

# Chongdan Pan

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## EDUCATION

### University of Michigan

Ann Arbor, MI

*Master of Science in Information* (GPA: 4.0/4.0)

*Aug 2021 - Apr 2023*

Relevant Courses: Machine Learning, Natural Language Processing, Timeseries Analysis, Finance Engineering

## SKILLS

**Programming:** C/C++, Python, Shell, SQL, Scala, Solidity, JavaScript

**Frameworks/Libraries:** Numpy, Spark, PyTorch, Kafka, Django, Redis, Git

## WORK EXPERIENCE

### D. E. Shaw & Co.

New York, NY

Software Developer

*Aug 2023 - Present*

- Built frameworks and tools to enhance discretionary trading strategies.
- Automated job setups to analyze portfolio risk and monitor market status.
- Developed software and financial models to price sophisticated financial derivatives.

### Jump Trading

Chicago, IL

Software Engineer Intern

*June 2022 - Aug 2022*

- Researched asynchronous programming and multiprocessing to reduce network file system latency.
- Developed a high-performance Python library to fetch global market high-frequency trading data.
- Created multidimensional data manipulation and calculation tools to enhance quantitative research.

## RESEARCH & PROJECTS

### Blockchain-based Peer Review System

*Feb 2022 - Apr 2023*

- Developed an Ethereum-based decentralized application to enhance trust between patients and doctors by recording immutable historical behaviors and reviews.
- Authored a book chapter *Blockchain Technology for Preventing Disasters in Surgery: A Case Study on Plastic Surgery in Technology Innovation for Sustainable Development of Healthcare and Disaster Management* to be published by *Springer*.
- Led an interdisciplinary team to build an MVP software and won the finalist of Umich Ross Crypto Fintech Challenge.

### Quantitative Research on Market Making

*May 2021 - Apr 2023*

- Built market data publishers, fair value calculators, and gateways to catch arbitrage opportunities.
- Applied Word2Vec and LSTM on text data to generate predictors from social media text data.
- Improved order book spread analysis framework for the US equity market through Xetra Liquidity Measure.

### Political Misinformation Detection

*Feb 2022 - Sep 2022*

- Built an automated system to collect and fact-check suspicious political misinformation.
- Applied network and graph algorithms to identify major misinformation spread on social media.
- Used NLP and time series methods to predict the mass spreading of misinformation.

### Entrepreneurship Research on Telepresence Robot

*Apr 2021 - Aug 2021*

- Built a remote care robot prototype with functions such as free movement, medicine dispensation, and vital monitoring, winning the champion of *UM-SJTU JI Covid-19 Entrepreneur Challenge*.
- Published *Technology Entrepreneurship in Developing Countries: Role of Telepresence Robots in Healthcare* in *IEEE Engineering Management Review*.
- Conducted a systematic review on the application of telepresence robots, publishing *Telepresence Robots to Support Telehealth during Pandemic* in *Digital Medicine*.
- Analyzed telepresence robots' role in the pandemic, authoring a book chapter *Telepresence Robots for Healthy Ageing* in the IET Book *Digital Methods and Tools for Healthy Ageing*.

### VEX Robotic Competition

*Apr 2018 - Aug 2021*

- Applied 3D printing, CAD design, control theory, computer vision, and C++ to build competitive robots.
- Led the SJTU robotic competition team to participate in the VEX Robotic championships globally.
- Won the Skill-challenge World Champion and Division Champion in the 2019 VEX World Championship.
- Achieved Tournament Champion, Excellence Award, and ASUS Future Star in the 2019 VEX Asia-open Tournament and 2018 VEX Asia-Pacific Championship. Interviewed by *China Daily*, the only national English-language newspaper in China.