

Moamen Abdelkawy

Economist | Quant | Data Scientist

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👤 PROFILE

Senior Economic Analyst and Financial Engineer (MSc) with over 18 years of experience combining rigorous economic analysis with advanced quantitative modeling. Expertise in econometric methods and machine learning to measure the impact of economic shocks and forecast market trends across financial, commodity, and maritime sectors. Proven track record of developing predictive models, optimizing financial risk management strategies, and enhancing data infrastructure for decision-making. Published technical author with 16 years of university teaching; adept at translating complex quantitative outputs into actionable insights for stakeholders.

👛 PROFESSIONAL EXPERIENCE

Senior Economic Analyst

National Navigation Company ☑

12/2024 – present
Cairo, Egypt

- Conduct economic research and forecasting for the maritime industry, assessing the impact of global trade dynamics and economic shocks
- Develop machine learning and deep learning models linking macroeconomic variables with sector performance to inform strategic planning
- Optimize operational efficiency through financial modeling, scenario analysis, and risk management to mitigate market volatility exposure
- Build and deploy production Power BI dashboards with scheduled refresh, and maintain economic databases for modeling and reporting
- Author technical reports and policy briefs in Arabic and English, engaging executive stakeholders and government bodies including the Ministry of Transport and port authorities

Data Science Mentor & Technical Author

Udacity Inc. ☑

01/2022 – 10/2026
United States, Remote

- Led virtual sessions for Data Analysis, Data Science, and AI Trading Strategies Nanodegrees, teaching Python, SQL, statistical modeling, and machine learning for finance; achieved 4.9/5.0 satisfaction rating
- Contributed to curriculum development and rubric design, and authored technical articles on data science, machine learning, and Python best practices

Teaching Assistant in Economics

Alexandria University ☑

07/2007 – 12/2023
Alexandria, Egypt

- Taught Econometrics, Mathematical Economics, Micro and Macroeconomics, and International Economics for 16 years; supervised and assessed student research projects, developing analytical rigor and clear written communication

🎓 EDUCATION

MSc in Financial Engineering

WorldQuant University ☑

10/2023 – 12/2025
Online

- Graduated with 94% cumulative average (Excellent distinction)
- **Coursework:** Financial Econometrics, Risk Management, Machine Learning in Finance, Deep Learning for Finance, Stochastic Modeling, Derivative Pricing, Portfolio Management
- **Capstone:** Advanced Freight Rate Forecasting for Panamax Dry Bulk Carriers using Machine Learning

Master Level Courses in Quantitative Economics

Aarhus University 

- Danish State Scholarship recipient

09/2016 – 07/2017

Aarhus, Denmark

Graduate Diploma in Economics

Alexandria University

- Completed with Good standing (78.66%)

10/2008 – 10/2010

Alexandria, Egypt

Bachelor of Commerce - Major Economics

Alexandria University 

- Graduated with Honours (Very Good, 88.5%), top of class

09/2002 – 05/2006

Alexandria, Egypt

SAMPLE PROJECTS

Panamax Freight Rate Forecasting System (MSc Capstone – Publication Pending)

- Developed an XGBoost-based forecasting system for Panamax freight rates using 245 engineered features from 700+ market indicators. Discovered and corrected systematic timing bias through phase shift calibration, reducing RMSE by 34% and achieving 77% directional accuracy with Sharpe ratios of 2.0–3.1 in commercial validation.

International Trade Flow Analyzer

- Built a Python tool for bilateral trade analysis integrating harmonized BACI data (1995-2024) with real-time UN COMTRADE API (1962-present). Features interactive CLI, fuzzy country matching, multi-level HS code support, and professional visualizations for researchers and policy analysts.

MultiAssetDLTrading

- Developed single-output and multi-output LSTM models to predict 25-day returns for five ETFs (equity, bonds, gold, oil). Implemented long-short trading strategies with backtesting, outperforming buy-and-hold benchmarks in risk-adjusted returns.

Sales Volume Prediction

- Built predictive models (Random Forest, MLP, TabNet) to forecast sales volume using product positioning, pricing, and promotional data. Applied statistical testing (ANOVA, Shapiro-Wilk) and feature engineering to identify key sales drivers.

SKILLS

Economics & Econometrics

- Microeconomics, Macroeconomics, International Economics, Maritime Economics
- Econometric Modeling, Time Series Analysis, Statistical Inference, Hypothesis Testing, Regression Analysis

Data Science & Programming

- Python: NumPy, pandas, scikit-learn, TensorFlow, PyTorch, Statsmodels, XGBoost
- SQL, R (familiar), Excel (Advanced), Git/GitHub
- Data Visualization: Matplotlib, Seaborn, Power BI

Quantitative Finance

- Financial Modeling, Portfolio Management, Risk Management, Scenario Analysis, Stress Testing, Derivative Pricing, Stochastic Modeling

Communication & Mentorship

- Published technical author; proven ability to communicate complex quantitative outputs to specialist and non-specialist audiences
- Professional technical writing in Arabic and English

CERTIFICATES

AI Trading Strategies

Udacity - 10/2025

Data Analyst

Udacity - 11/2024

Advanced Data Analysis



Udacity - 09/2021

Statistics for Data Analysis



Udacity - 10/2025

DataCamp Training

28 courses and 6 tracks:
Python, pandas, statistics,
regression, and data
visualization

IELTS - Academic Module

BAND 8.0 (L9.0, R8.5, W7.0,
S7.0) - 11/2019

Data Analysis and

Descriptive Statistics

Udacity - 09/2025

Advanced Data Wrangling



Udacity - 05/2023

GRE

151/160/4.0 - 12/2015

API Development and

Documentation using Go



Udacity - 02/2025

Machine Learning Cross-

Skilling

Udacity - 05/2022