UDAY SHARMA

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EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS Pittsburgh, PA
Master of Science in Computational Finance – MSCF ***QPA: 4.15/4.33*** 12/23

- An interdisciplinary program including mathematics, statistics, programming, finance, and communication

NANYANG TECHNOLOGICAL UNIVERSITY Singapore
Bachelor of Arts (Honors) in Economics, Minor in Computing and Data Analysis ***GPA: 4.9/5.0*** 6/22

- Honors: Lee Kuan Yew Gold Medal (top student in graduating cohort), sole valedictorian nominee for Economics

EXPERIENCE

QUANTEDGE CAPITAL (Systematic global macro hedge fund with $3 billion AUM) Singapore
Quantitative Research and Trading Intern 6/23 – 8/23

- **Alpha Research**: Researched signals for equity and commodity futures; backtested trading strategies with transaction cost estimates to maximize post-cost Sharpe ratio
- **Portfolio Management**: Optimized portfolio weights and constructed a volatility-targeted portfolio to maximize CAGR over a long horizon for a set of simulated securities
- **Market Microstructure:** Developed trading algorithms that minimized transaction cost with respect to benchmarks for assigned trades in a simulated exchange with live limit order book data

ASTIGNES CAPITAL (Asia-focused macro and relative value hedge fund with $2.5 billion AUM) Singapore
Quantitative Developer Intern 11/21 – 4/22

- **Alpha Research**: Constructed factors using principal components and technical indicators for spot exchange rates; generated trading signals using random forest and logistic regression
- **Statistical Arbitrage**: Designed statistical arbitrage trading strategy for currency pairs and developed extensive backtesting Python library with configurable trading strategy and factor generation; yielded out-of-sample pre-cost Sharpe ratio of 1.3
- **Data Visualization:** Collaborated with front office and built dashboard in React to track trading signals and metrics

AI PALETTE (Predictive analytics SaaS platform for F&B companies) Singapore
Data Science Intern 5/21 – 8/21

- **Neural Network:** Developed Long Short-Term Memory (LSTM) deep learning model in Python to forecast values for time series trends in firm's proprietary data; reduced error and training time from previous model by factors of 3 and 10, respectively, and deployed on analytics platform used by 6+ major multinational food companies
- **Time Series Analysis:** Devised framework based on Granger causality test, correlation, and gradient, to classify whether time series trends in engagement for food ingredients move from one category to another; published in client research report

SBI FUNDS MANAGEMENT (Mutual fund with $58 billion AUM) Mumbai, India
Investment Intern 6/20 – 7/20

- **Alternative Data:** Scraped and cleaned over 10,000 data points on alternative data like air quality and flight data
- **Statistical Modeling:** Deployed machine learning to model macroeconomic indicators and company performance with scraped data points, based on literature review of alternative data in finance; pitched 5 stocks to fund manager

RESEARCH/PROJECTS

TEEN PATTI WIN-RATES 8/21

- Modeled teen patti (Indian poker) games using object-oriented programming in Python and ran Monte Carlo simulations to get win-rates of different hands; increased earnings by 30% in weekly friendly poker tournaments

COURSEWORK/SKILLS

- **Finance**: Investments, Fixed Income, Options, Financial Computing, Market Microstructure, Asset Management
- **Mathematics**: Multivariable Calculus, Linear Algebra, Optimization, Game Theory, Stochastic Calculus for Finance
- **Statistics**: Financial Data Science, Advanced Econometrics, Financial Time Series Analysis, Simulation Methods
- **Programming**: Python, C++, SQL, R, Java, KDB+/Q, Machine Learning, NLP, Data Structures, OOP

ADDITIONAL INFORMATION

- Interests: Cooking (100+ dishes across 9 cuisines), reading (non-fiction), journaling (daily since 2017), sneakers, working out
- Languages: Hindi (native), Odia (fluent), Punjabi (basic)