

WANG RUIJUE

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EDUCATION

National University of Singapore (NUS)

Aug 2019 – Dec 2025
(Expected)

Master of Science in Digital Financial Technology (School of Computing)

BS in Data Science and Analytics with Honors, 2nd Major in Economics, Minor in Computer Science

- **FYP Thesis:** A Semiparametric Mixture for Financial Density Estimation Aug 2023 – Apr 2024
 - Proposed a new method combining parametric copula and nonparametric smoothing to estimate the distribution of complicated financial data, consisting of heavy tails and strong tail dependence.
- **Scholarship:** NUS Science & Technology Undergraduate Scholarship (MOE Scholarship)

EXPERIENCE

Data Analyst Intern, Digital and Technology Dept. in NTUC Health

May 2025 – Current

- Managed stakeholder engagement, gathering data requirements, overseeing delivery timelines, and ensuring solutions met organisational needs.
- Developed and maintained automated data pipelines with SQL and Python, using Bitbucket for version control and deploying via Apache Airflow.
- Built production-ready dashboards in Google Looker Studio, meeting regulatory requirements and reducing manual reporting efforts.
- Optimised SQL scripts in Google BigQuery, resolved UAT and production issues, and delivered insights to support data-driven decisions.

Data Assistant Intern, HR Dept. in MEXC

Aug 2024 – Apr 2025

- Automated weekly recruitment website checks and updates using custom Python scripts, and utilized LLMs to translate job titles and descriptions for weekly updates.
- Optimized the group's weekly reporting process by refining data structures and automating report formatting with Excel formulas and VBA.
- Managed the internal referral program end-to-end, including poster design via Canva (weekly and ad-hoc), website updates, data maintenance, and help desk support.
- Planned and executed company-wide events — covering event design, creative production, activity development, survey management, gift coordination, and on-site hosting.

Data Management Intern, CRI Team in Asian Institute of Digital Finance

May 2023 – May 2024

- Monitored daily operational processes, investigated irregular data patterns, and performed data cleaning to maintain data accuracy and integrity.
- Integrated data from multiple financial data providers, including Bloomberg and Thomson Reuters, into the internal database.
- Adapted data generation processes to meet evolving operational needs using MATLAB and Python.
- Designed, optimized, and maintained database structures and components in MSSQL to improve data efficiency, quality, and system performance.

Quantitative Strategy Research Intern, Beavo Investment

May 2022 – Aug 2022

- Converted, cleaned and merged raw data from zip files to standard pickle files for streamlined data processing.
- Refined a linear model for 1-minute stock price predictions by implementing feature selection, time period optimization, and regularization techniques. Initiated new ML models for improved forecasting.
- Enhanced model and strategy performance by utilizing parallel computing in collaboration with computer engineers, executing code seamlessly across different systems (Windows and Linux).
- Self-learned Qlib (open source framework) in three days and applied its structure to design new predictive models and trading strategies.

PROJECTS

Blockchain Project: IntelliDeFi Invest

Jan 2025 – Apr 2025

- Engineered the real-time data pipeline using Python for cryptocurrency price feeds, ensuring clean, structured data delivery for LSTM-based prediction models.
- Developed risk-based portfolio allocation logic, integrating ML-generated price forecasts with investor risk profiles for smart contract-driven asset management.

- Built dynamic data visualizations to track and present portfolio performance, translating complex technical outputs into clear, actionable user insights via the react.js (web-based interface).
- Collaborated on system integration and backend deployment using Hardhat, Node.js, and Ethers.js, addressing challenges in smart contract interaction, wallet connectivity, and cross-module data consistency.
- Supported wallet interaction features via Metamask and WalletConnect integrations, ensuring secure, user-friendly transaction flows and portfolio management access.

Financial ML Project: Real Estate Revenue and EBITDA Prediction

Jan 2025 – Apr 2025

- Collected and integrated NYC property sales and financial datasets for ML-based revenue and EBITDA forecasting in the real estate sector.
- Engineered custom financial and property features based on domain research and conducted EDA to uncover key patterns and anomalies.
- Built and optimized LSTM models with TensorFlow/Keras for prediction. Collaborated in model evaluation using RMSE, MAE, and R2 metrics, contributing to the stacked ensemble approach combining LSTM and tree-based methods, achieving top forecasting accuracy.

Text Mining Project: No Regret to Social Media Post

March 2025 – Apr 2025

- Developed and implemented an offensive language detection pipeline using machine learning (SVC, SVC, Logit, Decision Tree, Random Forest and Light-GBM) and deep learning (LSTM) models.
- Led data collection, preprocessing (expanding contractions, removing stopwords, tokenization, TF-IDF and resampling) and EDA (Subjectivity and Polarity Analysis, Profanity relationships, Hypothesis Testing) to prepare high-quality training datasets for content classification.
- Collaborated on modular NLP system integrating regex, NER, and transformer models (DistilBERT) for real-time harmful content detection with sub-50ms latency.

Financial Project: Case Analysis and Robo Advisor

Aug 2024 – Apr 2025

- Conducted a financial case analysis for Phuket Beachside Hotel, comparing two investment options using NPV, IRR, Payback Period, and EAA. Recommended establishing an in-house pub, achieving a projected NPV of 1.60M baht and IRR of 36.95%, significantly outperforming the alternative lease option while enhancing brand control and operational alignment.
- Designed and implemented a robo-advisory model for portfolio optimization, incorporating diversified fund selection, risk profiling questionnaires, and portfolio optimization via Efficient Frontier and GMVP. Delivered an Excel-based advisory tool providing tailored investment recommendations, bridging financial theory and real-world application.

Front-end Project: AI Assistant App for Medical Sales Rep

Oct 2022 – Nov 2022

- Designed a chatbot that allowed medical sales representatives to find brief answers to their questions, check the confidence of the answers provided, and explore other possible answers.
- Provided “uploading” tab to update our dataset in real time based on the file uploaded by users and “stats” tab to show success rate of users’ interested device so that they can make comparison easily.
- Docked app to connect UI interface with the backend datasets and model, used AWS to test application.

Consulting Project: Blind Box Feasibility & Financial Forecast

Dec 2020 – Jan 2021

- Collaborated with interdisciplinary peers to research the industry, market landscape, and Part A company, conducting consumer interviews and applying SWOT analysis to identify key opportunities and challenges.
- Leveraged economic analysis to evaluate costs and revenue, comparing findings with the existing business model.
- Provided strategic recommendations to enhance the business model and proposed a three-year strategic plan for sustainable growth.

ADDITIONAL INFORMATION

Technical Skills: Python, R, SQL, Excel VBA, Git, MATLAB, Javascript, Big Query, Looker Studio, ML, DL, Text Mining, Solidity, Smart Contract

Statistical Skills: Statistical Computing, Regression, Simulation, Bayesian, Multivariate Analysis, Time Series

Financial and Econ Skills: Financial Modeling, Financial Analysis, Risk Assessment, Financial Statement, Micro and Macro Economics, Game Theory

Certificate: FRM Part I Passed, BDA Junior Certificate, Tan Ean Kiam Arts Awards 2022

Languages: Fluent in Mandarin and English (Both spoken and written)

Co-Curricular Activities: NUS Chinese Drama Club (Secretary), NUS Statistics & Data Science Society (Publicity), NUS Chinese Students’ Committee (Event), NUS Latin & Ballroom (Dancer)

Interests: Chinese Opera, Dancing, Acting, Ukulele, Broadcasting & Hosting, Sports, Travelling