Jizhou Guo

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Research Interests: Large Language Models, Natural Language Processing.

EDUCATION

Shanghai Jiao Tong University • Shanghai, China

Aug 2022 – Present

Bachelor of Science • Zhiyuan College (Honor, Top 10%) • Mathematics and Applied Mathematics • GPA: 3.8 Selected Courses: Topic Course (Deep Learning) (A+, 100), Topic Course (Applied Mathematics) (A+, 100), Data Structure (Honor) (A+), Introduction to Computer Science (A+), Numerical Methods for ODE & PDEs (A+), Differential Geometry (A+), Introduction to Physics (Honor) (A+), Problem-solving and Practice (A+), Foundations of Data Science (A), Mathematical Analysis (Honor) (A), Ordinary Differential Equations (A), Partial Differential Equations (A), etc.

SELECTED PUBLICATIONS

* denotes equal contribution

Model-based Large Language Model Customization as Service

Zhaomin Wu*, Jizhou Guo*, Junyi Hou, Bingsheng He, Lixin Fan, Qiang Yang

EMNLP 2025 main (Tsinghua-A) [arXiv]

Reward Inside the Model: A Lightweight Hidden-State Reward Model for LLM's Best-of-N sampling Jizhou Guo, Zhaomin Wu, Philip S. Yu

AI4Math @ ICML 2025 Under review at main conference [paper]

(Work on LLM Agent Safety)

Jizhou Guo (co-first author)

Manuscript in preparation

(Work on LLM Ensemble)

Jizhou Guo (first author)

Manuscript in preparation

Calibrating Reasoning in Language Models with Internal Consistency

Zhihui Xie, **Jizhou Guo**, Tong Yu, Shuai Li

NeurIPS 2024 [arXiv] [poster] [code]

Cross-Stimulus Transfer Learning: Enhancing Emotion Recognition from Visual-Auditory to Olfactory Perception

Jiaqi Wang*, Zhengting Chen*, Keyan Huang, Yifan Wu, Dian Zhang, **Jizhou Guo**, Xinglan Liu, Dan Peng, Baoliang Lu, Weilong Zheng

EMBC 2025

RESEARCH EXPERIENCE

BDSC Lab - University of Illinois Chicago

 $Jun\ 2025-Aug\ 2025$

Advisor: Prof. Philip S. Yu

 \bullet Developed a highly parameter-efficient reward model leveraging the LLM hidden states, which systematically outperforms baselines with less than 0.005% of the parameters of baselines.

Xtra Group - National University of Singapore

 $Jun\ 2024-Aug\ 2024$

Advisor: Prof. Bingsheng He

• Proposed a novel framework that facilitates LLM customization as a service for domain-specific applications. It achieved substantial performance improvements in domain-specific tasks, boosting accuracy by up to 26% while preserving privacy.

John Hopcroft Center for Computer Science - Shanghai Jiao Tong University

Oct 2023 – May 2024

Advisor: Prof. Shuai Li and Dr. Tong Yu

 \bullet Worked on training-free LLM calibration approach by leveraging hidden states.

Zhiyuan Innovative Research Center - Shanghai Jiao Tong University

Dec 2022 - Jan 2024

Advisor: Prof. Bao-Liang Lu and Prof. Wei-Long Zheng [Certificate of Completion]

- Implemented a Transformer-based Domain-Adversarial Neural Network (DANN) to transfer knowledge from visual to olfactory EEG data for emotion classification.
- Collected data and applied machine learning techniques to predict human emotions from EEG signals in response to various olfactory stimuli.

Quantitative Biology Summer School - Center for Life Sciences, Peking University

Jul 2023

• Chosen from 50 candidates nationwide.

Tencent Spark Project - Tencent Corporation

Aug 2022

• Chosen from 50 high-school students with talents nationwide.

• Engineered a robust palm liveness detection system and successfully blocking palm images displayed on screens.

Selected Projects

Deep Reinforcement Learning: Insights from AlphaGo

Spring 2024

Team leader, advised by Prof. Dan Hu (Scored 100)

Spectral vs. Fourier Neural Operators in Parametric PDE Modeling: Analysis and Experiments Spring 2025 Individual project, advised by Prof. Lei Zhang (Scored 100) [PDF] [code]

Vertical Federated Learning Challenge

Spring 2024

Individual project, advised by Prof. Bingsheng He [code]

LENS: Learning Ensemble Confidence from Neural States for Multi-LLM Answer Integration Autumn 2024 Individual project, advised by Prof. Xiaoqun Zhang (Scored 95) [PDF]

Selected Awards

Click here to view all certificates

Contest Prizes

- Gold Award and First Runner-up in the National College Students' Career Planning Contest (Shanghai), Jan 2025
- Third Prize in Mathematics competition of Chinese College Students (Shanghai), Dec 2023
- First Prize in Shanghai Collegiate Programming Contest, Sep 2023 (Ranked 2nd in Shanghai)
- Gold Medal in Astar Programming Contest (Shanghai region), Aug 2023 (Ranked 2nd in Shanghai)
- Gold Medal in 2023 China Collegiate Programming Contest (CCPC) National Invitational Contest (Hunan), May 2023
- Gold Medal in 2023 International Collegiate Programming Contest (ICPC) Xi'an Invitational Contest, May 2023
- Gold Medal in 2022 International Collegiate Programming Contest (ICPC) Asia Hangzhou Regional Contest, Dec 2022 (Ranked 8th nationwide)
- Gold Medal in 2022 China Collegiate Programming Contest (CCPC) (Shanghai region), Sep 2022
- Silver Medal in National Olympiad in Informatics (NOI), Jul 2021
- Ranked 22nd nationwide in National Olympiad in Informatics (NOI) Online Senior Group, Mar 2021

Honors

- Zhiyuan First-Class Overseas Research Scholarship
- Merit Student of SJTU
- Second-Class Academic Scholarship, SJTU (Top 10%, ranked 2nd overall)
- Zhiyuan Honors Scholarship (three times)

Services

Invited as reviewer: EMBC 2025, AI4MATH @ ICML 2025

SKILLS

- Programming languages: Python, C/C++, Matlab, GNU Bash, LATEX.
- Language: Chinese (Native Speaker), English (Proficient, TOEFL 105, CET6 648).
- Expertise & Hobbies: Piano (Amateur Level 10), Singing (Amateur Level 9), Music Theory (Amateur Level 5).