Hongzhen Du

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EDUCATION

Xi'an Jiaotong-Liverpool University
Bachelor of Economics | Finance Track — Jul 2023 (Expected)

- **Grade**: 72/100 **(**First Class Honours Degree**)**; **Junior GPA**: 3.85; **Rank:** 8/121
- **Math Coursework**: Advanced Econometrics, Probability and Statistics, ODE, Numerical Analysis, Real Analysis, Game Theory.
- **Economic & Finance Coursework:** Advanced Microeconomics, Advanced Macroeconomics, Monetary Economics, Mathematical Economics, Financial Management, Business Finance.
- **Honors:** University Academic Achievement Award (2021-2022), Continuing Academic Merit Scholarship (2019-2021)

University of Chicago
Summer School Student — Jun 2022 - Aug 2022

- Coursework: Quantitative Portfolio Management & Algorithmic Trading

PROFESSIONAL EXPERIENCE

GF Securities | OTC Department — Jun 2022 - Aug 2022

- Visualized characteristics of CSI 300 stocks by industry with Python, selected the top three alpha values of each industry to build a multi-factor stock selection model (return on equity, profit growth rate, turnover, monthly gains) and conduct performance evaluations.
- Classified over 300 anti-money laundering rating messages of new derivatives customers by subjects with Python, and generate initial review and review rating opinions, improving the efficiency by 40%.

Orient Securities | Asset Management Department — Jul 2021- Aug 2021
Summer Analyst Intern

- Analyzing weekly and monthly market trends and completed research reports regarding equity strategies in China's A-share market by collecting industry news and financial ratios from the Wind database.
- Analyzed the performance of the new energy vehicle market through macro and financial data and writing an industry research report and concluded an optimistic scenario of the new energy terminal consumption scenario with the achievement of 20% targeted market share.

RESEARCH EXPERIENCE

Textual Analysis and Machine Learning in Predicting Stock Prices — Jun 2022 - Jul 2022
NUS School of Computing Summer Workshop, Advisor: Anand Bhojan

- Performed sentiment analysis through a dictionary containing 10 kinds of emotions on 10,000 pieces of news about 5 stocks and the corresponding scores were calculated, and compared it with stock price movements on the corresponding date with 33% prediction accuracy.
- Trained a LSTM model with for 50 epochs that attains the validation accuracy of 92% and 6.65% RMSE for the price prediction of the 5 stocks and backtested using the next day's price for 3 years.

Time Series Analysis of Turkey Money Supply's Impact on Real Economic Variables | *Individual Research* — Apr 2022

- Constructed 6 distributional lag models with different factors to test correlations and changes of dynamic cumulative multipliers between money supply, unemployment rate and real interest rate in Turkey, and rejected the feasibility of applying monetary neutrality assumption on Turkish economic crisis over the last decade.

Word Representation in Biomedical Domain Under Natural Language Processing | *Group Member*
Best NLP Project, Imperial College London Data Science Winter School — Jan 2022 **-** Feb 2022

- Tokenized individual words in biomedical articles by *split()* and ByPairEncoding, analyzed relevant words co-occured with COVID-19 through comparing PMI and filtered the Top 10 most semantically similar entities by calculating cosine similarity.
- Performed t-SNE to reduce the dimensionality of word vectors and visualize word vectors and filtered words co-occured with COVID-19 by computing pointwise mutual information (PMI) in a co-occurrence matrix, and selected Top 10 biomedical entities with the most semantically similar by analyzing cosine similarity.

Comparison between Domestic and Foreign Output Gap | *Research Assistant*
Supervisor: Syed Abbas (Xi'an Jiaotong-Liverpool University) — Oct 2021- Dec 2021

- Utilized HP filters to generate output gap and potential output through monthly and quarterly total trade, GDP and IPI statistics after data cleaning and exported dataset containing trade weights and output gap through STATA.

LEADERSHIP EXPERIENCE

Policy analysis of Hong Kong and Thailand during 1997 Financial Crisis | *Group Leader* — Feb 2022 - Apr 2022
MPIF Capstone Project Excellence Award, Advisor: Dave Schabes (University of Chicago)

- Introduced both exchange rate system under different choices in the monetary trilemma and presented connections dynamically between monetary policies and the movements of GDP and short-term interested rates.
- Analyzed the reasons why the domestic currency overvaluation and current account deficit impacted the overall economy and demonstrated the rationale of corresponding fiscal and monetary policies on economic conditions.

LinkedIn (China) Global Business Challenge | *Team Leader* Oct 2021 - Nov 2021

- Analyzed the business situation of LinkedIn (China) after withdrawing social functions and forecasted future user growth patterns under possible new features.
- Investigated the feasibility of offering online professional courses with a widely recognized certificate for possible job seekers aimed at filling skill gaps.

SKILLS AND OTHERS

Computer: Python (Numpy, Pandas, Scikit-Learn, Statsmodel), STATA, EViews, LaTeX
Language: Chinese (Native), English (Fluent), Cantonese (Fluent), Spanish (Elementary)
Interests: Travel, Urban Exploration, Fan Mail, Trainspotting, Drama
Open Courseware Certificates: Machine Learning (Stanford), Differential Equations for Engineers (HKUST), Introduction to Numerical Analysis (HSE University), Data Structure (UCSD), Operational Research (NTU)