Zhidong Zhang

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EDUCATION

Wuhan University, Wuhan, China   *Sep.2021 - Jun.2025*
B.Eng. Software Engineering   GPA: 3.73/4.00 (88.93/100)

Courses: Data Structures & Algorithms, Machine Learning and Pattern Recognition, Discrete Math, Linear Algebra, Probability & Statistics, General Psychology, Cognitive Psychology, etc.

RESEARCH EXPERIENCE

Research Intern   *Jul.2024 - Oct.2024*
Dr. **Weiping Zhu**'s group, School of Computer Science, Wuhan University
- Developed a large model based system that supports cross-modal input of text and image, provides interpretable annotations for generated Chinese poems, and supports multiple rounds of iterative optimization.
- Refined the iterative optimization mechanism and the scoring system, and led the evaluation of the system, comparing poem quality across three input modalities and testing optimization on three poem sets of varying quality.

Research Intern(remote)   *Apr.2024 - Jun.2024*
Prof. **Yunzhe Liu**'s group, NKLCNL, Beijing Normal University
- Pre-processed words data collected on forward flow tasks, inserted seed words, removed repeated or not-found words, and generated embeddings.
- Explored the correlation between participants' scale scores and statistical indicators, the latter includes sequence length, similarity of embedding, optimality divergence, range of semantic distance, and "forward flow".

PROJECT EXPERIENCE

The Working Memory Capacity of RNN models   *Jul.2024 - Aug.2024*
Computational Neuroscience Program, Neuromatch Academy(NMA)
- Developed a RNN-based model with parameters simulating biological factors contributing to working memory, and explored the effects of each parameter as well as their interactions on the WM capacity.
- Built a neural network to decode firing rates into previous input, and computed correlation between real and decoded input, which denote the WM capacity of RNN-model.

LLM-based Interactive Chinese Poetry Learning Assistant   *Sep.2023 - Oct.2023*
2023 Large Models Scene Innovation Competition - Innovation Award (Top 8%)
- Developed a LLM-based interactive Chinese poetry learning assistant by Gradio that can generate image, which can chat with users from different age groups.
- Designed prompts for image production and text interaction for different users, developed online searching and file analysis based on RAG.

PUBLICATIONS

*Equally authorship

L. Yang*, **Z. Zhang***, S. Liu, X. Dai, D. Zhou, and D. Cui, "Large Model Based Crossmodal Chinese Poetry Creation," in 2024 IEEE Smart World Congress (SWC), accepted.

HONORS & AWARDS

- 2021 Excellent Student Scholarship Third-class Reward (Top 25% of 700 students)
- 2021 Excellent Student Cadre
- 2021 Advanced Individual of Social Work

SKILLS

- **Data Analysis**: Machine Learning, Deep Learning, EEG processing, Digital signal processing
- **Programming**: Python, C/C++
- **Tools**: Unix Shell, VS Code, Git/GitHub, Zotero
- **Language**: English(IELTS 7.0), Mandarin(Native)