

Christopher Lee

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EDUCATION

University of Waterloo

Bachelor of Mathematics, GPA: 3.9

Waterloo, ON

Sept. 2024 – Aug 2029

Wilfrid Laurier University

Bachelor of Business Administration, GPA: 3.9

Waterloo, ON

Sept. 2024 – Aug 2029

EXPERIENCE

LEE LAW: Barrister, Solicitor, and Notary.

June 2023 – September 2023

Student Data Intern

Toronto, ON

- Worked on visualizing over 1000 case matters using Microsoft Office tools
- Organized and analyzed company filing system and case database which contained over 1000 cases

FTC Team 19446

June. 2023 – July 2024

Business Coordinator and Programmer

Markham, ON

- Used my expertise in the field of sponsorship acquisition and programming to aid my team in funding and programming our robot.
- Contributed funding and expertise that led to our team winning regional competitions and achieving an opportunity to compete provincially on the FIRST stage.

PROJECTS

Hidden Markov Model Market Regime Detection in Rust

March 2025

- Developed a Rust-based HMM to identify market regimes (bull, bear, neutral) using historical SPY price data. The model processes log returns and discretizes them into quantiles for state inference
- Implemented the Baum-Welch algorithm for training and the Viterbi algorithm for state prediction, ensuring robust transition and emission probability estimation over n training iterations.
- Produced a research report analyzing the model's performance and visualized detected regimes using price overlay plots, offering insights into market state transitions.

Monte Carlo and Heston Model Simulations in Rust

March 2025

- A Rust implementation of Monte Carlo and Heston stochastic volatility models for simulating stock price paths and assessing financial risk via Value at Risk (VaR)
- Leverages async processing for efficiency and visualizes results.
- Produced a research report going through my process and iterative research

AWARDS

Philosophy Academic Achievement Award

July 2024

- Award given to the individual who achieved the highest mark in HZT4U1, Philosophy: Questions and Theories. (Achieved: 100%)

Canadian Senior Math Contest Distinction Award

July 2024

- Award given to individuals who achieved a score in the top 25% on the Canadian Senior Math Contest

SKILLS & INTERESTS

Skills: Rust, Java, Microsoft Excel, Computational Mathematics

Interests: Photography, Philosophy, Statistics and Probability