

Orkhan Ashrafov

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EDUCATION

Imperial College London, UK

September, 2025 – September, 2026

MSc Mathematics and Finance

Activities: Algorithmic Trading Society active member

Related Coursework: Statistics, Computing in Finance (Python & C++), Option Pricing, Stochastic Processes, Derivative Pricing, Quantitative Risk Management, Simulation Methods, Portfolio Management, Interest Rate Models

Middle East Technical University, Türkiye

October, 2019 – December, 2024

BSc Mathematics, minor in Operations Research

Grade: High Honour; *Activities:* METU Chess club active member

Related Coursework: Derivatives, Python, Probability Theory, Statistics, Machine Learning, Statistical Learning, Stochastic models, Optimization, Linear Algebra, Numerical Analysis, Differential Equations, Mathematical Analysis

EXPERIENCE

Quantitative Researcher, Internship

June, 2026 – September, 2026

AFEA Group, Azerbaijan

- Crypto Futures Trading

University Level Math Tutor

June, 2024 – August, 2025

Ozeldersalani, Türkiye

- Taught Linear Algebra, Partial Differential Equations, Calculus & Advanced Calculus, Probability & Statistics to undergraduate students in Türkiye

Quantitative Risk Analyst, Internship

June, 2023 – September, 2023

Rabita Bank, Azerbaijan

- Built and validated credit risk models using machine learning algorithms and statistical techniques in Python. Performed in-depth market risk analysis of the credit portfolio, including VaR, CVaR, stress testing, and scenario analysis to evaluate exposure under adverse market conditions.

Data Scientist, Internship

July, 2022 – October, 2022

QSS Analytics, Azerbaijan

- Built predictive models using regression and classification techniques, improving the accuracy of client insights. Retrieved data via SQL. Cleaned and transformed large datasets; applied feature engineering to enhance model performance. Conducted statistical analysis and hypothesis testing to identify key business drivers.

PROJECTS

Basis Swap Spreads: Mean Reversion & Trend Analysis

- Analyzed single-currency basis swap spreads across EURIBOR 6M, EURIBOR 3M, and ESTR curves using historical benchmark data; constructed aligned tenor spread time series, tested for mean reversion and trend behavior using statistical methods, explored steepener and fly structures, and developed trading strategies to evaluate signal performance and profitability.

Barrier Option Pricing & Multilevel Monte Carlo Simulations

- Built a Monte Carlo framework in Python to price a down-and-out barrier option under Geometric Brownian Motion and estimate Delta and Vega using pathwise sensitivity methods. Applied Brownian bridge barrier-crossing correction to improve convergence and assessed the effect of continuous versus discrete monitoring on pricing accuracy.

SKILLS

Python, SQL, Data Analysis, Probability Theory, Statistics, Risk Management, Machine Learning, Financial Markets, Option Pricing, Numerical methods, Derivatives, Optimization, Portfolio Theory, Teamwork, Problem Solving

ACHIEVEMENTS

Member of National Math Team at International Zhautykov Olympiad 2019

7th place at Azerbaijan Team Selection Test for the International Math Olympiad (IMO) 2018

Azerbaijani National Math Olympiad 2016 Finalist, 2017 Bronze, 2018 Silver medalist (ranked 4th individually)

INTERESTS

Chess, Football, Reading, Poker (Texas Hold 'em)