

# Jianghai Chen

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"Be the change that you want to see in the world."

## Education

### Nankai University

UNDERGRADUATE IN INTELLIGENT SCIENCE AND TECHNOLOGY

Major in Intelligent Science and Technology, double major in Finance

- Major GPA **87.31/100**
- Related Coursework: Probability Theory and Mathematical Statistics, Linear Algebra, Data Structure Basics, Machine Learning, Deep Learning, Reinforcement Learning

Tianjin, China

Sep. 2019 - Jun. 2023(expected)

## Experience

### Prof. Jie Liu, Department of Automation and Intelligent Science, Nankai University

RESEARCH INTERN

Tianjin  
Sep. 2020 - Aug. 2021

- Research on the application of intelligent question and answer audit robots based on the knowledge graph.
- Project built methods that can identify questions and intelligently answer based on existing data of power audit system, integrating knowledge graph and NLP.
- Responsible for feature triad extraction, intention classification, and entity matching of input questions using natural language processing, conduct comparisons between our approach and traditional methods.
- Wrote the backend (Django) for the project and deployed the project.

### Prof. Boyuan Yang, Institute of Robotics and Information Automation, Nankai University

RESEARCH ASSISTANT

Tianjin  
Sep. 2021 - Now

- Research on the data-driven methods in fault diagnosis, especially contrastive learning.
- Developed an unsupervised method for bearing fault diagnosis based on contrastive learning and submitted manuscript to the conference as the first author.

### Prof. Yang You, High Performance Computing for Artificial Intelligence (HPC-AI) Lab, National University of Singapore

RESEARCH INTERN

Online  
Mar. 2022 - Now

- Research on scaling the depth of Transformers.

### Prof. Xiaowei Chen, Municipal Innovation Projects of College Students, Nankai University

STUDENT MEMBER

Tianjin  
Apr. 2021 - Apr. 2022

- Research on rapid damage assessment and disaster relief application of typhoon disaster based on machine learning - Ningbo as an example.
- Built the machine learning approach for the project, screened disaster-causing indicators, and completed experimental analysis.

## Activities & Awards

- |      |   |                   |
|------|---|-------------------|
| 2021 | <b>Honorable Mention</b> , Mathematical Contest In Modeling(MCM)                                    | U.S.A             |
| 2021 | <b>Finalist</b> , Outstanding student leader of the college   | Nankai University |
| 2021 | <b>Provincial Second Prize</b> , Contemporary Undergraduate Mathematical Contest in Modeling(CUMCM) | Nankai University |
| 2021 | <b>Finalist</b> , National Inspirational Scholarship  | Nankai University |

## Publication

### Self-supervised Contrastive Learning Approach for Bearing Fault Diagnosis with Rare Labeled Data

ISIE 2022, Las Vegas, USA

FIRST AUTHOR

- To solve the problem of massive unsupervised data in real fault diagnosis, a deep learning structure using contrastive learning method was developed.
- The method makes great use of a large amount of unlabeled data and achieved good results with rare labeled data.