ZAKARIA EL YASSINI

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⊙ PROFILE

Motivated Graduate student in Mathematical and Computational Finance with expertise in quantitative methods and financial analysis and a passion for research. Proficient in Python, R, and Power BI, leveraging programming to develop innovative solutions for investment strategies and risk assessment.

🎓 EDUCATION

MA MSc Mathematical Finance and statistics   *Jan 2025 – May 2027*
Concordia University – Montreal, QC

- *Relevant Coursework:* Neural Networks, Statistical Learning.

Bachelor of Science BSc, Mathematical and computational finance   *Sep 2020–Dec 2024*
Concordia University – Montreal, QC

- *Dean's List:* 2020-2021 academic year.
- *Relevant Coursework:* Time series analysis, Derivative pricing, Black-Scholes, stochastic calculus, advanced statistics & probability, Asset Management, Hedging, Derivative Pricing, Swaps and caps, Monte-Carlo Simulations, Continuous time finance.
- *CGPA:* 3.56/4.30

Moroccan Baccalaureate in Science   *Sep 2020*
Madariss Maria High School – Temara, Morocco

- *Distinction:* Very Good.

卐 SKILLS

- **Programming skills**: Python (expert), R (advanced), C++ (beginner).
- **Data tools**: Microsoft Excel (expert), Power BI (advanced), Power Automate, Power Apps.
- **Quantitative Analysis:** Statistical and Quantitative Research, Financial and Mathematical Modeling.
- **Soft skills:** Critical and Innovative Thinking, Team Collaboration, Leadership.

🌐 LANGUAGES

- English | Native
- French | Native
- Arabic | Native

💼 EXPERIENCE

Teaching Assistant   *Jan 2025 – Present*
Concordia University – Montreal, QC

- Assist in delivering statistical learning content, including hypothesis testing, cross-validation, regression methods and variable selection techniques (e.g., LASSO, ridge regression).
- Assist with grading assignments and projects on machine learning models and applied statistics.

Financial Performance Analyst Intern   *May 2024 – Dec 2024*
IPEX Inc – Verdun, QC

- Developed advanced Power BI tools to analyze the performance of a portfolio of companies.
- Applied mathematical models, including time series analysis with a 95% confidence interval, to predict performance trends, enhancing budgeting and forecasting accuracy.
- Created an innovative Python-based PVM analysis tool that automated performance metrics selection, saving over 20 hours monthly and enabling on-demand access to key data without manual intervention.

Analyst intern   *Jan 2023 – May 2023*
Bombardier Inc – Dorval, QC

- Developed advanced tools and reports for governance and budget management, enhancing data gathering and analysis processes, resulting in 100%-time savings through automation.
- Demonstrated proficiency in Power BI, Power Automate, Power Apps, and Excel to deliver insightful financial analysis, leading to a 75% improvement in identifying key risks and opportunities and enhancing reporting accuracy.

- Managed multiple high-priority projects with varying deadlines, improving project delivery by 50%.

🏅 Honors and awards
- Faculty of Arts and Science **Graduate Master's Award**
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- **NSERC** 's Research Bursary
- **Tom Labelle Bursary** in Mathematics
- Bronze Honour in **IYMC** (International Youth Math Challenge)
- Bronze Honour in **IAAC** (International Astronomy and Astrophysics Competition)

◇ projects

Various Programming Projects   *Aug 2024-Present*

GitHub
- Developed and refined Monte Carlo models to price European vanilla and basket options as well as Asian options, incorporating variance reduction techniques (e.g., control variates), resulting in a 307 M % efficiency improvement.
- Designed a momentum-based portfolio optimization strategy using LSTM neural networks for asset prediction, integrating dynamic weighting to maximize the Sharpe ratio.
- Implemented PDE methods for option pricing using the FTCS scheme to model option derivatives.
- Built algorithms to calibrate volatility surfaces from market data, enhancing option pricing accuracy across different strike prices and maturities.
- <u>Technologies</u>: Python (TensorFlow/Keras, NumPy, SciPy, Matplotlib, Pandas), R, html, CSS

🎓 Certifications and projects

Quantitative Research Virtual Experience   *Jan 2025 – Present*

JPMorgan Chase & Co.
- Developed Python models to analyze commodity price data and estimate future prices, while creating a prototype pricing model for commodity storage contracts.
- Built credit risk analysis models to estimate default probabilities, applying dynamic programming to categorize FICO scores and predict defaults.

Machine Learning for Trading   *Oct 2024*

New York Institute of Finance
- Specialized in the application of neural networks to enhance trading strategies and optimize financial decision.

Investment Analysis & Portfolio Management with Python   *Aug 2024*

Fervent
- Conducted comprehensive investment analysis and optimization techniques in asset management using Python.

🖼️ Extracurricular Activities

Event Greeting Agent   *May 2023 – Oct 2023*

Piknic Electronik — Montreal, QC
- Coordinated entry for 10,000 festival attendees, managing inflow and outflow seamlessly while thriving under pressure and optimizing event logistics.

Youth Center Animator   *May 2022 – Sep 2022*

Maison des Jeunes de Point de Mire — Verdun, QC
- Designed workshops tailored to youth interests increasing engagement by 40%, fostering creativity, teamwork, and personal development in participants.

First Year Representative   *Sep 2020 – Sep 2021*

MASSA – Montreal, QC
- Coordinated with 4-people team to organize and host campus events, enhancing student engagement by bringing in industry speakers to discuss topics such as Brownian motion and stochastic calculus in finance.

⟩ Interest
- Jewellery design and craftsmanship.
- Programming and technology innovation.
- Reading fiction, philosophy, and programming articles for personal growth and intellectual development.
- Outdoor activities, particularly hiking and nature exploration.