

## Education

### MILA - Université de Montréal

December 2024

*Master of Science in Computer Science, Machine Learning*

### HEC Montréal

2023

*Master of Science in Financial Engineering*

*Thesis Subject:* Regime Switching for Dynamic Correlation, Optimized with Economical Indicators

*Supervision:* Professors Genevieve Gauthier and David Ardia • *Research scholarship from Fin-ML*

### Université de Montréal

2022

*Bachelor of Science, Mathematics, Actuarial Mathematics*  
*Dean's List*

## Experience

### Quantolio Inc

June 2023 – Present

*Data Scientist*

*Montreal, QC*

- Developed and tested NLP models leveraging Large Language Models and custom neural networks to infer event properties and relationships for a knowledge graph, improving real-time event monitoring and risk management.
- Per client requests, identified statistical flukes in investment strategies and academic papers through feature importance methods adapted to financial serially correlated data.
- Delivered key insights to portfolio managers by identifying Structural Breaks and Market Regimes, through Hidden Markov Models and Econometric methods.

### CWP Energy

February 2023 – June 2023

*Risk & Operations Analyst, Internship*

*Montreal, QC*

- Contributed to enhancing the company's internal Risk Infrastructure by converting legacy VBA macros into more efficient Python programs, aiding in the automation of operational trading processes.
- Monitored and analyzed daily Profit & Loss (P&L) using data visualization techniques with Python libraries such as Seaborn and Pandas, generating actionable insights for trading strategy adjustments.
- Served as the primary point of contact for external counterparties, leveraging strong communication skills to manage relationships and facilitate efficient communication.
- Employed SQL and quantitative methods in analyzing data for new trading opportunities, including backtesting, stress testing, and sensitivity analysis.

### Futures First

May 2022 – January 2023

*Derivatives Trader, Internship*

*Montreal, QC*

- Specialized in trading U.S. fixed income futures and S&P500 e-mini futures.
- Managed and optimized the real-time execution of semi-automated trading systems, enhancing operational efficiency for my personal trade book.
- Introduced a trading strategy based on key financial news releases; this strategy is still actively being used.
- Employed data analytics to backtest and optimize trading strategies, making data-driven decisions.
- Actively participated in weekly meetings, contributing insights on profitable trading strategies, market conditions, and potential market-impacting events.

### Aon

January 2021 – April 2021

*Actuarial Consulting in Professional Services, Internship*

*Montreal, QC*

- Conducted dynamic financial analysis to identify client risk exposures for optimized capital allocation.
- Developed loss profiles tailored to specific industries and firms, aiding in customized insurance programs.
- Forecasted premiums and ran simulations to establish actuarial funding and pricing requirements.
- Prepared premium funding and reserving reports to meet client captive insurance needs.

### ICPEI (acquired by Desjardins)

May 2020 – August 2020

*Data Analyst, Internship*

*Montreal, QC*

- Implemented a custom insurance pricing tool tailored for individual client profiles, enhancing underwriting precision and customer satisfaction, using Object-Oriented Programming (OOP) in Python.
- Conducted comprehensive data analysis using SQL and R, identifying key metrics that contributed to more effective risk assessment and pricing strategies.
- Collaborated closely with the finance team to fulfill corporate actuarial duties, successfully completing all quarter and year-end responsibilities, including financial reporting and risk analysis.
- Played a pivotal role in the transition to IFRS17 by evaluating and optimizing home and car insurance products, resulting in a more streamlined compliance process.