

EDUCATION BACKGROUND

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**University of Wisconsin-Madison**

Madison, WI

- *Major: Computer Engineering, Computer Science; GPA: 3.98/4.0*  
*By 04/2024*

*Sep. 2023 – Jun. 2026***Sichuan University**

Chengdu, China

- *Major: Materials Science and Engineering; GPA: 3.71/4.0*  
*By 02/2023*

*Sep. 2021 – Jun. 2023*RESEARCH

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**Benchmarking LLM in Embodied AI with Language-Guided SLAM** University of Wisconsin-Madison, USA*Leader**July 2025 – Present*

- Devised a language-guided SLAM benchmark to test LLMs' localization and mapping ability, coupling natural-language instructions with standard state-estimation pipelines and ground-truth trajectories for evaluation.
- Formulate language-conditioned SLAM that links Transformer inference to state estimation tools.

**Jump Representation for Analyzing and Improving LLM Reasoning** University of Wisconsin-Madison, USA*Key contributor**March 2025 – Present*

- Represented chain-of-thought as a tree-jump trace (structure + action), labeling steps as calc/verify/backtrack to quantify exploration, exploitation, overthinking, and forgetting.
- Built a two-stage ReJump-Extractor to convert free-form CoTs into structured graphs, achieving >0.9 tree/jump similarity on Game of 24 and >90% pass@3 extraction reliability on MATH500.
- Discovered that models with similar accuracy exhibit distinct reasoning styles.

**Investigating Length Generalization for Transformers in Arithmetic Tasks** University of Wisconsin-Madison, USA*Leader**August 2024 – September 2024*

- Propose Aligned Blankspace Augmentation (ABA) to zero-pad numbers and insert synchronized blanks across operands and results.
- Extend ABA to 6 arithmetic tasks that is not length-generalizable in vanilla Transformers and outperform previous methods on most of the tasks.

**Screening highly conductive MOFs with random forest algorithm**

Sichuan University, China

*Key contributor**Jan 2023 – May 2023*

- Used machine learning to identify highly conductive Metal-Organic Frameworks (MOFs).
- Curated a dataset of conductivity for over 200 MOFs using R studio.

TEACHING & MENTORING

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**Bayview Foundation, Inc.**

Madison, WI

*Volunteer Tutor — Teen Program**March 2025 – Present*

- Help high-school students with math homework and strengthen problem-solving strategies.
- Support after-school programming and supervise youth activities.

**University of Wisconsin-Madison**

Madison, WI

*Peer Mentor**January 2025 – Present*

- Worked one-on-one with students to develop problem-solving skills.
- Tutored linear algebra, machine learning algorithms, and PyTorch.

INTERNSHIP

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**ONE-CHIP Biotechnology CO., LTD**

Department of Technology

*Intern**Mar. 2022 – Jun. 2022*

- Led the development of a WeChat Mini Program for COVID test kit data display.