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.

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 [arXiv]

Mining Intrinsic Rewards from LLM Hidden States for Efficient Best-of-N Sampling
Jizhou Guo, Zhaomin Wu, Hanchen Yang, Philip S. Yu
AI4Math @ ICML 2025   Under review at main conference [workshop] [arXiv]

PSG-Agent: Personality-Aware Safety Guardrail for LLM-based Agents
Yaozu Wu*, **Jizhou Guo***, Dongyuan Li*, Henry Peng Zou, Wei-Chieh Huang, Yankai Chen, Zhen Wang, Weizhi Zhang,
Yangning Li, Meng Zhang, Renhe Jiang, Philip S. Yu
Under review [arXiv]

(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

LLM DNA: Tracing Model Evolution via Functional Representations
Zhaomin Wu, Haodong Zhao, Ziyang Wang, **Jizhou Guo**, Qian Wang, Bingsheng He
Under review [arXiv]

DeepResearchGuard: Deep Research with Open Domain Evaluation and Multi-Stage Guardrails for Safety
Wei-Chieh Huang, Henry Peng Zou, Yaozu Wu, Weizhi Zhang, Yankai Chen, Dongyuan Li, Yangning Li, Angelo Zangari,
Jizhou Guo, Liancheng Fang, Langzhou He, Chunyu Miao, Renhe Jiang, Philip S. Yu
Under review [arXiv]

RECODE-H: A Benchmark for Research Code Development with Interactive Human Feedback
RECODE Team
Under review [arXiv]

RESEARCH EXPERIENCE

BDSC Lab - University of Illinois Chicago   Jun 2025 – Aug 2025
Advisor: Prof. Philip S. Yu

- 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.
- Proposed PSG-Agent and a benchmark for personalized guardrail of LLM-based agents.

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

- 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.

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 (twice)
- Academic Excellence Scholarship, SJTU (Top 10%, ranked 2nd overall)
- Zhiyuan Honors Scholarship (three times)

SERVICES

Invited as reviewer: ICLR 2026, EMBC 2025, AI4MATH @ ICML 2025

SKILLS

- Programming languages: Python, C/C++, Matlab.
- Language: Chinese (Native Speaker), English (Proficient, TOEFL 110, TOEFL MyBest Score 113).
- Expertise & Hobbies: Piano (Amateur Level 10), Singing (Amateur Level 9), Music Theory (Amateur Level 5).