Kenny Huang
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EDUCATION

Princeton University - GPA: 3.9/4.0, Magna Cum Laude **2019 - 2023**

- **B.S.E.** in Operations Research and Financial Engineering; **Minors** in Statistics and Machine Learning, Optimization and Quantitative Decision Science, Applied and Computational Mathematics, and Applications of Computing
- **Relevant Coursework:** Analysis of Big Data, Research Projects in Data Science, Econometrics: A Mathematical Approach, Probability and Stochastic Systems, Regression and Applied Time Series, Computing and Optimization, Numerical Methods, Financial Risk and Wealth Management, Corporate Finance and Financial Institutions, Risk Analysis

WORK EXPERIENCE

Jane Street Capital - Strategy and Product **August 2023 - Current**

- Rotated through Treasury, Metadata, Compliance Dev, and Sales and Trading teams across 14 months
- **Treasury:** Programmed a Python tool that dynamically reallocates margin usage between desks to accurately reflect exposure in emerging markets of $1Bs; used by Treasury team to centrally manage and share trading capital across all desks in the firm
- Researched and organized margin data found in daily sheets sent from 40+ prime brokerages and collaborated closely with Finance Devs to implement and verify large-scale parsers as part of a year-long overhaul of margin aggregation process
- **Metadata:** Backfilled firm-wide metadata database for US-based securities using a new 10M-row dataset to improve historical modeling for Research and Equities desks by significantly reducing the risk of skew caused by inaccurate metadata
- **Compliance Dev:** Developed detailed specifications for a pre-trade position monitoring system, enabling Compliance Devs to mitigate the risk of exchange requirement violations, with an estimated value of $1M to traders
- Designed and proposed improvements to the firm's internal activity booking model for discretionary agent and riskless principal activity in order to streamline workflow for Tax and Bookings Pipeline teams; expected to reduce support toil by 100+ hours/year
- **Sales and Trading:** Generated 10+ dashboards and reports in SQL to aid the Sales and Trading team in visualizing time series trends and gathering insights into vulnerable areas of client-facing business

Federal Energy Regulatory Commission - Data Science Intern **Summer 2021**

- Performed power flow study and first-contingency analysis of resiliency of US regional electric grids towards rolling blackouts
- Engineered a new data pipeline, saving 20+ hours of manual work/month
- Supported data-related components of day-to-day enforcement of reliability standards using SQLAlchemy, NLTK, and Selenium

HONORS / SKILLS

Math: 2x USA Math Olympiad Finalist, 2x USA Junior Math Olympiad Finalist, 6x AIME Qualifier
Traders@MIT Competition: 3rd Place on High Frequency Trading Case, 6th Place Overall
Programming: Python, SQL, R, VBA/Excel, Bash, Java, C++, C, JavaScript

PROJECTS

Linear Algebra Image Application Research **2022-2023**

- Applied Principal Component Analysis and Fourier-Bessel basis functions to optimize Covariance Wiener Filtering used to denoise cryo-EM imaging
- Developed and tested an estimation algorithm that reduced runtime from O(N) to sub-logarithmic time with 1.3% relative error
- Laid foundation for publication: Fast principal component analysis for cryo-electron microscopy images (Marshall et al., 2023)

Data Science Club Leadership — DataDev officer **2021-2023**

- Proposed and led an initiative to establish focused research teams of ~10 people, enabling year-long analytics projects with faculty mentorship
- Results included report on walking path usage on Princeton campus after collecting dataset of 800+ student-submitted paths and being featured in the departmental newsletter

Sports Analytics/ML Research **2021-2023**

- ML NBA Player Evaluation Senior Thesis: devised and evaluated novel bottom-up machine learning algorithm to quantitatively value NBA players by estimating wins above replacement
- NBA Blocks Analysis: Re-examined the traditional defensive statistic of blocks by creating and computing custom metrics that capture their indirect effects both within and after possessions in the NBA