

# Zhidong Zhang

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## EDUCATION

<b>Wuhan University</b> , Wuhan, China B.Eng. Software Engineering	09/2021 – 06/2025 GPA: 3.73/4.00 (88.90/100)
<b>Courses:</b> Data Structures, Computer Organization, Operating Systems, Machine Learning, Database Systems, Discrete Mathematics, Linear Algebra, Probability & Statistics, Cognitive Psychology, etc.	
<b>University of Tübingen</b> , Tübingen, Germany M.Sc. Computational Neuroscience	10/2025 – 10/2027 (Expected)

## RESEARCH EXPERIENCE

<b>RNN Analysis on Same-Different Task</b> Chinese University of Hong Kong   Advisor: Dr. Xiangbin Teng	09/2024 – 11/2024 Remote
<ul style="list-style-type: none"><li><b>Model Training:</b> Trained RNNs on the same-different task under varying noise levels by neurogym, optimizing the code for readability and extensibility.</li><li><b>Model Analysis:</b> Analyzed normalized averages and principal components of RNN hidden states, performed linear fitting of activities at different time points to stimuli values, and analyzed the temporal scope.</li></ul>	
<b>Large Model Based Crossmodal Chinese Poetry Creation</b> Wuhan University   Advisor: Dr. Weiping Zhu	07/2024 – 10/2024 Wuhan, China
<ul style="list-style-type: none"><li><b>System Development:</b> Led the development of modules supporting cross-modal text and image inputs by miniGPT-4 and CLIP, enhancing iterative optimization mechanisms.</li><li><b>System Evaluation:</b> Evaluated poem quality across different input modalities, and the effect of optimization on three poem sets.</li></ul>	
<b>Data Analysis on Forward-Flow Task</b> Beijing Normal University   Advisor: Prof. Yunzhe Liu	04/2024 – 06/2024 Remote
<ul style="list-style-type: none"><li><b>Data Preprocessing:</b> Pre-processed word data for forward flow tasks, inserting seed words, removing duplicates, and generating embeddings.</li><li><b>Correlation Analysis:</b> Analyzed the correlation between participants' scale scores and statistical indicators, including sequence length, embedding similarity, optimality divergence, semantic distance range, and "forward flow".</li></ul>	

## PROJECT EXPERIENCE

<b>The Working Memory Capacity of RNN models</b> Computational Neuroscience Program, Neuromatch Academy	07/2024 – 08/2024
<ul style="list-style-type: none"><li><b>Memory Decoding:</b> Built a neural network to decode firing rates into previous inputs, computing correlations to assess the WM capacity of RNN models.</li><li><b>Parameter Exploration:</b> Led the exploration of effects of parameter simulating biological factors and interactions on WM capacity.</li></ul>	

## PUBLICATIONS

\*Equally authorship  
L. Yang\*, Z. Zhang\*, K. Niu, S. Pan, W. Zhu and C. Ma, "Large Model Based Crossmodal Chinese Poetry Creation," 2024 IEEE Smart World Congress (SWC), 2024, pp. 27-34. [[pdf](#)]

## HONORS & AWARDS

2021 Excellent Student Scholarship Third-class Reward (1,000 CNY)  
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, Git/GitHub, E-prime, Zotero  
**Language:** English(IELTS 7.0), Mandarin Chinese(native)