

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.

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**
 - Faculty of Arts and Science **Graduate Master's Algant Award**
 - **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)
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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.
 - Technologies: Python (TensorFlow/Keras, NumPy, SciPy, Matplotlib, Pandas), R, html, CSS
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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.
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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.
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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.