

Abilities:

- *Strong understanding of*
 - a. C++ and MQL5 trading strategy development
 - b. Python libraries: pandas, numpy, scipy, statsmodels, pyfolio, scikit-learn, xgboost and
 - c. Aspects of finance, mathematics, probability, statistics and machine learning required for building and automated trading systems
 - d. Trading systems, math models and algorithms for simulation, backtesting and validation
- *Problem solving attitude*
- *New market indices and new trading algorithms development*

Developed for:

- **Languages:** C++, Python, R, R-Markdown, Java, Excel VBA.
- **Platforms:** MT5/MQL5, 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 (ME²CM)*
- *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 (Türkiye) exchanges.*

Best C++ MT5 Algorithm presently developed and currently used:

- *Trading Strategy using for E-Mini on M5, ADX, Bolinger Bands and Ichimoku entry-exit strategy for MQL5 performance as below, starts with 10.000 USD capital, between 2009 – 2018:*

Performance summary			
	All trades	Long trades	Short trades
Total Net Profit	\$ 178240	\$ 158142	\$ 20098
Gross Profit	\$ 735250	\$ 686924	\$ 48326
Gross Loss	\$ 557010	\$ 528782	\$ 28228
Profit Factor	1.32	1.3	1.71
Total Number of trades	985	927	58
Percent Profitable	45.69 %	45.74 %	44.83 %
Winning Trades	450	424	26
Losing Trades	535	503	32
Avg. Trade Net Profit	\$ 180.95	\$ 170.6	\$ 346.52
Avg. Winning Trade	\$ 1633.89	\$ 1620.1	\$ 1858.69
Payout Ratio (Avg Win/Loss)	1.57	1.54	2.11
Avg. Losing Trade	\$ 1041.14	\$ 1051.26	\$ 882.13
Avg. Profit by Day	\$ 50.54	\$ 44.84	\$ 5.7
Avg. Profit by Month	\$ 1549.91	\$ 1375.15	\$ 174.77
Avg. Profit by Year	\$ 19804.44	\$ 17571.33	\$ 2233.11
Largest Winning Trade	\$ 3926	\$ 3926	\$ 3786
Largest Losing Trade	\$ -1284	\$ -1284	\$ -1214
Avg Consecutive Winning Trades	1.88	1.87	1.86
Avg Consecutive Losing Trades	2.24	2.22	2.29
Max. Consecutive Winning Trades	12	11	4
Max. Consecutive Losing Trades	12	11	5
Avg. Bars in Total Trades	36.29	36.71	29.71
Avg. Bars in Winning Trades	49.7	50.33	39.46
Avg. Bars in Losing Trades	25.02	25.22	21.78
Drawdown	\$ 15300	\$ 16084	\$ 4476
% Drawdown	39.55 %	57.22 %	27.23 %
Total Slippage (\$)	\$ 3940	\$ 3708	\$ 232
Total Commission (\$)	\$ -9850	\$ -9270	\$ -580

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](#)

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
	Binomial and Trinomial Tree Model Pricing for European options	Yes	Binomial and Trinomial Tree Model Pricing for European options

MScFE 620 Derivatives	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
MScFE 632 Machine Learning	Ridge Regression, Hierarchical Clustering, Principal Component Analysis,	Yes	Marketing Handbook on 3 Machine Learning techniques Part I
	Linear Discriminant Analysis, Support Vector Machines and Neural Nets	Yes	Marketing Handbook on 3 Machine Learning techniques Part II