ZHUOXIAN LIN
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EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS — New York, NY
Master of Science in Computational Finance - MSCF — 12/24

- Courses: Financial Data Science, Machine Learning, Financial Time Series Analysis, Stochastic Calculus, Fixed Income, Market Microstructure & Algorithmic Trading, Advanced Derivatives Modeling, Financial Computing
- Programming skills: Python (Pandas, NumPy, sklearn, SQL, Streamlit, PPTX)

UNIVERSITY OF CALIFORNIA, LOS ANGELES — Los Angeles, CA
Bachelor of Science in Financial Actuarial Mathematics specializing in Computing — 06/23

PROJECT EXPERIENCE

IMC Prosperity Trading Challenge (Rank 18th of 9139 Teams Worldwide) — 06/23 - 07/24

- **Order Book Analysis:** Analyzed order book and market data to identify trends and arbitrage opportunities.
- **Algorithmic Trading:** Developed Python scripts for algorithmic trading, implementing strategies such as market making, hedging options, performing ETF arbitrage, accounting inventory risk; back tested the trading algorithm on historical data.
- **Commodity Trading:** Modeled commodity prices using sunlight and humidity; executed cross-counter arbitrage across domestic and foreign exchanges, optimizing profitability by accounting for tariffs, storage fees and transportation fees

Rotman International Trading Competition (Rank 12th Worldwide) — 02/24 - 03/24

- **Systematic Trading**: Developed algorithm to determine potential profit of tender offers based on liquidation costs and inventory risk. (Flow Trader) Modeled tradable assets expected value by extracting information from news. (Commodity)
- **Discretionary Trading**: Identified and capitalized on market inefficiencies by closely monitoring and analyzing the behavior of other market participants, leading to profitable trades and strategic advantages.

Market Making Optimization with Event Simulator — 09/22 - 03/23

- **Avellaneda–Stoikov**: Collaborated on understanding and implementing the Avellaneda-Stoikov model. Studied establishment of market representations and utility functions. Engaged in solving an optimization problem focused on inventory constraints, emphasizing minimizing end-of-day positions
- **Agent-Based Market Simulator**: Engaged in an investigation of the ABIDES framework, gaining insights into an agent-based interactive discrete event simulation. Understood the fundamental differences between conventional back-testing platforms, dynamic simulators that deploy agent strategies, such as Noise traders, Market makers, and Momentum traders.

PROFESSIONAL EXPERIENCE

DIMENSIONAL FUND ADVISOR — Austin, TX
Investment Analytics Intern — 06/24 – 08/24

- **Mathematical Modeling**: Developed a retirement calculator through Monte Carlo simulation and bootstrap data based on retirement parameters from scratch. Incorporated a feature to generate sensitivity analysis reports. Built data pipeline to connect the web-application and corporate database using SQL to provide data in a one-stop-shop fashion.
- **Trend Analysis**: Conducted comprehensive analysis of DFA and competitor funds, including data cleaning and augmentation by creating additional quantitative variables. Performed in-depth quantitative analysis, correlating key financial data with major market events to provide actionable insights and develop investment rationales.
- **Automation**: Structured a Python script to automate the process of creating quarterly slide. Enhanced efficiency in responding ad hoc requests from client. Reduced the time required for slide generation from 20 hours to 2 minutes.

CHINESE ACADEMY OF SCIENCE INSTITUTE OF AUTOMATION — Remote
Intern Data Analyst — 08/23 – 09/23

- **Data Preprocessing**: Optimized and curated raw datasets pertaining to machinery components, emphasizing engine and bearing longevity. Prepared data for predictive modeling and advanced categorization of bearing conditions.
- **Feature Engineering**: Extracted pivotal features from datasets related to machine health indicators such as voltage, vibration, and pressure. Leveraged data to enhanced features for machine learning models, resulting in a 4% improvement.

ADDITIONAL INFORMATION

- SOA (Society of Actuary): EXAM P, EXAM FM; Bloomberg Market Concept Certificate
- Interests: Sports (Badminton, Basketball, Formula 1), Competitive Gaming (highest rank in Overwatch and Apex Legend)
- Language: Mandarin Chinese (Native), English (Proficient), Cantonese Chinese (Native)