

# Haojin Wang

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## Education

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University of Illinois Urbana-Champaign, Master of Computer Science (Expected)	Sept 2025 – July 2027
Tongji University, B.Eng in Computer Science and Technology	Sept 2021 – July 2025
GPA: 92.9/100.0	
National University of Singapore, Exchange Student	Jan 2024 – May 2024

## Research Interest

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My primary research interest generally lies in learning for **Natural Language Processing (NLP)**, encompassing both applied and fundamental research. Recently, I have been focusing on model collaboration through inference-time algorithms for Large Language Models (LLMs) and the design of self-evolving tool-augmented agent frameworks. I aim to contribute to the development of **more intelligent** and **transparent** AI systems.

## Experience

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<b>Research Assistant</b> , UC Santa Cruz – Santa Cruz, CA ( <i>Remote</i> )	Feb 2025 – Now
Advisor: Prof. Yuyin Zhou, Computer Science and Engineering, UC Santa Cruz	
<ul style="list-style-type: none"><li>Conducted research on medical visual question answering (VQA) benchmarks and the design of agent systems.</li><li>Co-led the development of MedFrameQA as a co-first author. Currently leading the development of an agent system with self-evolving capabilities.</li></ul>	
<b>Research Assistant</b> , University of Waterloo – Waterloo, ON ( <i>Onsite</i> )	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	
<ul style="list-style-type: none"><li>Conducted research on next token distribution, prefix tuning and gradient-based adversarial attacks in NLP</li><li>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</li></ul>	

## Publications

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[1] **Distribution Prompting: Understanding the Expressivity of Language Models Through the Next-Token Distributions They Can Produce** [arXiv]  
Haojin Wang, Zining Zhu, Freda Shi  
In: *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing*. 2025.

[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*.

## Extracurricular Activities

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<b>Team Leader</b> in China Collegiate Computing Contest: 2023 Mobile Application Innovation Contest	Mar 2023 - June 2023
<ul style="list-style-type: none"><li>Served as the HCI designer and Idea Provider for the team work</li><li>Obtained the second prize in East China</li></ul>	
<b>Team Member</b> in 9th China Undergraduate Statistical Modeling Competition	Mar 2023 - Aug 2023
<ul style="list-style-type: none"><li>Served as the main code writer of the contest</li><li>Obtained second prize</li></ul>	

## Skills

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**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,  $\text{\LaTeX}$ , Visual Studio, ssh, React, Vue 3

**Hobbies:** Fitness, Music, Movie

## Awards

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- **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