ROBIN BILODEAU

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EDUCATION

University of Ottawa **Ottawa, Ontario, Canada**
Bachelor of Science in Computer Science and Mathematics Sep 2024 – Apr 2028

- **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**
Quantitative Analyst Intern Sep 2025 – Present

RESEARCH EXPERIENCE

Uncertainty-Aware Statistical Extensions for HDBSCAN Clustering **Ottawa, Ontario, Canada**
Undergraduate Researcher Apr 2025 – Oct 2025

- 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, C++, Typst
- **Tools**: Microsoft Word, Git, Visual Studio Code, Canva, Jupyter
- **Libraries**: matplotlib, numpy, Scikit-learn, pandas, Tkinter, yfinance
- **Athletics**: Boxing, Hockey, Soccer, Volleyball
- **Clubs**: Mathematics Club