XIAOYAN(ELENA) BAI

Chicago, Illinois United States

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OBJECTIVE

I am a second year PhD student in CS from University of Chicago, seeking research intern in Summer 2026. My research interest is in building transparent, efficient, and more accessible tools for social good. Availability: June 2026 - September 2026.

EDUCATION

University of Chicago　　　　　　　　　　　　　　　　**September 2024 – Present**
PhD student in Computer Science　　　　　　　　　　　　*Illinois, United States*

University of Michigan, Ann Arbor　　　　　　　**September 2022 – April 2024**
B.S.E in Computer Science, Minor in Art and Design　　　*Michigan, United States*

Shanghai Jiao Tong University　　　　　　　　　**September 2020 – August 2024**
B.S. in Electronic and Computer Engineering　　　　　　　*Shanghai, China*

SKILLS

Programming Skill: Python, PyTorch, HTML, React, Unity, Java, Matlab, C/C++

PUBLICATIONS

Concept Incongruence: An Exploration of Time and Death in Role Playing. *NeurIPS, 2025*
Xiaoyan Bai, Ike Peng*, Aditya Singh*, Chenhao Tan

Learn To be Efficient: Build Structured Sparsity in Large Language Models. *(NeurIPS 2024)*, **Spotlight**
Haizhong Zheng, **Xiaoyan Bai**, Xueshen Liu, Z. Morley Mao, Beidi Chen, Fan Lai, Atul Prakash

A Mechanistic Understanding of Alignment Algorithms: A Case Study on DPO and Toxicity. *(ICML 2024)*, **Oral (Top 1.5% of submissions)**
Andrew Lee, **Xiaoyan Bai**, Itamar Pres, Martin Wattenberg, Jonathan K. Kummerfeld, Rada Mihalcea

RESEARCH EXPERIENCE

Interpreting Linear Representations in Language Models　　**November 2023 – May 2024**
Undergrad Research Assistant in Language and Information Technology (LIT) Lab　　*Michigan, United States*
- Devle into the currect linear representations focusing on decision making process.
- Implement linear probing in language models to intervene the model behaviors.

Sparsity in Large Language Models　　　　　　　　　**August 2023 – May 2024**
Undergrad Research Assistant in Prof. Atul Prakash's Lab　　　　*Michigan, United States*
- Experiment in the sparsity of models to improve the inference efficiency in GeLU-based LLMs.
- Introduce grouping methods to convert the model into Mixture of Experts to robust efficiency.

WORKING EXPERIENCE

Teaching Assistant | *University of Chicago*　　　　　**October 2024 – December 2024**
Grader for Foundations of CS | *University of Michigan*　**September 2023 – December 2023**
Teaching Assistant | *Massachusetts Institute of Technology Lincoln Lab*　**June 2023 – August 2023**
- Create course materials for combining modern methods in machine learning and game-like modeling to quantitatively analyze socially relevant technology and policy questions

AI Training Assistant Internship | *Emogent*　　　　**December 2021 – January 2022**
- Preprocess and analyze the training data by Python for the interactive AI Irene, which serves in the museum as a guide.

SERVICE

NeurIPS | *reviewer*　　　　　　　　　　　　　　　　　**2025**
ICLR DeLTa and SCOPE workshop | *reviewer*　　　　　　　**2025**
ACL ARR | *reviewer*　　　　　　　　　　　　　　　　　**2024**

HONORS

University of Michigan Dean's Honor List　　　　　**Winter 2023 - Winter 2024**
China Collegiate Algorithm Design and Programming Challenge Contest | *Bronze Medal*　**March 2021**
Undergraduate Scholarship | *Awarded for excellent academic performances*　**September 2020 - August 2021**