

Wang Peixuan

peixuan.wang@u.nus.edu

Education

National University of Singapore Ph.D. in Operations Research and Analytics	Aug 2025 - Present
National University of Singapore Master of Science in Quantitative Finance	Aug 2023 – Dec 2024
National University of Singapore Bachelor of Science in Quantitative Finance	Aug 2019 – Jun 2023

Research Interest

Robust optimization, Reinforcement learning

Work Experience

Energy Market Analyst , EDF Lab Singapore	Aug 2023 – Jul 2025
- Developed a linear optimization-based software tool for modelling Power Purchase Agreements, enabling cost-efficient 24/7 carbon-free energy provision using a portfolio of renewable assets. - Implemented a Neural Network-based solution to numerically solve a stochastic control problems, optimizing the charging and discharging schedules for battery energy storage systems. - Built machine learning models for electricity load forecasting, improving MAPE from 1.5% to 1% using an ensemble of Neural Networks, Random Forests, XGBoost, and General Additive Models (GAMs). - Conducted market research on Germany's ancillary services market and developed price models incorporating Ornstein-Uhlenbeck processes with compound Poisson jumps and deterministic volatility functions.	
Research Assistant , National University of Singapore	May 2023 – Aug 2023
- Built and tuned multiple machine learning models, including Random Forest, CNN, LSTM and Bi-LSTM with Attention for sequential prediction tasks. - Addressed class imbalance through data processing techniques, including oversampling and undersampling strategies, to enhance model performance.	

Project Experience

Empirical Asset Pricing via Machine Learning , Undergraduate Honours Year Project	Aug 2022 - Mar 2023
- Replicated stock prediction studies from <i>Empirical Asset Pricing via Machine Learning</i> (Gu et al., 2020) on US-listed consumer industry companies, analyzing 50 years of data (1972–2021). - Implemented Linear Regression, Random Forest, and Neural Network models, identifying key predictors and achieving a 3.35% out-of-sample R-squared.	
Deep Weed Classification	Aug 2022 - Dec 2022
- Implemented machine learning models, including kNN, CNN, VGG-19, ResNet50, and ResNet101 for image classification on the DeepWeeds dataset, identifying ResNet101 as the best-performing model with 90% accuracy. - Applied data augmentation techniques, including Gaussian noise addition, to assess model robustness, achieving 76% accuracy with ResNet101.	

Skills & Languages

Programming Languages: Proficient in Python and Java; intermediate in C, MATLAB, and VBA

Languages: English (Proficient), Chinese (Native), Japanese (Elementary)