Alper ÜLKÜ
Mobile: +90 536 949 99 51, **Mail**: info@markovmarkowitz.com

Abilities:

- *Strong understanding of*
    a. **Python** libraries: pandas, numpy, scipy, statsmodels, pyfolio, scikit-learn, xgboost and
    b. Aspects of **finance**, **mathematics, probability, statistics and machine learning required for building and automated trading systems.**
    c. Trading systems, math models and algorithms for simulation, backtesting and validation.
- *Problem solving attitude*
- *New market indices and new trading algorithms development*

Languages:

- ***Developer****: Python, R, R-Markdown, Java, Excel VBA.*
- ***Platforms****: Jupyter Lab, Spyder, R Studio, JetBrains IntelliJ IDE, Excel.*

Python Algorithms presently developed and used – all data extracted from Yahoo Finance:

- *Moving n-Skewness Trading Strategy and Money Management*
- *Markowitz Efficient Portfolio Generator and Money Management*
- *Markov Chain Based Overnight Strategy - Stock Picker*
- *Market Condition Index (MCI) – Market Entry-Exit Conditions Monitoring System (ME^2CM)*
- *Markowitz Best Sharpe Ratio Portfolio Recalculation-Rebalance Tool*
- *Best Trade Hours Histogram Generator*
- *Prices and Fundamentals Data Extractor from S&P500, DOW30, NSE (India), BIST (Turkiye) exchanges.*

Financial Education/Courses:

- *"Certificate of Excellence in Executive Programme in Algorithmic Trading (EPAT)" by Quantinsti – certificate link*
- *"Portfolio Management Fundamentals" by CFI – certificate link*

Degrees:

- ***Bachelor of Science:*** *Electrical-Electronics Engineering, Middle East Technical University, GY:1991*
- ***Master of Science:*** *Electrical-Electronics Engineering, Middle East Technical University, GY:1999*
- ***Doctor of Philosophy:*** *Materials Science and Engineering, Gebze Technical University, EGY: 2024 (PhD thesis ongoing)*
- ***Master of Science:*** *Financial Engineering, World Quant University, EGY: 2024, (4 courses to go)*

Awards:

- *Invented, implemented and backtested "**Moving n-Skewness Trading Strategy**" in Python as EPAT Final Project. Approved by instructor Mr. Nitin Aggarwal of Quantinsti. Yielded far better results than classical moving average crossover strategies. This project won the **Best Project Award** in 18 October 2023 of Batch 52 – certificate link*

GY: graduation year, EGY: expected graduation year

Alper ÜLKÜ
Address: 3243 cad. Besa Ataşehir Evleri, Selen Blok 1A, D:3, Yaşamkent, 06810, ANKARA, TURKEY
Mobile: +90 536 949 99 51, **Mail**: info@markovmarkowitz.com, **Linkedin:** https://www.linkedin.com/in/alperulku1970/

Finished Projects:

WQU COURSE	***Assignments Completed and Submitted to WQU***	***PYTHON CODE Developed***	***SYNOPSIS***
MScFE 560 Financial Markets	*2008 Global Financial Crisis Explained*	*No*	*Market conditions that caused the crisis, global effects of these primary causes, the response of policymakers and regulators, roles and effects within the housing market, who benefited from rising housing costs? Systemic risks in the housing market, Basel Accord.*
	Basel III and Similar Regulations after 2008 Global Crisis	*No*	*Intended effect of the Basel Regulations, comparison of intended effects and advantages-disadvantages of the regulation, would ethics training have helped? Was the crisis due to individual behavior or systemic risk?*
	Mortgage Backed Securities (MBS)	*No*	*Use of MBS as a financial asset, role of MBS in Global Financial Crisis of 2008.*
MScFE 600 Financial Data	*Three Mortgage Loan Plans*	*Yes*	*Marketing Piece for explanation of 3 different loans and their benefits, work included excel files and loan payment calculations*
	Python Tutorials on Data frames, Dictionaries and Lists	*Yes*	*Python code assisted tutorial of 3 parts including dataframes, dictionaries and lists*
	Modern Portfolio Theory Application and Python Demonstration of Volatility Minimization using Asset Pairs	*Yes*	*Detail analysis and optimum portfolio generation with asset in BIST100*
MScFE 610 Econometrics	*Returns and Volatility Forecasting by GARCH model*	*Yes*	*Ordinary Regression Models generation for TSLA Returns of selected asset by multicollinearity mitigation, GARCH volatility model generation for TSLA*
	Analysis of Autocorrelation, Heteroscedasticity, Non-Stationarity and Over-Reliance on Normality For Time Series Data	*Yes*	*Analyze stock data for their autocorrelation, heteroscedasticity, non-stationarity and over-reliance on normality. Code and run tests for detecting each phenomenon and suggested directions for mitigation or treatment of each phenomenon to either overcome its adverse effects or making advantage of each, on the way to estimating future values of returns, volatility etc. of the data.*
	Modeling Non-Stationarity and Finding Equilibrium	*Yes*	*Stationarity, Non stationarity of trends, ADF, KPSS, AIC testing*
MScFE 620 Derivatives	*Binomial and Trinomial Tree Model Pricing for European options*	*Yes*	*Binomial and Trinomial Tree Model Pricing for European options*
	Black Scholes and Montecarlo Model Pricing	*Yes*	*Black Scholes and Montecarlo Model Pricing for European options*
	Heston, Merton and Monte Carlo Simulation Pricing for American Options	*Yes*	*Heston Merton and Monte Carlo Simulation Pricing for American Options*
MScFE 622 Stochastic Modeling	*Pricing Asian ATM Options By Calibrating Heston, Bates and Cox–Ingersoll–Ross Models*	*Yes*	*Pricing Asian ATM Options By Calibrating Heston, Bates and Cox–Ingersoll–Ross Models*
	Estimating a Markov-Regime Switching Model for the VIX Index	*Yes*	*Estimating a Markov-Regime Switching Model for the VIX Index*
	Risk-Aware Upper Confidence Bound Algorithm Implementation	*Yes*	*Risk-Aware Upper Confidence Bound Algorithm Implementation*