

# ZILIANG SHEN

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## PERSONAL STATEMENT

Skilled in theory and programming, I excel in project management and team leadership, consistently delivering complex projects. With a calm demeanor and a passion for tech innovation, I thrive on learning and applying new insights in my work.

## EDUCATION

**Shanghai University of Finance and Economics** 2021.09 - Now

- *PhD*, Mathematical Statistics, School of Statistics and Management

**Nanchang University** 2015.09 - 2019.06

- *Undergraduate*, Mathematics and Applied Mathematics (Financial Mathematics), School of Science

## WORK EXPERIENCE

**Fibonacci Capital Link, Data Analysis** 2024.04-2024.05

- During my internship at Fibonacci Capital, the company required in-depth data analysis of specific industries to support investment decisions. I collected data, built statistical models, and conducted net asset value investigations and quantitative analysis.

1. **Data Visualization:** Utilized Python and its related libraries (such as matplotlib) for data visualization.
2. **Statistical Learning Models:** Built basic statistical models, decision trees, and random forest models, applying statistical knowledge for quantitative analysis to identify patterns and trends within data.
3. **Financial Analysis:** Analyzed financial statements and short data, conducted net asset value investigations, and provided detailed industry analysis reports.

**Shanghai Electric Solar Cell Target Detection Project** 2024.05-2024.06

**Project Background:** This project is a collaboration between Shanghai University of Finance and Economics and Shanghai Hongpu Information Technology Co., Ltd., aimed at achieving solar cell target detection to improve detection accuracy and avoid missed and false detections of electromagnetic cells.

- **Role and Responsibilities:** As the project leader on the university side, I led a team of graduate and undergraduate students, working closely with the on-site department to ensure workflow integration and the smooth completion of project interfacing.
- **Technical Implementation:** I led the team to complete data annotation and iteratively optimized the target detection model based on the Faster R-CNN network architecture to improve detection accuracy and efficiency.

**Shanghai GDP Nowcasting Project** 2024.06-2024.10

This project is a collaboration between Shanghai University of Finance and Economics and the Shanghai Municipal Bureau of Statistics, aimed at using various Nowcasting models with machine learning methods to achieve real-time forecasting of Shanghai's GDP growth rate.

- As the project leader, I participated in the entire process from model design to implementation.
  1. **Technical Implementation:** Developed various Nowcasting models, including dynamic factor models, machine learning models (Lasso, Elastic Net, SVM, etc.), mixed-frequency Bayesian additive vector autoregressive tree (MF-BAVART) models, and LSTM models. Conducted in-depth parameter tuning of these models to ensure the accuracy and reliability of the forecast results.

The project has completed the monthly evaluation of Shanghai's GDP data and the Model-Averaged forecast of quarterly GDP data.

## RESEARCH RESULTS

Caixing Wang, Ziliang Shen(2024). Distributed High-Dimensional Quantile Regression: Estimation Efficiency and Support Recovery.

- International Conference on Machine Learning (ICML) 2024, **Spotlight(accept rate 3.6%)**. [Paper] [Code]

This study addresses the problem of efficient communication and computation in distributed robust regression. It is my first published paper and marks the beginning of my research on distributed algorithms. I contributed to the entire algorithm design and the implementation of comparison codes for various methods in this paper.

TALKS AND TUTORIALS

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**Distributed High-Dimensional Quantile Regression: Estimation Efficiency and Support Recovery.** 2024.07

Invited Presentation at the 17th China R Conference 2024 X Intelligence Conference 2024 International Forum on Data Science Joint Conference - New Statistical Methods I (Renmin University of China). [Link](#)

**Shanghai Doctoral Students Forum in Statistics** 2024.11.11

Second Prize, East China Normal University. [Link](#)

SOFTWARE

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- Proficient in R and Python.
- Experienced with MATLAB, SAS, Stata, and C.

HONOR

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First-class Undergraduate Scholarship, Nanchang University.

First-class Graduate Scholarship, Shanghai University of Finance and Economics.

Excellent Student Award and Excellent member of the Communist Youth League, Shanghai University of Finance and Economics.

National scholarship for doctoral students.