

# ROBIN BILODEAU

Ottawa, Ontario, Canada

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## EDUCATION

### University of Ottawa

Ottawa, Ontario, Canada

*Bachelor of Science in Computer Science and Mathematics*

Sep 2023 – Apr 2027

- **Relevant Courses:** Intro to Computing 1, Intro to Computing 2, Linear Algebra, Discrete Mathematics for Computing, Business Analytics, Statistics for Management

## WORK EXPERIENCE

### Scotiabank - Global Banking and Markets

Toronto, Ontario, Canada

*Incoming Quantitative Analyst Intern*

Sep 2025 – Dec 2025

### Westmount Capital Partners

Ottawa, Ontario, Canada

*Investment Banking Intern*

Jul 2024 – Nov 2024

- Assisted in debt structuring for a 10 million dollar convertible note and 2 million dollar bridge loan
- Participated in market research and prepared pitch materials for capital raising, resulting in 250 million dollars of commitments

## RESEARCH EXPERIENCE

### Uncertainty-Aware Statistical Extensions for HDBSCAN Clustering

Ottawa, Ontario, Canada

*Undergraduate Researcher*

Apr 2025 – Present

- Developed a Monte Carlo sampling framework to repeatedly adjust probability rank matrices, yielding statistically stable core-distance estimates for clustering high-noise data leading to reduced sensitivity to outliers and improved cluster detection reliability
- Coordinated a fast Fourier-based deconvolution estimator to recover underlying data distributions from noise-contaminated observations, enhancing core distance estimates for robust HDBSCAN clustering

## PROJECTS

### OrderBook Implementation for Financial Markets

- Built a high-performance real-time order book system with FastAPI, supporting MARKET, LIMIT, and FOK orders, handling order placement, matching, and cancellations
- Leveraged Python's bisect module to maintain sorted price levels in the order book, significantly improving insert/search performance over naive list operations
- Designed robust order validation using StrEnum to enforce consistent order types (LIMIT, MARKET, FOK) and sides (BUY, SELL), enhancing code clarity and reducing bugs

## LEADERSHIP AND ACTIVITIES

### IMC Prosperity Trading Competition

Ottawa, Ontario, Canada

*Team lead*

Apr 2025 – May 2025

- Developed and implemented multiple algorithmic trading strategies, including market making, an ETF mispricing strategy using the Kelly criterion, and a Black-Scholes neutral delta options strategy
- Engineered robust, adaptive algorithms to exploit market microstructure inefficiencies and option pricing dynamics, showcasing advanced capabilities in risk management, statistical modeling (using NumPy and similar libraries), and algorithm optimization across diverse asset classes

## SKILLS, LANGUAGES, INTERESTS

- **Languages:** English (Native speaker), French (Native speaker)
- **Programming:** Python, Java, Typst
- **Tools:** Microsoft Word, Git, Visual Studio Code, Canva, Jupyter
- **Libraries:** matplotlib, numpy, Scikit-learn, pandas, Tkinter, yfinance
- **Athletics:** Boxing, Hockey, Soccer, Volleyball