

Yu Li

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Skills

- Solid background in Pure Mathematics, Applied Mathematics and Physics.
- Proficient in: Mathematica, Python, R, Maple, Tex and Racket.
- Strong modelling and data analysis skills. Sensitive to quantities, shapes, and structures. Able to recognize patterns and learn new skills fast. Strong self-teaching capacity.
- Strong communication and problem-solving skills.

Education

University of Waterloo

September 2020 – April 2025

Bachelor of Mathematics

Major in Mathematical Physics, minor in Pure Mathematics

Academic Level: 3B

Cumulative GPA: 98.75% Major Average: 99.39%

Related Coursework:

- | | | |
|-------------------------|-----------------------------------|---------------------------------------|
| ○ Quantum Theory | ○ Partial Differential Equations | ○ Abstract Algebra |
| ○ Cosmology | ○ Ordinary Differential Equations | ○ Mathematics for Quantum Information |
| ○ Theoretical Mechanics | ○ Real Analysis | |
| ○ Electromagnetism | ○ Complex Analysis | |

Projects/Experience

NSERC Undergraduate Student Research Award: Probing Exotic Field Apr 2022 - Aug 2022

- Using the GPS system and magnetometers to probe exotic scalar fields produced from high-energy astrophysical events like Binary Black Hole mergers.
- Worked with Professor Niayesh Afshordi and PhD candidate Conner Dailey.

Numerical Methods for Differential Equations

Oct 2021

- Develop algorithms to solve differential equations numerically.
- Compare the efficiencies of various algorithms. Analyze sources of errors.

Double Pendulum Chaos Simulation

Nov 2021

- Simulate the motion of the double pendulum system by using computer programming.
- Use various of tools (phase space orbits, the Layapunov Exponent, and so on) to analyze the chaotic behaviour of the motion.

Teaching Assistant

Sep 2021 - Dec 2021

- Teaching assistant for MATH 237 (Calculus 3 for Honours Mathematics).
- Answer students' questions. Mark assignments.

Achievements

Mathematics National Scholarship

Apr 2020

- Entrance scholarship valued at 15,000 Canadian Dollars tenable to University of Waterloo
- Based on outstanding academic records and achievements in math contests

NSERC Undergraduate Student Research Award

Apr 2022 - Aug 2022

- Award funded by the Natural Sciences and Engineering Research Council of Canada for undergraduate students to do research

University of Waterloo President's Scholarship of Distinction

Apr 2020

- Entrance scholarship valued at 5,000 Canadian Dollars tenable to University of Waterloo
- Based on admission average (average received: 96%)

Term Distinction

Sep 2020 – Apr 2022

- Received for excelling academically throughout the term