

XIAOYAN(ELENA) BAI

Chicago, Illinois United States

OBJECTIVE

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💻 elena-baixy.github.io

🔗 [Elena-Baixy](#)

I am a second year PhD student in CS from University of Chicago, seeking research intern in Summer 2026. My research interest is in understanding language models and responsible AI. Availability: June 2026 - September 2026.

EDUCATION

University of Chicago

PhD student in Computer Science

September 2024 – Present

Illinois, United States

University of Michigan, Ann Arbor

B.S.E in Computer Science, Minor in Art and Design

September 2022 – April 2024

Michigan, United States

Shanghai Jiao Tong University

B.S. in Electronic and Computer Engineering

September 2020 – August 2024

Shanghai, China

SKILLS

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

PUBLICATIONS

Why Can't Transformers Learn Multiplication? Reverse-Engineering Reveals Long-Range Dependency Pitfalls (*preprint*)

Xiaoyan Bai*, Itamar Pres*, Yuntian Deng, Chenhao Tan, Stuart Shieber, Fernanda Viégas, Martin Wattenberg, Andrew Lee

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

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