魏 晨

个人陈述与简历

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个人陈述

我是魏晨，毕业于伯明翰大学与南方科技大学联合培养的心理学博士项目。博士期间，我的研究聚焦于**建模个体心理表征与行为干预**，通过整合生成式人工智能与主动实验设计，揭示并刻画个体在感知、记忆、决策和情感等方面的差异，并探索行为干预的计算机制。

近期，我的工作进一步扩展至**自我演进的人机交互系统**。该系统能够通过自主设计的交互环境进行学习，并利用大型语言模型构建**心理世界模型**。在这一过程中，我引入来自**神经信号与行为的多模态反馈**，以替代传统的语言式人类反馈，使模型能够更直接地捕捉个体的隐性心理状态。同时，我将主动实验设计与多智能体交互环境相结合，模拟复杂的社会情境，旨在更深入地理解人类心智，并推动人工智能在日常生活场景中的决策与行为干预能力。

Homepage | *Google Scholar*

教育背景

2021–2025 **心理学博士（联合培养项目）**.

- **伯明翰大学**（学位授予单位），英国
  导师：Dietmar Heinke，计算心理学实验室
- **南方科技大学**，中国深圳
  导师：刘泉影，神经计算与控制实验室

2014–2018 **金融学学士**.

- 西南财经大学，中国成都

工作经历

2019–2021 **研究助理**.

- 南方科技大学，中国深圳
- 导师：刘泉影，神经计算与控制实验室

学术成果

注：* 表示同等贡献，† 表示共同通讯作者

同行评审论文

[20] Song Wang*, Kexin Lou*, **Chen Wei***, Zhiyuan Sheng, Jiahao Tang, Kaining Peng, Shuhao Mei, Liang Chen, Dongfeng Gu, Quanying Liu. "Reconstructing whole-brain spatiotemporal dynamics using EEG/MEG Source Imaging with Geometric Constraints" ***Nature Biomedical Engineering***, Accepted, 2025. (**Nature 子刊，影响因子 26.6**)

[19] Haotian Deng, Sitian Wang, Ruxin Wang, **Chen Wei**†, Quanying Liu†. "When Proxy Agents Disagree, Do Humans Mirror? Manipulating Human Behavior in Moral Dilemmas through Agents" ***AAAI*** Artificial Intelligence for Social Impact Track, 2026. (**CCF 人工智能 A 类会议**)

[18] Haotian Deng, Sitian Wang, Ruxin Wang, **Chen Wei**†, Quanying Liu†. "When LLM Agents Disagree, Do Humans Mirror? Behavioral Comparisons on Moral Dilemmas" ***MIND (Oral)*** **(最佳论文奖提名)**, 2025.

[17] Jiachen Zou, **Chen Wei**, Quanying Liu, M Robinson. "Using AI-generatedAI-generated real-world objects to uncover the structure of visual memory" ***Journal of Vision***, 2025.

[16] Dongyang Li, Haoyang Qin, Mingyang Wu, **Chen Wei**†, Quanying Liu†. "BrainFLORA: Uncovering Brain Concept Representation via Multimodal Neural Embeddings" ***ACMMM (Oral)***, 2025. (**CCF 人工智能 A 类会议**)

[15] **Chen Wei***, Chi Zhang*, Jiachen Zou, Haotian Deng, Dietmar Heinke, Quanying Liu. "Synthesizing Images on Perceptual Boundaries of ANNs for Uncovering and Manipulating Human Perceptual Variability" ***ICML***, 2025. (**CCF 人工智能 A 类会议，人工智能三大顶会之一**)

[14] Yuang Cao*, Jiachen Zou*, **Chen Wei**†, Quanying Liu†. "Dimensions of Vulnerability in Visual Working Memory: An AI-Driven Approach to Perceptual Comparison" ***CogSci***, 2025. (**CCF 交叉学科 B 类会议**)

[13] Haotian Deng*, Chi Zhang*, **Chen Wei**†, Quanying Liu†. "Synthesizing Images on Perceptual Boundaries of ANNs for Uncovering Human Perceptual Variability on Facial Expressions" ***IJCNN (Oral)***, 2025. (**清华大学人工智能 B 类会议**)

[12] Jiahua Tang, Song Wang, Jiachen Zou, **Chen Wei**†, Quanying Liu†. "Uncovering the EEG Temporal Representation of Low-dimensional Object Properties" ***IJCNN (Oral)***, 2025. (**清华大学人工智能 B 类会议**)

