

# 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 – Present

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 ★★★★★, R ★★★★★, C++ ★★★★★
- **Data tools**: Microsoft Excel ★★★★★, Power BI ★★★★★, 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 ★★★★★
- French ★★★★★
- Arabic ★★★★★

## 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.



## HONORS AND AWARDS

- Faculty of Arts and Science **Graduate Master's Award** Jan 2025
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- **NSERC** 's Research Bursary Jan 2025
- **Tom Labelle Bursary** in Mathematics Sep 2021
- Bronze Honour in **IYMC** (International Youth Math Challenge) Nov 2023
- Bronze Honour in **IAAC** (International Astronomy and Astrophysics Competition) Jul 2020



## 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



## CERTIFICATIONS

### 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

### 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.