

JULIA TSAI

juliamtw20@gmail.com • 213-992-1432 • Durham, NC • [LinkedIn/juliatsai123](https://www.linkedin.com/in/juliatsai123) • <https://juliamtw20.wixsite.com/julia-tsai>

EDUCATION

DUKE UNIVERSITY, The Fuqua School of Business

Durham, NC

Master of Science in Quantitative Management: Business Analytics, Finance Track

May 2024

Key Coursework: Probability and Statistics (R), Data Infrastructure (SQL), Data Science for Business (R), Modern analytics (Python), Decision Analytics & Modeling, Data Visualization (Tableau)

NATIONAL TAIPEI UNIVERSITY

New Taipei, Taiwan

Bachelor of Science in Economics

Jun 2022

With certified proficiency in Finance, Monetary and Economic Growth; Industrial and Public Economics

EXPERIENCE

DATAWORKS NC – Data Analyst

Durham, NC

Sep 2024– Present

- **Web Scraping:** Automated data collection pipeline using **Python**, cutting processing time by 95%
- **Data Management:** Cleaned and Structured property datasets with over 120,000 records, defining relationships between tables in **Power BI** to create a tailored data model for project needs

DUMAC INC. – Financial Data Analyst

Durham, NC

Mar– May 2024

- **Feature Engineering:** Preprocessed 30,000 financial news articles for machine learning, formatting dates, encoding and standardizing text, and extracting features to predict market trends for optimizing asset allocation
- **Predictive Analytics:** Implemented **NLP** and **neural network models** for sentiment analysis and content classification using **Python**, achieving a high **76.6% accuracy** rate in market forecasting

FGI INDUSTRIES LTD. – Financial Analyst

Taipei, Taiwan

Jul 2022– Jun 2023

- **Dashboard Reporting:** Developed **Tableau** dashboards to track financial KPIs such as revenue and margin trends across customer segments and product categories to drive data-driven business strategies
- **Process Automation:** Designed **Python** scripts to automate data validation across accounts, reducing manual checks by 70% and achieving approximately 50% overall time savings

ATHENA CAPITAL – Equity Research Intern

Taipei, Taiwan

Feb– Mar 2022

- **Investment Analysis:** Conducted financial modeling, valuation (DCF, multiples), and competitor & market analysis with advanced Excel functions (Vlookup, Pivot table)
- **Presentation & Stakeholder Engagement:** Delivered weekly investment pitches to the portfolio manager, securing 3-5 investor relations meetings with companies

SELECTED PROJECTS

Clustering High-Risk Groups: Healthcare Costs (Python, Clustering) Performed exploratory data analysis (EDA) and statistical analysis (correlation analysis and T-tests). Utilized **KMeans** clustering to segment individuals by risk level, identifying cost drivers. Delivered insights for risk prediction and cost management.

Interactive Investment Portfolio Simulator (Python, Monte Carlo Simulation) Developed a **Streamlit**-based web application for users to select stocks and view historical performance. Implemented simulations for asset allocation suggestions maximizing profits, minimizing risks, and showed potential outcomes. This tool translates statistical analysis into easy-to-understand insights for users.

Predicting Loan Defaults (R, Machine Learning) Cleaned a dataset of over 250,000 records, handling missing values, duplicates, outliers, and errors. Built and evaluated machine learning models (**Lasso**, **Logistic Regression**, **CART**, **Random Forest**) to predict loan default probabilities, improving risk assessment strategies.

Real Estate Price Prediction (R, Regression Analysis) Analyzed real estate data, created new features (e.g., squared and log terms). Developed a multiple linear regression model using 24 key features to predict property prices, gaining insights into valuation factors.

SKILLS

Tools: SQL, R (dplyr, ggplot2), Python (NumPy, Pandas, Matplotlib, scikit-learn, PyTorch), Power BI, Tableau, Excel, Snowflake

Skills: Web Scraping, Exploratory Data Analysis, Correlation Analysis, Regressions (linear, logistic, lasso), A/B Testing, Hypothesis Testing, T-test, Chi-Square Test, ANOVA, PCA, Clustering, K-Nearest Neighbors, Random Forest, Time Series Analysis, Monte Carlo Simulation, Sentiment Analysis, NLP, Neural Networks (CNN, RNN), Cross-Validation.

ADDITIONAL INFORMATION

Leadership and Collaboration: Organized a summer camp for **120 participants**, a dance showcase for **300 attendees**, and a Christmas party for **200 guests**. Secured **2nd place** in the Global Brand Planning Competition through collaboration with a local company, showcasing strategic thinking and teamwork