Amrith Kumaar

100 Ridgewood Road, Ithaca, New York 14850 • Amrith.kumaar@gmail.com • (703) - 973 – 8801

EDUCATION

Cornell University, College of Engineering, Ithaca, NY — *Expected December 2024*

Masters of Engineering in Operations Research & Information Engineering

- Dual enrollment with undergraduate program

Cornell University, College of Computing and Information Science, Ithaca, NY — *August 2020 – May 2024*

Bachelor of Science in Biometry and Statistics

- Major GPA: 3.6; Cumulative GPA: 3.4
- Relevant Coursework: Statistical Methods I and II, Data Mining and Machine Learning, Linear Algebra, Multivariable Calculus, Probability, Theory of Statistics, Financial Engineering, Stochastic Processes, Statistical Computing, Linear Models, Stochastic Control Theory, and Applied Time Series Analysis

PROFESSIONAL EXPERIENCE

WH Trading, Chicago, IL — *June 2024 – August 2024*

Trading Intern

- Assisted on the commodities options market-making desk, shadowing traders and conducting historical analysis related to market events while managing various ad-hoc tasks
- Created a live VECM model on the four front-months of Crude Oil options that identified 96% of the relative deviations of straddle implied volatility that corresponded to at least a 4 tick reversion in ATM straddle price
- Developed a trader tool that generated graphs on delivered and implied volatility, skew surface changes, and vega-adjusted calendar relationships given a product and date range
- Attended classes on options theory, futures market-making, and low-latency trading infrastructure

Trillium Trading, New York, NY — *June 2023 – July 2023*

Equity Trading Intern

- Conducted historical trade analysis identifying key motivators and expected value on strategies executed based on news catalysts, order flow, and market microstructure
- Developed and consolidated web-scrapers of various news sources to increase edge on merger & acquisitions based catalyst trading strategies by delivering information up to 2 minutes faster than Bloomberg Terminal

Gavilon Commodity Management (acquired by Viterra), Omaha, NE — *June 2022 – August 2022*

Quantitative Risk Intern

- Built a live tick-level options implied volatility curve trader-tool using the Black-Scholes pricing method
- Developed LSTM and Random Forests machine learning models that predicted the percent of grain planted in Illinois, Texas, and Nebraska on a given week based on weather data with a 5% MAPE

Rebellion Research, New York, NY — *June 2021 – September 2021*

Quantitative Research Intern

- Constructed alpha generating equity portfolios that outperformed the S&P 500 by 2% in historical back-test with a Sharpe ratio of 1.88 using deep reinforcement learning models trained on SEC 13F filing data
- Classified 13F funds by primary sector focus, performance, volatility and idiosyncratic risk for model feature extraction

RELAVANT EXTRACURRICULARS

Cornell Data Science Project Team, Ithaca, NY — *March 2021 – present*

Machine Learning Project Lead / Millennium Management Project Partner

- Collaborated with hedge fund Millennium Management to forecast consumer electricity demand based on weather data using neural networks and piece-wise linear regression models with a 4% MAPE
- Created novel Formula 1 sports betting strategies using an ensemble of Bayesian optimized machine learning models and the Kelly Criterion generating 34% average returns per race across 8 races in the 2023 circuit
- Devised a trend following trading strategy that outperformed the S&P 500 by 8x from 12/03/2021 to 03/08/2022 by utilizing ARIMA modeling with MLE to estimate the daily price change distributions of SPY

SKILLS & INTERESTS

Skills: Python, R, Machine Learning, Tensorflow, Pandas, Numpy, and PyTorch

Interests: Investing, Tennis, Ukulele, Cooking