Chongdan Pan

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EDUCATION

University of Michigan   Ann Arbor, MI
Master of Science in Information (GPA: 4/4)   *Apr 2023*
Topics: NLP, Data Mining, Time Series Analysis, Database, Data Visualization, Web Application

University of Michigan - Shanghai Jiao Tong University Joint Institute   Shanghai, China
Bachelor of Science in Electrical and Computer Engineering; Minor in Entrepreneurship   *Aug 2020*
Topics: Computer System, Network, Algorithm, Machine Learning, Covex Optimization

SKILLS

Programming: C/C++, Python, R, Shell, SQL, JavaScript, Java, Scala, Solidity, React Native, HTML/CSS
Database: MySQL, Redis, ClickHouse, MongoDB, Firebase   **Tools:** Git, Jenkins, Docker
Framework/Library: Hadoop, Spark, Alluxio, Kafka, RabbitMQ, Scikit-Learn, Pytorch, Django, Altair

EMPLOYMENT EXPERIENCE

Jump Trading   Chicago, Illinois
Software Engineer Intern   *June 2022 - Aug 2022*
- Applied concurrent and asynchronous programming to improve the performance of data fetching API.
- Designed user-friendly and high performance API to get global markets' bar data.
- Developed multidimensional data manipulation tools for quant researchers.

Probquant Investment   Shanghai, China
Full-time Software Engineer   *Aug 2020 - Aug 2021*
- Designed a high-performance asynchronous trading logger through a lockfree queue and multithreading.
- Used Protobuf, message queues to develop a real-time data exchange system between colocated servers.
- Built the company-wide data warehouse from scratch, enabling quantitative researchers to fetch and save high-frequency trading data with throughput higher than 10GB/s.
- Utilized shared memory to build a stand-alone in-memory key-value database customized for large data matrix, providing 10x higher performance than Redis.
- Deployed and tested a distributed RDMA cluster interconnected by InfiniBand.

PROJECT EXPERIENCE

Crypto Quantitive Research   *May 2021 - present*
- Applied Xetra Liquidity Measure on orderbooks to classify the liquidity curves of different equities.
- Used Word2Vec and LSTM on tweets data to generate meaningful predictors for crypto trading strategies.
- Built a data pipeline to fetch, clean, normalize and store median-frequency blockchain market and text data from Binance and Twitter Rest API.
- Developed backtest system to test the performance of predictors from Barra models parallelly.
- Applied Garch-AR, Bretó Stochastic model to analyze the volatility of crypto market time series data.

Blockchain-based Peer Review System   *Feb 2022 - April 2022*
- Led an interdisciplinary team of engineers, designers, and analysts to get into the finalist of Umich Ross Crypto Fintech Challenge.
- Developed a DApp to record the historical behavior of the reviewee for customers' reference.
- Use Solidity to design the smart contracts supporting user interaction and historical data search.

President of SJTU VEX Robot Club   *Sep 2019 - Aug 2020*
- Led an 8-member team to win World Champion in the *2019 VEX World Championship*.
- Implemented control algorithm and signal processing system upon multiple sensors so that the absolute error of 100-liter robots's movement is under 1cm, and the relative error of velocity is under 2%.
- Used mechanic designing and fabrication techniques to elaborate more than 20 robots for 3 seasons.
- Founded a club of over 40 members and instructed them to participate in the VEX Robotic Competitions.