

JIZHOU GUO

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Research Interests: Large Language Models, AI for Science.

EDUCATION

Shanghai Jiao Tong University • Shanghai, China

Aug 2022 – Present

Bachelor of Science • Zhiyuan College (**Honor, Top 10%**) • Mathematics and Applied Mathematics • GPA: 3.77

Relevant Coursework: Introduction to Computer Science A+, Ordinary Differential Equations A.

PUBLICATIONS

Submitted

- Zhihui Xie, **Jizhou Guo**, Tong Yu, Shuai Li. *Calibrating Reasoning in Language Models with Internal Consistency*. [arXiv, 2024](#)
- Jiaqi Wang, Zhengting Chen, Yifan Wu, Keyan Huang, Dian Zhang, **Jizhou Guo**, Xinglan Liu, Dan Peng, Weilong Zheng, Baoliang Lu. *Olfactory-EEG Paradigm: Emotion Elicitation and Cross-Stimulus Transfer Learning Analysis*.

RESEARCH EXPERIENCE

Xtra Group - National University of Singapore

June 2024 – Aug 2024

Advisor: [Prof. Bingsheng He](#)

- Working on knowledge transfer from domain expert models to server side large language models.
- Propose methodologies and implement experiments.

John Hopcroft Center for Computer Science - Shanghai Jiao Tong University

Oct 2023 – May 2024

Advisor: [Prof. Shuai Li](#) and [Dr. Tong Yu](#)

- Working on calibration of large language models.
- Investigate CoT reasoning in LLMs through the lens of internal representations.
- Propose internal consistency as a measure of the model's confidence and observed significant boost in performance.

Zhiyuan Innovative Research Center - Shanghai Jiao Tong University

Dec 2022 - Jan 2024

Advisor: [Prof. Bao-Liang Lu](#) and [Prof. Wei-Long Zheng](#)

- Use olfactory stimulation for emotion recognition.
- Use SVM, MLP and Transformer for three-class classification (positive, neutral, and negative emotion).

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

July 2023

- Take courses concerning quantitative biology and receive relevant certificates.
- Proposed a kind of bio band-aid and used MATLAB to emulate the diffusion process.

Tencent Spark Project - Tencent Corporation

Aug 2022

- Conduct liveness detection of palms.
- Use mediapipe library to detect the validity of the palm movement to block out paper palms.
- Convert RGB to YCrCb for screen detection to block out palms from the screen.

COURSE PROJECTS

Frequency principle in deep learning

Oct 2023

PHY1226 Physics Laboratory II (tailored for mathematics class) (SJTU)

- Observed frequency principle: deep neural networks often fit target functions from low to high frequencies.
- Conduct experiment on frequency principle when fitting different functions or using different hyperparameters.

Fresnel Integral

May 2023

MATH1802 Numerical Analysis and Scientific Computing (SJTU)

- Test and compare the performance of various methods when calculating Fresnel Integral.

Van der Waals equation

April 2023

MATH1802 Numerical Analysis and Scientific Computing (SJTU)

- Compare the performance of Newton's method and fixed point iteration method when solving Van der Waals equation.
- Discuss the scope of application of the ideal gas equation.

HONORS AND AWARDS

Competition Medals

- Gold medal** in the 2023 China Collegiate Programming Contest (**CCPC**) National Invitational Contest (Hunan), May 2023
- Gold medal** in the 2023 International Collegiate Programming Contest (**ICPC**) Xi'an Invitational Contest, May 2023
- Gold medal** in the 2022 International Collegiate Programming Contest (**ICPC**) Asia Hangzhou Regional Contest, Dec 2022 (**Ranked 8th nationwide**)
- Silver medal** in National Olympiad in Informatics (**NOI**), July 2021

Scholarships

- Second-Class Academic Scholarship, SJTU (**Top 5%**)
- Zhiyuan Honors Scholarship (**twice**)

TECHNICAL SKILLS

- Programming languages: Python, C, C++, MATLAB, Linux Shell.
- Language: Chinese (Native Speaker), English (Proficient, TOEFL 105).
- Expertise & Hobbies: Piano, Singing, Music.