Zakaria El Yassini

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Profile

Graduate student in Mathematical Finance driven by a passion for integrating advanced statistical and machine learning methods into real-world financial applications. Proficient in Python, R, and Power BI, with experience developing data-driven solutions for investment strategies, portfolio risk management, and research. Internships, combined with academic awards, demonstrate a proven track record of applying theory to practice.

Education

Concordia University — Montreal, QC, CA
Master of Science, Mathematical Finance — Jan 2025 – Present

- Awards and Bursaries: NSERC's Research Bursary, Faculty of Arts and Science Graduate Master's Award.
- Honors: Member of the Golden Key International Honour Society.
- Relevant Coursework: Neural Networks, Advanced Probability

Concordia University — Montreal, QC, CA
Bachelor of Science, Mathematical and Computational Finance — Dec 2024

- Dean's List: 2020-2021 academic year
- Degree Honors: With Distinction
- Awards: Tom Labelle Bursary in Mathematics, Bronze Honors in International Youth Math Competition
- Relevant Coursework: Derivative Pricing, Asset Management, Stochastic Calculus, Monte-Carlo Methods

Skills

Technical:
Programming: Python ★★★★★, R ★★★⯪☆, C++ ★★★☆☆
Data Tools: Excel ★★★★★, Power BI ★★★★⯪, Power Automate ★★★★★, Power Apps ★★★★⯪
Quantitative Analysis: Statistical & Quantitative Research; Financial & Mathematical Modeling
Languages:
English ★★★★★, French ★★★★★, Arabic ★★★★★
Soft Skills:
Critical and Innovative Thinking; Team Collaboration; Leadership

Experience

Concordia University — Montreal, QC, CA
Teaching Assistant — Jan 2025 – Present

- Provided comprehensive lectures and practical exercises on hypothesis testing, matrix analysis, and optimization techniques to groups of up to 30 students, enhancing overall class engagement by 25%.
- Supported the academic success of over 800 students, consistently meeting grading deadlines in advance.

IPEX Inc — Verdun, QC, CA
Financial Performance Analyst Intern — May 2025 – Dec 2025

- Engineered advanced Power BI dashboards to evaluate portfolio performance, structured and monitored 30+ CAPEX initiatives, optimizing capital allocation, and building 50M $ business cases.
- Applied mathematical models and time series forecasting (95% Confidence Intervals) to project performance trends, improving budgeting accuracy.

- Designed and automated a Python PVM analysis tool, streamlining data processing workflows by reducing manual effort by 20+ hours monthly and providing stakeholders with instant access to critical metrics.

Bombardier Inc — Dorval, QC, CA
Analyst Intern — Jan 2023 – May 2023

- Developed advanced tools and reports for governance and budget management, enhancing data gathering and analysis processes, identifying risks and opportunities with the ongoing 50+ Capex processes.
- Automated data collection workflows within Power Apps using Power Automate, reducing manual processing time by 100% and accelerating overall analysis timelines by an average of 5 days.

Diplomas & Certifications

Canadian Operational Research Society (CORS) — Canada
Diploma, Operational Research — Jul 2025
New York Institute of Finance — New York, NY, USA
Certification, Machine Learning for Trading — Oct 2024

Projects

A dive into US Treasury bonds forecasting with machine learning — March 2025 – April 2024

- Applied Principal Component Analysis (PCA) to US Treasury yield data (17 years, 2007–2024), reducing 9 maturities into 3 components that explained 99% of variance, consistent with fixed-income theory on level, slope, and curvature factors.
- Engineered forecasting models (linear, spline, LSTM), demonstrating superior short-term predictive performance of linear models and improved long-term accuracy with LSTMs, highlighting key trade-offs in model complexity.

Pricing Options Derivatives — Aug 2024 – Dec 2024

- Developed Monte Carlo models in Python to price European vanilla, basket and Asian options, incorporating variance reduction techniques (e.g., control variates), resulting in a 307M% efficiency improvement.
- Implemented PDE methods for option pricing using the FTCS scheme.

Value-At-Risk Projects — Dec 2024 – Jan 2025

- Built an R-based Value-at-Risk model using delta-normal approximation and importance sampling.

Extracurricular Activities

QUARCC — Montreal, QC, CA
Quantitative Researcher — Jan 2025 – Present

- Collaborated with club members to conduct rigorous research such as Neural ODEs and Neural SDEs and their application in finance.

Maison des Jeunes Point de Mire — Verdun, QC, CA
Youth Center Animator — May 2025 – Dec 2025

- Designed workshops tailored to youth interests increasing engagement by 40%, fostering creativity, teamwork, and personal development in participants, and raising +1000$ to fund various activities.

Interest

Jewelry Design and Craftsmanship, Programming, Reading fiction and philosophy literature, Hiking