

## Education

### University of Michigan, Ann Arbor

M.S. IN STATISTICS & DUAL M.S IN MATHEMATICS (GPA: 3.98/4)

Ann Arbor, MI, 48105

2021 - 2023

### Peking University

B.S. IN FINANCE (CORE GPA: 3.76/4)

Beijing, China, 100871

2017 - 2021

### Northeastern University

EXCHANGE STUDENT IN FINANCE

Boston, MA, 02115

2019 - 2019

## Academical Experience

### Differential Score Matching Graphical Models

University of Michigan, Ann Arbor

SUPERVISORS: KEAN MING TAN (DEPARTMENT OF STATISTICS, UNIVERSITY OF MICHIGAN), JUNWEI LU (HARVARD SCHOOL OF PUBLIC HEALTH)

Ann Arbor, MI, 48105

Mar 2022 - Present

- Proposed a novel estimator for differential edge parameters between two independent probabilistic graphical models based on score matching method, which applies to general exponential graphical models.
- Designed a joint ADMM algorithm to solve the estimation problem with extra  $l_1$  penalties and return solutions under sparsity assumption.
- Further developed a general framework for estimation, getting de-biased estimator and making inferences for differential graph.
- Proved theorems, designed numerical simulations and real data applications, wrote the paper draft independently.

### High Frequency Price Jumps and News Impacts

Peking University

SUPERVISOR: CHENXU LI (GUANGHUA SCHOOL OF MANAGEMENT, PEKING UNIVERSITY)

Beijing, CHN, 100871

Apr 2021 - Present

- Cleaned the original high-frequency trading data sets for 44 Don Jones Index companies from year 2003 to 2018 with the sample size reaching 100 million level, reorganized the data structure and constructed 19 firm-idiosyncratic features for firms under different trading days with different frequencies. Constructed the well organized panel data for further analysis.
- Combined the high-frequency stock return time series and company-related news from Thomson Reuters News Database together to detect abnormal stock return residuals and their characteristics for each company.
- Set different truncation cutoff to determine high-frequency price jumps for companies, and further ran probit regressions to detect variables' contributions for predicting news related jumps.
- Applied machine learning algorithms including probit-lasso regression and random forest to study the microstructure of high-frequency stock market.

### The Tournament Promotion Model in China's Prefecture-Level Cities

Peking University

SUPERVISOR: LI-AN ZHOU (GUANGHUA SCHOOL OF MANAGEMENT, PEKING UNIVERSITY)

Beijing, CHN, 100871

March 2021 - May 2021

- Worked with Professor Zhou to conduct a DID-based method to evaluate the Tournament Promotion Model in China's prefecture-level cities.
- Established database of government annual report at the level of different prefecture-level city throughout the whole country.

### US Mutual Fund Seasonalities

Peking University & University of Utah

SUPERVISOR: JIACUI LI (UNIVERSITY OF UTAH), YINGGUANG ZHANG (GUANGHUA SCHOOL OF MANAGEMENT, PEKING UNIVERSITY)

Beijing, CHN, 100871

Jul 2020 - Nov 2020

- Used Python to assist professors to pre-process datasets containing million of observations, including labeling each observation with right signs, selecting useful datasets and construct important statistical variables.

- Used R to run various tests and regressions with multiple fixed effects to detect and verify seasonalities in US stock return, insider trading, net trading etc.

### Earnings Announcement Return Cycle

*Peking University*

SUPERVISOR: YINGGUANG ZHANG (GUANGHUA SCHOOL OF MANAGEMENT, PEKING UNIVERSITY)

*Beijing, CHN, 100871*

Apr 2020 - Nov 2020

- Assisted professor to construct various different Change-of -Forecast Variables to examine whether the earnings announcement return cycle can accord with the cycle of analysts change their forecast.

## Professional Experience

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### Northeast Security

*Beijing, China*

EQUITY CAPITAL MARKET INTERN

*Aug 2020 - Nov 2020*

- Responsible for updating weekly capital market database and writing weekly reports. Designed a Python Crawler program to help collect important data on website automatically.
- Participated in a directional private placement project of a domestic investment bank with a volume of 6 billion RMB , and was responsible for writing and checking important compliance documents.

### PricewaterhouseCoopers Business Consulting Services Limited

*Qianhai, Shenzhen, China*

DATA ANALYTICS INTERN

*Jan 2020 - Mar 2020*

- Extracted financial data of Chinese enterprises from the data of the past 12 years with the volume of millions, Constructed the corresponding factors according to the Beneish model.
- Applied basic model including logit regression to advanced algorithm including random forest classification and xgb regressor to quantify the probabilities of degrading of Chinese bonds.
- Constructed 27 different factors that could influence the probability of bond degrading. Constructed ROC curve to detect the goodness of fit of the machine learning model and the AUC area came to 0.92, which meant the model was highly precise and well-developed.
- The simulation results helped the department better design trading algorithms.

### New China Fund Ltd

*Beijing, China*

INDUSTRY RESEARCH INTERN

*June 2019 - Aug 2019*

- According to daily condition of A shares market and fluctuations of specific indexes, composed the daily news report about the industry of wind power and new energy.
- Participated in various of strategy meetings, analysed the potential investment opportunities toward wind power industry.
- Carried out the industrial research in wind power independently. According to the combination between macro politics and the business model of specific corporation, I wrote research report to facilitate the department to choose the investment object.

## Skills

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Python, R, LaTeX, Linux, MySQL, Microsoft Office, Bloomberg, Wind.