Jibran Iqbal Shah - Curriculum Vitae

+1 647-676-3059 • Toronto, Ontario • jibraniqbal.shah@mail.utoronto.ca

EDUCATION

University of Toronto Expected Graduation: May 2025

Bachelor of Science, Mathematics Specialist, Computer Science Minor **— CGPA: 3.97/4.00**

- University of Toronto International Scholar Award**:** Merit Scholarship of **92,500** CAD.
- Dean's List Scholar (Every Eligible Semester).
- Innis College Exceptional Achievement Award (2023, 2024).
- Samuel Beatty in-course scholarship (2025): Awarded to 3 outstanding students in Mathematics yearly

EXPERIENCE

Research Assistant May 2023-August 2023

(University of Toronto) Toronto, Ontario

- Developed MATLAB and C++ software to compute invariants of Lie subalgebras of sl(4, C) under Prof. Joe Repka to help classify the structure of solvable subalgebras of sl(4,C).
- Optimized symbolic computations by outsourcing them to C++, increasing computational speed by 300%.
- Automated Excel reporting to identify differing invariants in non-isomorphic subalgebras

Undergraduate Summer Research Intern May 2024-August 2024

(Fields Institute) Toronto, Ontario

- Researched Random Multiplicative Functions under Prof. Asif Zaman as part of a group of 3 undergraduate researchers. We collaborated on guessing/proving conjectures and solved challenging problems together.
- Applied a Central Limit Theorem for Martingales (the McLeish Central Limit Theorem) to prove Central Limit Theorems for partial sums of Random Multiplicative Functions, preprint is currently in preparation.

Research Assistant May 2025-August 2025

(Robot Vision and Learning Lab, University of Toronto) Toronto, Ontario

- Studied the impact of perceptual uncertainty propagation and calibration on perception-based motion planning under Prof. Florian Shkurti
- Worked with two state-of-the-art perception based motion planners (HAICU and Trajectron++) which incorporate deep neural network architecture such as CNNs, RNNs and LSTMs to carry out experiments on the effect uncertainty propagation has on their performance

AWARDS AND HONORS

- **Strogatz Prize (2021):** Recipient of the Steven H. Strogatz Prize for Mathematics Communication.
- **Putnam Top 500 (2022):** Top 50 in Canada, mentioned in announcement of winners.
- **UofT Undergraduate Mathematics Competition**: Top 10 in UofT, Highest scoring first year in 2021.

RELEVANT COURSEWORK

CSC263 (Data Structures and Algorithms): 93(A+), CSC336 (Numerical Methods): 82(A-)
CSC373 (Algorithm Design, Analysis and Complexity): 98(A+)
MAT457 (Graduate Real Analysis I): 91(A+), MAT1600 (Graduate Probability): 94(A+)
MAT367 (Differential Geometry): 93(A+), MAT327 (Topology): 96(A+)
Deep Learning Specialization by Andrew Ng (In progress)