[11] Dongyang Li, Haoyang Qin, Mingyang Wu, Jiahua Tang, **Chen Wei**†, Quanying Liu†. "RealMind: Advancing Visual Decoding and Language Interaction via EEG Signals" ***ICME (Oral)***, 2025. (**CCF 人工智能 B 类会议**)

[10] Dongyang Li*, **Chen Wei***, Shiying Li, Jiachen Zou, Quanying Liu. "Visual Decoding and Reconstruction via EEG Embeddings with Guided Diffusion" ***NeurIPS***, 2024. (**CCF 人工智能 A 类会议，人工智能三大顶会之一**)

[9] **Chen Wei***, Jiachen Zou*, Dietmar Heinke, Quanying Liu. "CoCoG-2: Controllable generation of visual stimuli for understanding human concept representation" ***IJCAI Workshop on Human Brain and Artificial Intelligence, Oral***, 2024. (**CCF 人工智能 A 类会议 Workshop，最佳论文奖**)

[8] **Chen Wei***, Jiachen Zou*, Dietmar Heinke, Quanying Liu. "CoCoG: Controllable Visual Stimuli Generation based on Human Concept Representations" ***IJCAI (Oral)***, 2024. (**CCF 人工智能 A 类会议**)

[7] Youzhi Qu, Penghui Du, Wenxin Che, **Chen Wei**, Chi Zhang, Wanli Ouyang, Yatao Bian, Feiyang Xu, Bin Hu, Kai Du, et al. "Promoting interactions between cognitive science and large language models" ***The Innovation***, 2024. (**Cell 子刊，影响因子 33.2**)

[6] Youzhi Qu*, **Chen Wei***, Penghui Du, Wenxin Che, Chi Zhang, Wanli Ouyang, Yatao Bian, Feiyang Xu, Bin Hu, Kai Du, et al. "Integration of cognitive tasks into artificial general intelligence test for large models" ***iScience***, 2024. (**Cell 子刊**)

[5] Song Wang, **Chen Wei**, Kexin Lou, Dongfeng Gu, Quanying Liu. "Advancing EEG/MEG Source Imaging with Geometric-Informed Basis Functions" ***EMBC***, 2024. (**CAAI 交叉与应用 B 类会议**)

[4] Junjie Yu, Chenyi Li, Kexin Lou, **Chen Wei**, Quanying Liu. "Embedding decomposition for artifacts removal in EEG signals" ***Journal of Neural Engineering***, 2022.

[3] Haoming Zhang*, Mingqi Zhao*, **Chen Wei**, Dante Mantini, Zherui Li, Quanying Liu. "EEGdenoiseNet: A benchmark dataset for deep learning solutions of EEG denoising" ***Journal of Neural Engineering***, 2021.

[2] **Chen Wei***, Kexin Lou*, Zhengyang Wang, Mingqi Zhao, Dante Mantini, Quanying Liu. "Edge Sparse Basis Network: A Deep Learning Framework for EEG Source Localization" ***IJCNN (Oral)***, 2021. (**清华大学人工智能 B 类会议**)

[1] Haoming Zhang*, **Chen Wei***, Mingqi Zhao, Quanying Liu, Haiyan Wu. "A novel convolutional neural network model to remove muscle artifacts from EEG" ***ICASSP***, 2021. (**CCF 交叉学科 B 类会议**)

审稿中论文与预印本

[7] Dongyang Li, Kunpeng Xie, Mingyang Wu, Yiwei Kong, Jiahua Tang, Haoyang Qin, **Chen Wei**†, Quanying Liu†. "MindPilot: Closed-loop Visual Stimulation Optimization for Brain Modulation with EEG-guided Diffusion" ***Under review at ICLR***, 2026. (**CCF 人工智能 A 类会议，人工智能三大顶会之一**)

[6] Junjie Yu, Wenxiao Ma, **Chen Wei**, Jianyu Zhang, Haotian Deng, Zihan Deng, Yi Guo, Quanying Liu. "Scale-Invariance in AI Representation Predicts AI-Brain Alignment" ***Under review at ICLR***, 2026. (**CCF 人工智能 A 类会议，人工智能三大顶会之一**)

[5] Junjie Yu, Zhuoli Ouyang, Haotian Deng, **Chen Wei**, Wenxiao Ma, Jianyu Zhang, Zihan Deng, Yi Guo, Quanying Liu. "Generalization Error Bound via Embedding Dimension and Network Lipschitz Constant" ***Under review at ICLR***, 2026. (**CCF 人工智能 A 类会议，人工智能三大顶会之一**)

[4] Chi Zhang*, Yulang Gao*, Jiachen Zou, **Chen Wei**†, Quanying Liu†. "When Agents Steer Human Perception: How AI-Selected Images Can Covertly Alter Judgment Disagreements" ***Under review at CVPR***, 2026. (**CCF 人工智能 A 类会议**)

[3] **魏晨**, 邹佳辰, 张弛, 刘嘉, 伍海燕, and 刘泉影. " 人工智能驱动的新型心理学研究范式" ***Under review at*****《心理科学进展》**, 2025.

