

Xinyuan Zhao

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Education Background

University of Michigan | *Master of Quantitative Finance and Risk Management* 2023.08 - 2024.12
Relevant Coursework: Python, Stochastic Process, Computational Finance, Probability and Advanced Statistics, Regression Analysis, SQL, International Financial Management, Financial Derivatives

University of Toronto | *Bachelor of Science in Statistics - Quantitative Finance* 2018.09 - 2022.05
Relevant Coursework: Differential Equations, Linear Algebra, Multivariable Calculus, Probability, Numerical Algorithms for Computational Mathematics, Statistics and Finance, Machine Learning

Technical Skills

• **Programming Languages and Visualization:** Python, SQL, R, MATLAB, Power BI, Tableau, MS Office

Work Experience

Quantitative Trading Analyst Intern | *AlphaGrep* 2024.06 - Now

- Designed and implemented a modular financial data processing system using Python, efficiently handling 300,000 minute-level trading records for IC, IH, and IF stock index futures. It reduced data processing time by 30% and provided critical data for quantitative trading and risk management.
- Processed and analyzed daily trading settlement statements using Python, accurately extracting specific transaction records from 5,000 entries and calculating fees and profit/loss summaries for various indices, resulting in a 10% increase in data processing efficiency.
- Developed a stock index futures basis prediction model by integrating linear models (OLS + Ridge) and nonlinear machine learning models (Random Forest, XGBoost), optimizing the model's performance, which resulted in reducing the Mean Squared Error (MSE) of weekly annualized basis rate predictions to 0.044% and achieving a directional accuracy of 62.13%.

Business Analyst Intern | *Nature and Oceans Adventures* 2024.01 - 2024.05

- Updated visualizations in Business Intelligence tool (Power BI) and prepared materials for presentation to demonstrate the operational efficiency in a more direct and vivid way
- Provided dynamic relationship between surplus and budget for programs in California on Excel Dashboard, resulting in a 10% increase in revenue, a 15% expansion in client relationships, and optimal resource allocation.
- Figured out the variance of forecasting and budgeting using pivot tables and V-Lookup, resulting in better managing the funding allocation process

FICC Trading Intern | *China Galaxy Securities* 2023.07 - 2023.10

- Utilized OLS and a Nowcasting model to predict US CPI, integrating DTW algorithms, EM algorithms, and a three-cycle model to accurately capture dynamic trends and cyclical signals in time series data, thereby enhancing the precision of economic forecasts by 10%. Additionally, leveraged Bloomberg to collect comprehensive historical US CPI data and market expectation indicators.
- Designed and implemented a quantitative trading strategy based on KAMA (Kaufman Adaptive Moving Average) and EWMA (Exponentially Weighted Moving Average) for U.S. Treasury yields, focusing on trend identification and signal generation. Evaluated the strategy's performance using metrics such as annualized return, maximum drawdown, and Sharpe ratio, and generated optimized portfolio signals to directly support live trading decisions.
- Conducted detailed analysis on 76 Chinese USD bonds following more than 20 new issuance events, using Bloomberg to collect and analyze yield spread data, and Power BI to create yield spread trend charts. Investigated the impact of new bond issuance on the yield spread changes of existing bonds. Additionally, collected historical shock events and studied the synchronous widening of credit spreads and LIBOR-OIS spreads during these events.

Risk Advisory Intern | *Deloitte* 2021.03 - 2021.06

- Extracted and analyzed over 40,000 sales data of Mercedes-Benz, utilized SQL and pandas library in Python for data analysis, and outputted monthly sales reports.
- Conducted a market survey of Daimler AG, optimizing sales solutions by reducing costs by 20%.
- Reviewed 15-20 reports on a daily basis for errors & ambiguities (i.e. benefit tracking of Financial/KPI's) while liaise with task leads to regularize.
- Structured and analyzed large data sets to provide a 5-year trend analysis for the division's program, and presented the final analysis to the director through PowerPoint with pivot tables, charts and dashboard.