesters of abstract algebra
- 2 semesters of differential equations
- 2 semesters of probability theory and statistics
- A list of statistics oriented courses: Regression and ANOVA; Sampling Theory (Will be taken in 2026); Deep Learning and Neural Networks
- A list of additional mathematics topics that I am interested: Graph Theory; Numerical Analysis (Will be taken in 2026); Dynamical Systems

RESEARCH INTERESTS

My research interests are in Mathematical Statistics and Biostatistics. I am especially interested in the field of survival analysis. I would like to further study multi-states models; investigate survival analysis alongside with causal inference and Bayesian theory.

RESEARCH EXPERIENCE

Honors Research Project

McGill University

2025.2 - Present

Research Title: Analysing Incident and Prevalent Cohort Survival Data

Research Supervisor: Professor Masoud Asgharian

- I provided a theoretical approach and served as an introduction to survival analysis, where I studied different estimating techniques for the survival function and hazard function with parametric; non-parametric and semi-parametric inference, and hypothesis testing.
- Some further topics like Bayesian approach to survival analysis; survival analysis with causal inference, etc. are under my current research interest.

Undergraduate Independent Project (MATH 574: Dynamical Systems)

McGill University

2025.3 - 2025.4

Project Title: Introduction to Circular Restricted Three-Body Problem

Project Supervisor: Professor Antony R. Humphries

- I studied the orbits and the stability of different Lagrange points of a circular restricted three-body problem. This independent research was my final project presentation for the graduate level course in dynamical systems.

TEACHING AND MENTORING EXPERIENCE

Peer Tutoring Service – Tutor

McGill University

2023.9 - Present

Supervisor: Pavlina Pajot

- I am a personal tutor belonging to peer tutoring program offered by McGill university. The program shall match me with students request for tutoring. I offer tutoring for a wide range of mathematics courses.

Undergraduate Mathematics Helpdesk Mentor

McGill University

2024.9 - 2025. 5

Supervisor: Jerome Fortier

- I work as a math mentor at Burnside Building 911 . This position is aimed for answering students' questions from a wide variety of math courses which they are having troubles with. I hold weekly office hours and will answer questions from students that are present.

Undergraduate Teaching Assistant

McGill University

- Teaching Assistant for MATH 248: Honors Vector Calculus

2024.9 - 2024.12

- Course Lecturer: Professor Jean-Pierre Mutanguha
- I serve as the only undergraduate teaching assistant for this course
- Help to grade students' homework and provide timely feedback to the professor.

- Teaching Assistant for MATH 223: Linear Algebra

2023.9 - 2024.4

- Course Lecturer: Professor Mikael Pichot
- I serve as an undergraduate teaching assistant for two consecutive semesters.
- Help to grade students' homework and provide timely feedback to the professor.

HONORS AND AWARDS

Tomlinson Undergraduate Award

2025.3 and 2024.10

McGill University

Awarded Two Times

Award nominated to undergraduate teaching assistants with excellent performance.

PAPERS

Jiajun, Z. (2025). *Analysing Incident and Prevalent Cohort Survival Data*.

Jiajun, Z. (2025). *Introduction to Circular Restricted Three-Body Problem*.

PROJECTS

Math Resources Website

2024 - Present

- I have established my own website using github: <https://johanssonrein.github.io/publications/> during my undergraduate degree.
- I use LaTeX, Markdown, HTML combined to write my own notes for core mathematics courses: Calculus, Linear algebra, Real analysis, Differential Equations, Probability, Statistics. More notes are still under construction.
- The goal of my website is to provide free math resources for undergraduate students and help them learn.

Personal Video Channel

2022 - Present

- I run my own video channel on Bilibili, a Chinese online video platform just like YouTube, and I upload videos and have around 6K subscribers (in 2025.7).
- My videos there mainly focus on mathematics subject in Gaokao (Chinese College Entrance Examination) and elementary university-level mathematics including linear algebra and calculus (all recorded in Chinese).
- My account page: [Subscribe Me](#)

TECHNICAL SKILLS

LaTeX, Github, R, Python, Java

LANGUAGES

Mandarin (Native), English (Proficient), French (Intermediate)