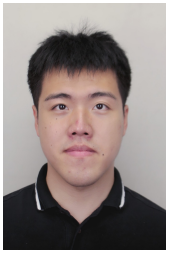
Chenyuan Zhang, Ph.D. Candidate.

zcy9217@gmail.com LinkedIn
https://chen-yuan-zhang.netlify.app



Selected Research and Working Experience

2020 – **Ph.D., University of Melbourne** in Artificial Intelligence.

- Proficient in several programming languages, including C++, Python, Julia, and others, for research purposes. Designed and developed the Planning Domain Definition Language (PDDL) domains for various problem-solving tasks, such as the Tower of London and Travelling Salesman Problem. Implemented five classical planners and two novel human-like online planners based on Tarski and LAPKT framework.
- Developed web applications to run online human experiments using JavaScript + HTML. Launched the experiments on Google Cloud, and performed data analysis using various statistical methods such as T-test and Linear Mixed Models, with R and Python.
- Contributed to the peer review process of academic conferences such as CogSci, providing feedback on tens of submissions and contributing to the peer review process for the conference in broad fields ranging from machine learning to cross-cultural linguistics.

2023 – **Data Scientist, CognitiveView** in Nature Language Processing.

- Use various state-of-the-art (STOA) tools such as Huggingface, LangChain, and other packages to construct the framework of a domain-specific custom language model (LLM).
- Apply an innovative network architecture and fine-tuning it with existing dataset that enhances the model's performance by 30 percent. Oversee and guide the data team in gathering high-quality data for training the model.

2013 – 2015 **Research Assistant, The Institute of Psychology, Chinese Academy of Sciences** in neuroscience.

- Played a key role in the development and programming of the platform for real-time fMRI, which allowed participants to visualize their fMRI signals in real-time using MATLAB. This involved implementing complex signal processing algorithms, ensuring the real-time feedback was accurate and reliable, and optimizing the performance of the system.
- Conducted fMRI experiments and contributed to data collection, preprocessing, and analysis. This included working with participants to explain the experiment procedures and ensure their comfort during the scan, as well as using established preprocessing pipelines to extract and analyze the fMRI data.
- Co-authored multiple publications in top journals such as Neuropsychology and Psych.

Education

2020 – **Ph.D., University of Melbourne** in Artificial Intelligence.
Thesis title: *Incorporating Timing Information in Planning Algorithms for Modelling Human Problem Solving Behaviour*

2018 – 2019 **Master of Information Technology, University of Melbourne** in Computing.
High Distinction (WAM:88/100)

2010 – 2015 **Bachelor of Science, Peking University** in Cognitive Psychology.
Minor in Statistics

Research Publications

Journal Articles

1. Z. Li, **C.-y. Zhang**, J. Huang, Y. Wang, C. Yan, K. Li, Y.-w. Zeng, Z. Jin, E. F. Cheung, L. Su, *et al.*, "Improving motivation through real-time fmri-based self-regulation of the nucleus accumbens.," *Neuropsychology*, vol. 32, no. 6, p. 764, 2018.
2. Y. Wang, Y. Deng, Z. Li, X. Li, **C.-y. Zhang**, Z. Jin, M.-x. Fan, M. T. Compton, E. F. Cheung, K. O. Lim, *et al.*, "A trend toward smaller optical angles and medial-ocular distance in schizophrenia spectrum, but not in bipolar and major depressive disorders," *PsyCh Journal*, vol. 5, no. 4, pp. 228–237, 2016.
3. R.-t. Zhang, T.-x. Yang, Y. Wang, Y. Sui, J. Yao, **C.-y. Zhang**, E. F. Cheung, and R. C. Chan, "Structural neural correlates of multitasking: A voxel-based morphometry study," *PsyCh journal*, vol. 5, no. 4, pp. 219–227, 2016.

Conference Proceedings

1. **C. Zhang**, C. Kemp, and N. Lipovetzky, "Bridging the gap between human and automated planning on the tower of london task," in *IJCAI HAXP Workshop*, 2023.
2. **C. Zhang**, C. Kemp, and N. Lipovetzky, "Comparing ai planning algorithms with humans on the tower of london task," in *Proceedings of the Annual Meeting of the Cognitive Science Society (CogSci)*, 2023.
3. **C. Zhang**, N. Lipovetzky, and C. Kemp, "Goal recognition with timing information," in *Proceedings of the International Conference on Automated Planning and Scheduling*, vol. 33, 2023.

Miscellaneous Experience

Awards and Achievements

2023 **Melbourne School of Engineering Travelling Scholarship (CIS)**, University of Melbourne
Engineering and IT Conference Travel Scholarship, University of Melbourne
2020 - 2023 **Melbourne Research Scholarship**, University of Melbourne
2019 **Grant of SummerTech LIVE**, The Victorian Government
2018, 2019 **Dean's Honours List**, University of Melbourne
2012 **Excellence Awards for Social Activity**, Peking University

Presentation and Workshop

2023 **Human Replanning Behaviour on Tower of London**. Australia Math Psychology Conference (AMPC) 2023.

Miscellaneous Experience (continued)

- **Comparing AI planning algorithms with humans on the Tower of London task**. Human-Aware and Explainable Planning (HAXP) 2023.

2021

- **Using General AI Planner to Understand Human Problem-Solving on Tower of London**. Australia Math Psychology Conference (AMPC) 2021.

Teaching Experience

2020-2022

- **COMP90054 AI Planning for Autonomy**. University of Melbourne
- **COMP90038 Algorithms and Complexity**. University of Melbourne

2020-2021

- **COMP30027 Machine Learning**. University of Melbourne

2021-2021

- **COMP30024 Artificial Intelligence**. University of Melbourne
- **COMP30026 Models of Computation**. University of Melbourne