Tianqi (Mia) Mao

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EDUCATION

Duke University — Fuqua School of Business *Durham, NC*

Master of Science in Quantitative Management, Business Analytics, Finance Track (GPA: 3.7/4.0) Jul. 2023 – May 2024

Relevant Courses: Corporate Finance; Investment; Financial Econometrics; Data Analytics in Finance; Derivatives and Risk Analytics

University of California, Santa Barbara *San Barbara, CA*

Bachelor of Science in Financial Mathematics and Statistics and Theater (GPA: 3.8/4.0) Sep. 2019 – Jun. 2023

Relevant Courses: Mathematical Finance, Stochastic Processes, Advanced Numerical Analysis, Regression Analaysis, Time Series

TECHNICAL SKILLS

Certificates: Tableau Certified Data Analyst, DataCamp: Data Manipulation in SQL, Microsoft Specialist Master Certification

Analytics Tools: Python (Numpy, Pandas, StatsModel, Seaborn, Simpy), SQL, R, Tableau, Power BI, SPSS, SAS, LaTex

Data Warehouse and Database: Snowflake, AWS S3, SQL Server, MySQL

Financial Analytics and Statistical Modelings: Monte Carlo Simulation, CAPM, BSM, VaR

Machine Learning and Probabilities: GARCH, KNN, Linear/Logistics Regression, Decision Tree, XGBoost, PCA, CNN

EXPERIENCE

Business Analyst Intern, McKinsey & Company *Beijing, China*

Sep. 2022 – Dec. 2022

- Collaborated with stakeholders in Payments and Marketing departments to define business requirements for credit card analysis and strategy, identified key features for new credit card offerings, enhancing customer dependency and retention.
- Developed merge pipeline from **Snowflake Stages** to Prod tables and automated tasks in **Snowflake Tasks functions and Alteryx** to refresh data sources by 10% and aligned with daily ingestion data from customers' transactions.
- Designed custom views and created dynamic parameters in **Tableau** to interactively monitor transactional data by type and coupon usage, developed daily reports to demonstrate customer behavior and promotional effectiveness.
- Identified customer migration patterns using **SQL and Python** and performed ad-hoc analysis to track key features of credit card offerings and to monitor feature adoption, supporting strategy adjustments and decision-making.
- Contributed to developing GTM strategy by analyzing **Tableau** Dashboard data and summarizing business performances to deliver customized ads, products, and market strategies, resulting in smooth discussions in customer acquisition strategies.

Portfolio Analyst Intern, Versailles Group *Boston, MA*

Jun. 2022 – Jul. 2022

- Collaborated with the portfolio product teams and wealth management associates to understand the functionality and their decision patterns, resulting in designs of key metrics and frame of analytics-based derivative products recommendation models.
- Developed and maintained data pipelines using **FLASK** to pull and push JSON data in AWS S3, transformed multi-formats, multi-vendors, and multi-resources product transactional data to preset data mapping logic for model building and testings.
- Performed investment judgments by calculating the return on investments and applied **Monte Carlo Simulations** and Probability theory using **Python** to evaluate the relationship between each variable and measure the expected results of independent events.
- Normalized data in stationary and seasonality trends, developed **GARCH models** to track and predict the transactional volatility, facilitated trading conferences within the portfolio teams, and increased prediction accuracy by 8%.
- Created data visualizations with **Python** to monitor portfolio performances (risk indices, due diligence, returns below threshold levels), categorized by type, product variety, and financial return to assess portfolio health and transactional frequency.

Risk Assurance Intern, PwC *Shanghai, China*

Jun. 2021 – Sep. 2021

- Conducted qualitative and quantitative analysis for the EV company to assess performance and identify evaluation constraints.
- Interfaced with the investment, business, and financial teams to implement **Fundamental Analysis**, including NPV, depreciation values, expenditures, and relevant capital gains to ensure a healthy financial performance and sustainability.
- Designed data relationship diagrams and data dictionary to explain and incorporate data from external financial systems (Bloomberg, Crunchbase) and corporate databases; tasks promoted analytics and statistic models by explaining the data flows.
- Developed the root cause analysis by auditing the **K-10 Corporate reports and Income Statements** to evaluate the key revenue-driven factor in the EV industry and use key metrics to evaluate the customer purchasing patterns and market strategies.
- Created **financial valuation models in Python** to analyze 5M+ historical data to track the firm's productivity, market sizing, and potential growth to evaluate business values and financial worth in the investment portfolio.
- Coordinated with/ MLE to frame feature selection models to evaluate and weigh key product drivers and build **machine learning models** to classify customer demands in pre-determined categories to identify the sales opportunities and customer patterns.

PROJECTS

Auction Market Analysis and Optimization Fall 2023

- Created six Tableau dashboards to analyze 200,000 rows of auction data, identifying a 20% decrease in top buyer participation and highlighting a focus on retaining essential buyers and sellers.
- Conducted data-driven analysis using Tableau, revealing that 90% of revenue stemmed from five primary product categories, and central U.S. states significantly contributed to profits.
- Uncovered fundamental market dynamics by analyzing seller data, finding that 10 companies dominated listings with 100+ goods each, and providing strategic recommendations to enhance revenue and efficiency.