

Zhengbang Yang

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EDUCATION

George Mason University Ph.D. Student in Information Technology Aug. 2024 – May 2029 (expected)

- College of Engineering and Computing

University of California, Irvine Master of Data Science Sep. 2022 - Dec.2023

- Donald Bren School of Information and Computer Science
- GPA: 3.808

Shenzhen University Sep. 2018 - Jun. 2022

Bachelor of Economics in Finance & Bachelor of Engineering in Computer Science

Shenzhen, China

- Shenzhen University WeBank Institute of Fintech
- GPA: 3.65

PUBLICATIONS

[Xia, H., Yang, Z., Wang, Y., Tracy, R., Zhao, Y., Huang, D., Chen, Z., Zhu, Y., Wang, Y., & Shen, W. \(2024\). SportQA: A Benchmark for Sports Understanding in Large Language Models. NAACL 2024](#)

[H. Zhang et al., "Improving Confidence of Uncertain Knowledge Graphs by Crowdsourcing with Limited Budget," 2022 IEEE 28th International Conference on Parallel and Distributed Systems \(ICPADS\), Nanjing, China, 2023, pp. 794-801.](#)

TEACHING EXPERIENCE

University of California, Irvine

TA in Mgmt FE 247 VENTURE CAPITAL & PRIVATE EQUITY

FALL 2023

PROFESSIONAL EXPERIENCE

Guosen Securities

May. 2021 - Aug. 2021

Artificial Intelligence Intern in Management System Development Department

Shenzhen, China

- Conducted research on the impact of inflation, commodity index, and interest rates on the macroeconomy & mined and tested factors with Python.
- Employed regression analysis, time series forecasting, and cross-sectional analyses to derive significant economic factors with R. Resulting in enhanced risk management and 4% alpha for the portfolio.
- Designed a framework to perform attribution analysis between stock trading & position, time selection & stock selection, etc., with methods in Brison, T-M, H-M, C-L, and Fama French. Utilized JavaScript and Tableau to develop a dynamic visualization dashboard to show the result of attribution analysis.
- Predicted a robust MedianAE of 3.1% and RMSE of 4.5% stock returns, with a PCA-optimized LSTM model.
- Developed a bill OCR system to automate the extraction of information from financial bills by optimizing Paddle's OCR model with 99% accuracy.

Shenzhen University

Jan. 2020 - Dec. 2020

Research Assistant at Shenzhen University WeBank Institute of Fintech

Shenzhen, China

- Developed a Python crawler to crawl the posts on the Guba forum. Performed data cleaning, processing, keyword extraction, and statistical analysis with Pandas & developed a Python crawler with Selenium to crawl to the open information of auditors in China.
- Utilized Google Cloud API to analyze the emotional tendency of text by Python script.
- Deployed the Python crawlers to the AWS server and monitored the operation.
- Implemented a data pipeline to store the data in the PostgreSQL Database.

RESEARCH EXPERIENCE

SportQA: A Benchmark for Sports Understanding in Large Language Models (NAACL 2024)

Sep. 2023 - Dec.2023

- Utilized API to get responses from Large Language Models, e.g. Chat GPT.
- Developed a Python crawler to crawl data for the data set.
- Designed the experiments.

Uncertainty Optimization of Knowledge Graph (ICPADS 2023)

Dec. 2021 - Apr. 2022

- Cleaned Electronic Medical Records (EMR) with Python Pandas and embedded medical knowledge graph with EMR.
- Constructed a crowdsourcing framework and approximation algorithm based on greedy algorithm with Python to improve the quality of knowledge graph with crowdsourcing and a limited budget.

Trading Policy based on Deep Reinforcement Learning

Dec. 2021 - Apr. 2022

- Utilized Python for Deep Reinforcement Learning training with Open AI Gym and architecture of PPO policy, and made parameter optimization to build a stock trading policy.
- Realized the feature extraction and modeling network by CNN and RNN for the Actor-Critic network of PPO policy with PyTorch.
- Designed an environment for Reinforcement Learning, reward function, and a backtesting framework with Python.
- Attained a sharp ratio over 2 on the CSI 300 index.

PROJECT EXPERIENCE

Research on Long COVID and SDoH Effects (Capstone with Innopiphany, Project Leader)

Oct. 2023 - Dec.2023

- Cleaned and organized data with Python Pandas.
- Conducted significance analysis by Welch's two-sample T-test and Mann-Whitney U test for different Social determinants of health (SDoH) variables between Long COVID and not Long COVID population.
- Conducted multiple linear regression to interpret which variables contribute the most to differences in health outcomes.

Visualization of Financial Complaint Data (Capstone with WeBank, Project Leader)

Sep. 2021 - Dec. 2021

- Created Python scripts to crawl, clean, preprocess over 1M financial complaint data, and store them in the Postgre SQL Database.
- Adopted word clustering and topic modeling to extract keywords and quantify the sentiment leanings in complaint text.
- Developed a WeChat mini program with E-Charts and Python Flask to create interactive and informative data visualizations.

SKILLS

- **Programming Languages:** Python (OpenCV, NumPy, Pandas, PyTorch, etc.), SQL, R (Linear Regression, GLM, ANOVA analysis, etc.), JAVA, SAS, STATA, MATLAB, HTML, JavaScript
- **Data Base:** MySQL, Postgre SQL MongoDB, Cassandra
- **Visualization:** Tableau, Matplotlib, Power BI, D3, E-Charts
- **Cloud Service:** AWS, Linux, Git
- **Languages:** Mandarin (Chinese) - Native, English - Fluent

EXTRACURRICULAR EXPERIENCE

WeBank Scholarship Summer Camp

Jul. 2021 - Jul. 2021

- Visited Beijing Stock Exchange and Shanghai Stock Exchange
- Had Lectures in Beijing University and Fudan University

Electronic Association of Shenzhen University *President*

Jun. 2019 - Jun. 2020

- Recruited over 500 applicants through detailed recruitment plans, a comprehensive online and offline marketing strategy, and a well-structured assessment process, resulting in a 20% increase in active membership.
- Developed a practice-oriented training program for new members, including sessions on C++ object-oriented programming and Python data analysis and visualization. Adapted the program to an online format during the Covid-19 pandemic.
- Awarded SZU Tencent "Contributors to the Cultural Innovation of Students Associations" Award (individual) and Top 10 SZU Students Association Award for outstanding leadership and impact.

HONORS & AWARDS

- 2022 Outstanding graduate of Shenzhen University WeBank Institute of Fintech (Top-5 student in our institute)
- 2021 SZU Outstanding Innovative Talent (Second Prize)
- 2020 SZU Tencent "Contributors to the Cultural Innovation of Students Associations" Award (individual, only one student in Shenzhen University each year)
- 2020 Second Prize in Guangdong College Students' Electronic Design Competition
- 2019 SZU Outstanding Innovative Talent (Second Prize)