[2] Song Wang*, Kexin Lou*, **Chen Wei***, Zhiyuan Sheng, Jiahao Tang, Kaining Peng, Shuhao Mei, Liang Chen, Dongfeng Gu, Quanying Liu. "Reconstructing whole-brain spatiotemporal dynamics using EEG/MEG Source Imaging with Geometric Constraints" ***Under review at Nat. Biomed. Eng.***, 2025.

[1] **Chen Wei***, Zhengyang Wang*, Zhichao Liang, Quanying Liu. "The focus and timing of COVID-19 pandemic control measures under healthcare resource constraints" ***medRxiv***, 2020.

书籍

[2] 刘泉影, 曲由之, **魏晨**, 梁智超. 《人脑智能与人工智能》. 北京: 清华大学出版社, 2025.

[1] Quanying Liu, **Chen Wei**, Youzhi Qu, Zhichao Liang. "Modelling and Controlling System Dynamics of the Brain: An Intersection of Machine Learning and Control Theory." In ***Systems Neuroscience***, Springer Nature, 2024: 63-87.

专利

[3] 刘泉影; 魏晨; 邹佳辰; 李东洋; 基于脑电的图像生成方法、装置、计算机设备及存储介质, 2023-10-27, 中国, 202311417449.3

[2] 刘泉影; 魏晨; 李诗颖; 脑机接口想象标志物设计方法、装置、设备及存储介质, 2023-8-15, 中国, 202311031985.X

[1] 刘泉影; 魏晨; 楼可心; 一种脑电溯源模型的训练方法，脑电溯源方法及电子设备, 2021-4-30, 中国, 2021104889005

教学经历

助教 **机器学习与医学工程应用**.
2023 南方科技大学
授课老师：刘泉影

助教 **大脑智能与人工智能**.
2023 南方科技大学
授课老师：刘泉影

助教 **脑信号分析与特征提取训练营**，（深度学习与人工智能专题）.
2023 中国科学院心理研究所
授课老师：刘泉影

受邀报告

Dec 2024 **Understanding and Manipulating Human Perception by Generating Visual Stimuli**.
德国马克斯 · 普朗克研究所 & 吉森大学 (邀请人: Martin Hebert)

Aug 2024 **CoCoG: Controllable Visual Stimuli Generation Based on Human Concept Representations**.
IJCAI

Aug 2024 **CoCoG-2: Controllable generation of visual stimuli for understanding human concept representation**.
IJCAI Workshop on Human Brain and Artificial Intelligence

Jun 2024 **Using Visual Generation Models to Enhance Psychological Experimental Design**.
AI4Psych Seminar

May 2024 **Controllable Visual Stimuli Generation Based on Human Concept Representations**.
清华大学 (邀请人: 张丹)

May 2021 **Edge Sparse Basis Network**.
IJCNN

奖项

2024 2024 年 IOP 高被引论文奖

2024 IOP 可信审稿人

2024 国际人工智能联合会议人脑与人工智能研讨会（IJCAI-HBAI workshop）最佳论文奖

2023 南方科技大学生物医学工程研究日海报展示优秀奖

2020 广东省研究生学术论坛——生物医学工程脑科学分论坛一等奖

其他经历

译著 Farrell S., Lewandowsky S. *Computational Modeling of Cognition and Behavior.* Cambridge University Press, 2018.（中文版译者之一）

科普活动 2024 年 7 月在深圳科学馆组织 8 场青少年 AI 科普讲座，参与人数超 3000 人

学术服务

编辑职务 客座编辑，*Tsinghua Science and Technology* 专刊 “Foundation Models for Brain Science”，2025 年

会议审稿 NeurIPS; ICML; ICLR; AISTATS; AAAI, CogSci; ACMMM; IJCNN; AAAI Artificial Intelligence for Social Impact Track; IJCAI Workshop on Human Brain and Artificial Intelligence

期刊审稿 *Neuroscience*; *Machine Learning: Science and Technology*; *Journal of Neural Engineering*; *Biomedical Physics & Engineering Express*

学术会员 IEEE 会员；英国物理学会（IOP）准会员