Ethan Jinhua Si

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Date of birth: April 13, 2004

Nationality: China

Research Interests

Reliable machine learning, foundation model reliability, and related applications, specifically I work on algorithm and theory design for:

- Out-of-distribution(OOD)research: designing adaptive and interpretable learning principles that help ML models detect and generalize on OOD samples, such as semantic/covariate shifts, adversarial and noisy samples.

- Reliability of foundation models: understanding the blindspots of Large Language Models(LLMs) and Multimodal LLMs through uncertainty estimation, such as model hallucination detection and mitigation.

- Security of foundation models: Exploring how foundation models can be strengthened against emerging threats, including prompt injection, jailbreak attacks, and distributional vulnerabilities.

Research Experience

Radio Lab

College of Computing and Data Science (CCDS), Nanyang Technological University

Research Assistant to Dr.Sean (Xuefeng) Du June. 2025 – now

- I have researched how to use unlabeled data for hallucination detection to create more trustworthy and reliable LLMs and LVLMs.

Visual Computing Team

Tianjin University (College of Intelligence and Computing) Tianjin, China

Research Assistant to Dr.Fanhua Shang Jul. 2024 – now

- I researched how to improve the optimization algorithms Sharpness-Aware Minimization (SAM) and Stochastic Weight Averaging (SWA) to enhance their performance, and I thoroughly investigated their underlying mathematical principles. I then applied them to adversarial example attacks to assess their effectiveness.

- Our paper has submitted to AAAI 2026

Lab of Machine Learning and Data Mining

Tianjin University (College of Intelligence and Computing) Tianjin, China

Research Assistant to Dr.Pengfei Zhu And Dr.Changqing Zhang Oct. 2022 – May. 2023

Software Engineering Team

Tianjin University (College of Intelligence and Computing) Tianjin, China

Research Assistant to Dr.Junjie Chen Dec. 2023 – Dec. 2024

- I investigated treating logs as natural language to obtain semantic information about log events and representing them as semantic vectors to detect anomalies.

Education

Tianjin University Tianjin, China

undergraduate in College of Intelligence and Computing (Artificial Intelligence) Sept. 2022 – Present

- GPA: 86.36/100.00
- Selected awards: Tianjin University Comprehensive Excellence Scholarship (top 30%, awarded to those with outstanding performance in Tianjin University)
- Selected to 'Future Technology College" in Tianjin University(one of the first 12 Future Technology College construction units in China)

Selected Awards and Honors

- Tianjin University Comprehensive Excellence Scholarship (top 30%, awarded to those with outstanding performance)
- First Prize in the Provincial Division of the National Olympiad in Informatics in Provinces (NOIP) 2020
- First Prize in the Provincial Division of the Chinese High School Mathematics League 2020
- Second Prize in the National High School Physics Competition 2021

Additional Information

Interests

- I have a passion for playing Go and started learning it at the age of 5. I achieved third place in the "San Yi Cup" National Dan Promotion Tournament and have ranked in the top ten multiple times in the Shandong Youth and Children Championships.

Language Skills

- Achieved a TOEFL score of 95 in 2023.

Some Completed AI, Computer Science, and Math Courses with Grades

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- Introduction to Programming in C/C++ 99
- Data Mining 98
- Natural Language Processing 97
- Algorithms 96
- Machine Learning 95
- Knowledge Graph 95
- Mathematical Analysis 92
- Introduction to Optimization Theory 91
- Knowledge Engineering 92