Andrew Huang

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EDUCATION

The University of Chicago (GPA 3.82/4.00) — Chicago, IL
Bachelor of Science in Mathematics — Expected, December 2024
Bachelor of Arts in Statistics, Chemistry
Pre-med Professional Track

Honors: Dean's List, International Brain Bee Competition (3rd in State), GRE 166V/169Q
Leadership: Technical Lead at UChicago Data Science Society, Quantitative Analyst at Maroon Capital and DGQT
Coursework: Real Analysis, Algebra, Statistical Methods, Probability, Regression Analysis, Markov Chain, Optimization

WORK EXPERIENCE

Becker Friedman Institute of Economics — Chicago, IL
Researcher — June 2024 - Present
- Studied a novel method using data permutation to generate significance value. Characterized misspecifications of t-tests in 10 published literature.

Mizuho Americas — New York, NY
Quantitative Analyst — May 2023 – August 2023
- Bootstrapped SOFR curve using 32 fixed-for-floating interest swaps. Adjusted pillar points using the Newton-Raphson Method. Interpolated risk-free rate using cubic spline. Model accuracy within 10^{-6} to Murex benchmark.
- Automated bump-and-reprice sensitivity analysis for 4 different risk factors in SIMM model using Euler's method.
- Executed Monte-Carlo simulation of Heston model. Calibrated inputs using QuantLib and multilevel grid search.

Ridgway Lab — Chicago, IL
Researcher — January 2023 – May 2023
- Maintained UC Medicine datamart with 1M+ observations. Entered 100+ patient data using REDCap and EPIC.
- Extracted patient information using regular expression matchings of incomplete ICD-9 and ICD-10 codes.
- Quantified relative risk of 4 renal comorbidities for HIV patients undergoing TDF antiretroviral therapy.

Fei Lab — Chicago, IL
Researcher — January 2023 – May 2023
- Developed a protocol using 64 RNA probes and fluorescent microscopy to track the lineage of HeLa cancer cells.
- Created 3 data processing pipelines that synthesized 1500+ CSV files to aggregate cellular luminosity output.
- Performed two-sample t-test to predict genetic sequence. Data visualization with ggplot2 and Matplotlib.

PROJECT & LEADERSHIP

PJM Electricity Forecast Model
Chicago, IL — July 2024 – August 2024
- Collected utility data in 21 PJM zones. Implemented bid curve pricing model using hocky-stick regression to fit the relationship between load and price.
- Estimated future demand using XGBoost and ARMA model. Captured the stochastic behavior of price spikes.

WorldQuant — Chicago, IL
Research Consultant — October 2023 – June 2024
- Participated in the BRAIN Chicago Trading Competition. Ranked 1st in Chicago and top 5 in the U.S.
- Generated 30+ long-short strategies using sentiment analysis and company fundamentals. Optimized Sharpe ratio.
- Developed a back-testing engine with a robust framework of 20 statistical operators. Used SEC EDGAR database to aggregate filing data. Interfacing with OpenAI API, used direct evolution to refine alpha signals.

Booth School of Business — Chicago, IL
Reading Group — March 2024 – June 2024
- Constructed and trained machine learning models using PyTorch, including Softmax, MLP, and CNN. Achieved 97% test accuracy. Benchmarked performance on MNIST dataset.
- Optimized performance of variational autoencoder (VAE) by adjusting network architecture and hyperparameters.

SKILLS & INTEREST

Interests: Lived in China, the US, and Australia. Visited 25 countries on 5 continents. Hitchhiked across Mexico.
Languages: Fluent in English and Mandarin. Intermediate Spanish speaker.
Skills: Python, Automation, Pandas, NumPy, Financial modeling, Stochastic calculus, Regression, Data Science.