BOKUAN LI

bokuan.lio@gmail.com
https://jerrylicious.me

EDUCATION

McGill University   Montréal, Canada
Honours Math and Computer Science (B.Sc.)   2023-2026 *(expected)*
- Course Work: Functional Analysis, Differential Equations, Measure Theory, Topology, Probability Theory, Abstract Algebra, Graph Theory.

RESEARCH

Critical Valuations for the Multivariate Tutte Polynomial
NSERC Undergraduate Student Research Awards   2025.05 - 2025.08
- Supervisor: Professor Dmitry Jakobson.
- Numerically computed and analysed the critical and maximal weights for algebraic connectivity, Laplacian determinant, girth, and the multivariate Tutte polynomial on graphs.
- Characterised the critical and maximal valuations of the multivariate Tutte polynomial.

EXPERIENCE

McGill University | Grader | Montréal, Canada   2025.09 - 2025.12
- Assisted in providing feedback to student coursework in analysis.
- Summarised common mistakes among students and provided general guidance to the class.

iGEM McGill | Dry Lab Member | Montréal, Canada   2023.11 - 2024.08
- Assisted in managing and coordinated tasks in a team of programmers.
- Developed software that generates strands for DNA computing as part of the Nucle.io project.
- Nominated for the Best Software Tool Award among 195 undergraduate teams.

Marianopolis College | Peer Tutor | Montréal, Canada   2023.01 - 2023.05
- Provided personalised help in mathematics for peers in need.
- Created study plans for tutees to improve autonomously.

Marianopolis AI Club | Executive | Montréal, Canada   2021.08 - 2023.05
- Designed and planned lessons and graphics to aid the understanding of programming and machine learning concepts.
- Taught programming and machine learning lessons for a club of fifty people.
- Created an educational game for club members to learn and compete.

AWARDS AND HONORS

Undergraduate Student Research Award | NSERC | *$8000*   2025.05

14th Place in North East Region | ICPC NA East Division 2024   2024.09
- Solved programming challenges as a team.

Wing Hing Chan Scholarships in Science | McGill University | *$1000*   2024.09
- Outstanding academic performance in Math and Computer Science.

Major Entrance Scholarship | McGill University | *$5000/Year*   2024.09
- Academic excellence and demonstrated leadership.

First Place | MariHacks   2024.09
- Designed and created a puzzle game within 24 hours.

PROJECTS

Relic Reminders   2023.10
- Quality of life modification for a video game that includes additional indicators to improve the decision-making of over 10,000 players.

Green Line Goes Up   2023.04
- Economic simulation game that creates emergent patterns from the behaviour of individual agents.
- Explored, explained, and illustrated economic concepts through the evolving status of markets.
- Demonstrated the role of government intervention in an economy through inflation and investment.

Automatank   2022.04
- A battle simulation game consisting of tanks controlled by AI.
- Allowed AI club members to demonstrate their learnings through competition.

RESEARCH INTERESTS

Functional Analysis, Partial Differential Equations, Spectral Theory, Riemannian Geometry.

WRITINGS

Digital Garden: Personal Repository for Mathematical Knowledge.
Probability Task Paper: Proofs of Relevant Theorems from Class.
Theory of Linear PDEs: Presentation Notes for Interest Group in Summer 2025.

SKILLS

Languages: Chinese, English.
Programming: Java, Python, HTML, CSS, TypeScript.