

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 Jun 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 School - Center for Life Sciences, Peking University Jul 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 Apr 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

Contest Prizes

- 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

Scholarships

- Second-Class Academic Scholarship, SJTU (**Top 5%, ranked 2nd overall**)
- Zhiyuan Honors Scholarship (**twice**)

TECHNICAL SKILLS

- Programming languages: Python, C, C++, MATLAB, Linux Shell.
- 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).