Christopher Lee

437-522-6774 | jleechris06@gmail.com | Personal Website

Education

University of Waterloo — Waterloo, ON
Bachelor of Mathematics, GPA: 3.9 — *Sept. 2024 – Aug 2029*

Wilfrid Laurier University — Waterloo, ON
Bachelor of Business Administration, GPA: 3.9 — *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

Sentivest: Sentiment Based Portfolio Optimization — March 2025

- Sentiment-Driven Portfolio Adjustments: The tool integrates sentiment analysis using FinBERT to evaluate the market sentiment for various stocks and companies, scraping news articles and financial data.
- This analysis feeds into the Black-Litterman model to dynamically adjust stock allocations and minimize portfolio risk based on real-time sentiment-driven views.

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 higest 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, Quantitative Analysis

Interests: Photography, Philisophy, Statistics and Probability