Haojin Wang

haojinw2@illinois.edu | +86-15828330768

Education

Tongji University, B.Eng in Computer Science and Technology (Expected) Sept 2021 – July 2025

- GPA: 4.9/5.0
- **Coursework:** Calculus (1,2) (5.0), Linear Algebra (5.0), Discrete Mathematics (5.0), Probability and Mathematical Statistics (5.0), Data Structures (5.0), Algorithm Analysis and Design (5.0), Formal Languages and Automata (5.0), Artificial Intelligence Principles and Technologies (5.0), Computer Architecture (5.0), Computer Organization (5.0), Machine Learning (4.0), Principles of Database Systems (5.0).

Research Interest

My primary research interest lies in learning for **Natural Language Processing (NLP)**, particularly in the science of neural language models. Recently, I focus on model interpretability and inference-time algorithms for Large Language Models (LLMs). I aim to contribute to the development of **safer** and **more transparent** AI systems.

Experience

Research Assistant, University of Waterloo – Waterloo, ON (*Onsite*) Sept 2024 – Feb 2025

Advisor: Prof. Freda Shi, David R. Cheriton School of Computer Science, University of Waterloo
Prof. Zining Zhu, Stevens Institute of Technology

- Conducted research on next token distribution, prefix tuning and gradient-based adversarial attacks in NLP
- First Author in the project of Distribution Prompting, which provides insights into the expressiveness of Language Models and the challenges in using them as probability distribution proposers

Publications

[1] Distribution Prompting: Understanding the Expressivity of Language Models Through the Next-Token Distributions They Can Produce [arXiv]

Haojin Wang, Zining Zhu, Freda Shi

Preprint.

[2] MedFrameQA: A Multi-Image Medical VQA Benchmark for Clinical Reasoning [arXiv] [project] [data]

Suhao Yu*, ***Haojin Wang***, Juncheng Wu*, Cihang Xie, Yuyin Zhou

Preprint.

Projects

A Simple Object Code Generator Feb 2024 - May 2024

- Course project for Compiler Principles, developed a simple compiler that can compile C-like programs to object codes
- Tools Used: Python

Tiny-OS: A UNIX-like File System Feb 2024 - May 2024

- A simulation of a UNIX-like file system, which includes components for managing files, directories and caching
- Tools Used: C, C++

Sarcasm Detection in Headlines based on BERT Aug 2023 - Sept 2023

- Led the team to migrate the training process from PyTorch to MindSpore, and obtained the second prize in innovation.
- Tools Used: Python 3, PyTorch, MindSpore

License Plate Detection and Recognition at Large Angles Jan 2023 - Dec 2023

- Main Code Writer in the project, which is a National Training Program of Innovation and Entrepreneurship for

Undergraduates

- Tools Used: Python 3, PyTorch, TensorFlow

Extracurricular Activities

Team Leader in China Collegiate Computing Contest: 2023 Mobile Application Innovation Contest — Mar 2023 - June 2023

- Served as the HCI designer and Idea Provider for the team work
- Obtained the second prize in East China

Team Member in 9th China Undergraduate Statistical Modeling Competition — Mar 2023 - Aug 2023

- Served as the main code writer of the contest
- Obtained second prize

Skills

Natural Languages: Mandarin (native), English (Proficient); TOEFL 109 (R:30/L:28/S:23/W:28); GRE 328 (Verbal: 158/Quantitative: 170/Analytical Writing: 3.5)

Programming Languages:

- Proficient: C, C++, Python (2/3), MATLAB
- Capable: JavaScript, HTML/CSS, Bash, SQL

Tools/Framework: Slurm, PyTorch, Git, LaTeX, Visual Studio, ssh, React, Vue 3
Hobbies: Fitness, Music, Movie

Awards

- **Excellent Student Scholarship Second Prize**: 3000rmb (about 413.45 USD) — Dec 2023
- **National Scholarship** (as the top 5 student in the department): 8000rmb (about 1102.54 USD) — July 2022