

Yingzi Ma

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RESEARCH INTERESTS

I am a fourth-year undergraduate student majoring in Artificial Intelligence at Sichuan University. I have been very fortunate to work with Prof. Colin TAN in 2022 during the SOC summer workshop at National University of Singapore. I started my internship in April 2022 with Prof. Lu Chen in the language model group of the XLANCE lab at Shanghai Jiao Tong University. Recently, I have been doing a remote research internship with Prof. Chaowei Xiao at University of Wisconsin–Madison.

My research interests are:

- Large language models (LLMs) for Language Agents and Embodied AI.
- Multi-modal Large Language Models (MLLMs) for Science.
- Parameter-efficient fine-tuning (PEFT) of large-scale Pre-trained Language Models (PLMs)

EDUCATION

Sichuan University, Chengdu, China
Bachelor of Engineering (BEng) in Artificial Intelligence
China National Scholarship, 2021

Sept. 2020 | Jun. 2024 (expected)
Cumulative GPA: 3.84/4.00
Score Point Average: 91.26 (Rank, 3/39)

Sichuan University, Chengdu, China
Bachelor of Arts (BA) in Tourism Management
China National Scholarship, 2020

Sept. 2019 | Jun. 2020
Cumulative GPA: 3.86/4.00
Score Point Average: 90.67 (Rank, 1/102)

ACADEMIC EXPERIENCE

University of Wisconsin, Madison (UWM)
Research Intern

Madison, WI 53706, United States
Apr. 2023 | Present

- Working with Prof. Chaowei Xiao at University of Wisconsin–Madison and Chunyuan Li, a principal researcher at Microsoft Research, Redmond, we Exploring the effects of different data formats on multimodal in-context learning.
- Collaborating with Prof. Chaowei Xiao and some researchers from NVIDIA, we aim to extend the powerful capabilities of MLLMs to autonomous driving-related videos.
- All tasks, including coding and conducting experiments, were carried out solely by me in these two research projects.

Shanghai Jiao Tong University (SJTU)
Research Intern

Shanghai, China
May. 2022 | Apr. 2023

- Work as a research intern advised by Prof. Lu Chen in the language model group of the Cross Media Language Intelligence Lab (X-LANCE Lab) at SJTU.
- Contribute to enhancing the performance of PLMs on NLU and NLG tasks by injecting syntax structure information through structured knowledge adapters (SK-Adapter).
- Collaborate with researchers from Tencent Jarvis Lab to apply PLMs on the Chinese medical corpus.

National University of Singapore (NUS)
Summer Intern

Singapore
Apr. 2022 | Aug. 2022

- Attend the embedding system and deep learning topic in the NUS SOC summer workshop and I am very fortunate to be advised by Prof. Colin TAN.
- Achieve A+ grade in all courses, which was evaluated based on assignments, quizzes, and projects.
- Win the **First Prize** in the topic Embedded System and Deep Learning with the final project Baby Care.

Sichuan University (SCU)
Team Member

Chengdu, China
Sept. 2021 | Sept. 2022

- Collaborate with four other members of a team to carry out a project of **CBCT jaw region segmentation method based on context fusion mechanism**.
- Attend the National College Students' Innovation and Entrepreneurship Training Program, 2022, and receive the provincial-level assessment.
- Publish a patent for an invention as the first inventor (**CN115578406A**).

PUBLICATIONS

Conference paper

- **Dolphins: Multimodal Language Model for Driving**
Yingzi Ma, Yulong Cao, Jiachen Sun, Marco Pavone, Chaowei Xiao
In Submission to *CVPR*. 2024. [WebPage][PDF]
- **Understanding the Multimodal Instruction Format for In-Context Learning**
Yingzi Ma, Chunyuan Li, Chaowei Xiao
In Submission to *ICLR*. 2024.
- **Is ChatGPT a Terminator for Dialogue Tasks?**
Senyu Han, Da Ma, Lu Chen, Yingzi Ma, Yichuan Ma, Kai Yu
In Submission to *ICASSP*. 2024.
- **CAM-GUI: A Conversational Assistant on Mobile GUI**
Zichen Zhu, Liangtai Sun, Jingkai Yang, Yifan Peng, Wutao Li, Weilin Zou, Ziyuan Li, Lu Chen, Yingzi Ma, Danyang Zhang and Kai Yu
Published on *NCMSC*. 2023.

Journal paper

- **SK-Adapter: Syntax Enhanced Pre-trained Language Models with Structured Knowledge Adapter**
Yingzi Ma, Da Ma, Zichen Zhu, Yunyan Zhang, Ruihui Zhao, Huimin Wang, Yefeng Zheng and Lu Chen
Preparing a submission for *TACL*

PROFESSIONAL SERVICES

- ICLR 2024 Reviewer

SKILLS

- **Languages:** Mandarin, English, Japanese
- **Programming:** Python, C/C++, \LaTeX , MATLAB, Mathematica, Javascript
- **Machine Learning:** PyTorch, TensorFlow, Sklearn, PaddlePaddle, Stable_baselines3
- **Tools:** SQL, Shell, Git, Slurm
- **Other:** SPSS, Linux (openSUSE, Ubuntu), Mac OS, Windows OS

AWARDS

- **Finalist**, Mathematical Competition In Modeling (MCM), 2022
- **Honorable Mention**, Interdisciplinary Contest In Modeling (ICM), 2021
- **2nd Award**, Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM), 2021
- **2nd Award**, Chinese Mathematics Competitions (CMC), 2020

MISCELLANEOUS

- I also love to play table tennis, Go (Weiqi), and clarinet.
- I really like anime because it shows an ideal world that could not exist in reality.