

YINGJIA WAN

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🌐 <https://github.com/Yingjia-Wan>

Education

University of Cambridge, Cambridge, UK 2022- Present
Master of Philosophy in Theoretical and Applied Linguistics (NLP Topic), Language Technology Lab
Supervisor: Ivan Vulić

University of Macau, Macao, China 2017- 2021
Bachelor of Arts in English (Minor in Computer Science)
Supervisor: Matthew Wallace
Cumulative GPA: 3.76/4.0 (Ranked 1st/45)

Research Experience

Language Technology Lab, University of Cambridge, UK Feb 2023-Present
Master Thesis, ‘Enriching Language Models with Human Cognition Data via Multi-Modal Prompting’
[Supervisors: Dr Ivan Vulić & Prof. Anna Korhonen]

- Proposed multimodal prompting to integrate human cognition signals (i.e., eye-tracking and EEG data) of processing the texts into a wide range of state-of-the-art language models as a new modality of input, examining both hard prompting and soft prompting in the embedding space.
- Designed a multimodal mapping and prompt-based finetuning architecture called ‘CogMAP’ (**Cognition Mapping And Prompting**); Acquired a consistently significant performance gain on both eye-tracking and EEG data in two prompting paradigms (hard prompting and soft prompting), especially for generative models (i.e., GPT-2 and larger variants).

Language Technology Lab, University of Cambridge, UK Mar 2023-Present
Research Project (ongoing), “A Survey of Adaptation Methods for Foundation Models”
[Collaborators: Chang Shu, Tiancheng Hu, Meiru Zhang]

- Aiming to provide a comprehensive review of the latest advancements in model adaptation, ranging from input-based (e.g., prompt tuning, in-context learning), output-based (e.g., joint decoding), to model-based (e.g., sparse parameter tuning, distillation, adapter, imitation learning) methods.

Centre for Cognition and Brain Science, University of Macau, Macao, China Apr 2018- Nov 2020
Research Internship, Applying NLP in Developmental Psychology
[Advisor: Prof. Peilian Chi]

- Manual transcription of child participants’ handwriting; Dataset annotation for classification of growth mindsets.
- Trained a Bi-LSTM on sequence classification of growth mindsets using the collected labelled datasets; Conducted statistical analysis of individuals’ growth mindsets in correlations with linguistic attributes in the individual-created texts (e.g., the frequency of passive verb usages).

Department of Applied Linguistics, University of Macau, Macao, China Aug 2020-Sept 2021
Undergraduate Thesis, “Multimodal Processing in Second Language Acquisition across Language Proficiencies: Comparing Eye Movements in Reading-only and Reading-while-listening (R/L)”.
[Supervisor: Prof. Matthew Wallace]

- Conducted a cross-sectional multi-modal eye-tracking experiment comparing reading-only and reading-while-listening conditions; Proposed a continuum model to theorize on the effect of multimodal reading input on bilinguals’ cognitive processing;
- Presented at AsiaTEFL, 2021 and the LELPG Conference at the University of Edinburgh, 2023. Paper submitted to *Applied Linguistics*.

Centre for Cognition and Brain Science, University of Macau, Macao, China Feb 2021-Jun 2021
Research Assistant, “Examining Bilinguals’ Cognitive Attention to Content Words During Listening Assessments: An Eye-Tracking Study”.

[Advisor: Prof. Matthew Wallace]

- Used *Praat* to quantify the onsets/offsets of participants' oral answers to calculate the trial-specific 'time of interest' (TOIs) by millisecond.
- Computed AOI (area-of-interest) Fixation Hits per TOI to extract fixations to content words; examined the correlations between gaze variables and L2 proficiency level.

Honours and Awards

- 2021** Undergraduate Valedictorian of Class 2021, University of Macau
- 2021** Academic Excellence Scholarship, Fundação Macau
- 2019** National First Prize in the Chinese University 'FLTRP Cup', English Category
- 2019** Macao Best Speaker of the Chinese Greater Bay Area Inter-Varsity English Debate Championship
- 2017-21** Faculty Dean's List, University of Macau
- 2017-21** Full Tuition & Accommodation Fee Waiver Scholarship for Academic Distinction, University of Macau

Publications & Conferences

- **Wan, Y.**, Lei, J., Fu, A., Fong, J., Wallace, M., "Multimodal Processing in Second Language Acquisition across Language Proficiencies: Comparing Eye Movements in Reading-only and Reading-while-listening (R/L)". *Applied Linguistics*. (Submitted under review)
- **Wan, Y.**, "The Differing Effect of Accompanying Audio in Reading-while-listening on Chinese EFL learners across Language Proficiencies". The 19th & 20th AsiaTEFL Conference (2021 & 2022); The LELPG Conference 2023 at the University of Edinburgh.

Skills

- Languages** Mandarin, English (IELTS 8.0), Cantonese, Japanese (Elementary)
- Linguistics Software** E-prime, R, SPSS, Praat, etc.
- Programming** Familiar with C++, Python
- Tools** PyTorch, TensorFlow, SpaCy, NLTK, etc.