

XIAOYAN BAI

Apt. C8, 1839 Shirley Lane, 48105, Ann Arbor, Michigan, United States

INTEREST

✉ smallyan@umich.edu

💻 elena-baixy.github.io

🔗 [Elena-Baixy](#)

My general research interest in Machine learning, especially in Natural Language Processing for social wellness.

EDUCATION

Shanghai Jiao Tong University

B.S. in Electronic and Computer Engineering

Sep. 2020 – Present

Shanghai, China

University of Michigan, Ann Arbor

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

Sep. 2022 – Present

Michigan, United States

RELEVANT COURSEWORK

- Computer Game Design and Development
- Machine Learning
- Intro to NLP
- Computer Vision

PROJECT EXPERIENCE

Interpreting Linear Representations in Language Models

Undergrad Research Assistant in Language and Information Technology (LIT) Lab

September 2023 – Present

Michigan, United States

- Devle into the current linear representations focusing on decision making process
- Intervene the model behavior using linear representations learned in during linear probing

Sparsity in Large Language Models

Undergrad Research Assistant in Prof. Atul Prakash's Lab

August 2023 – Present

Michigan, United States

- Discover the sparsity property is not obvious in GeLU-based models
- Improving the efficiency on GeLU models

Token Reduction to Improve Efficiency

Undergrad Research Assistant in Prof. Atul Prakash's Lab

May 2023 – Present

Michigan, United States

- Prune the token in order to improve the inference time efficiency
- Analyze the activation and the attention of tokens

Poetry-Generating AI Design Research

Researcher

November 2022 – April 2023

Michigan, United States

- Pre-processed poetry data and fine-tuned language model using transformers and tokenizers to generate poems

Roboo

Collaborator

March 2023 – April 2023

Michigan, United States

- Created a puzzle-solving platform game where player can control bubbles to solve puzzles in Unity
- Gain an appreciation for the project management techniques required to prevent crunch-time at the end of projects.

WORKING EXPERIENCE

Grader for EECS376: Foundations of CS | *University of Michigan*

June 2023 - August 2023

Teaching Assistant | *Massachusetts Institute of Technology Lincoln Lab*

June 2023 - August 2023

- Assisted the instructor's in the day-to-day coursework and be the resident 'expert' for the student teams
- Worked with instructor to help answer questions and help guide team towards meeting weekly challenges

Undergrad Research Assistant | *Prof. Atul Prakash's group, University of Michigan, Ann Arbor*

May 2023 - Present

- Contribute to NLP research regarding with inference time efficiency

Undergrad Research Assistant | *LIT Lab, University of Michigan, Ann Arbor*

November 2022 - Present

- Contribute to NLP research regarding with mechanics interpretability

AI Training Assistant Internship | *Emogent*

December 2021 - January 2022

- Precrossed data and finetuned Irene who is an AI serving in the museum to develop her language with NLP

HONORS

University of Michigan Winter 2023 Dean's Honor List

14, June 2023

China Collegiate Algorithm Design and Programming Challenge Contest | *Bronze Medal*

20, March 2021

Undergraduate Scholarship | *Awarded for excellent academic performances*

September 2020 - August 2021

SKILLS

Technical Skill: React, Huggingface, Pytorch, Unity, Python, Java, Matlab, C/C++