

EDUCATION

- University of California Irvine** CA, US
Ph.D. in Language Science, Advisor: Richard Futrell 2021–Current
- University of Chicago** IL, US
M.A. in Computational Social Science 2019–2021
- Thesis: A noisy channel model of N400 and P600 in sentence processing (Advisor: Allyson Ettinger)
- The Hong Kong Polytechnic University** Hong Kong
B.A. in Chinese and Bilingual Studies 2015–2019
- Thesis: Against Semantic Prediction during Online Sentence Comprehension (Advisor: Stephen Politzer-Ahles)

RESEARCH INTEREST

- Cognitive Modeling: Modeling and tracking neural representation involved in language processing
- Language Processing: Understanding the cognitive underpinnings of language-related neural signals
- AI interpretability: Assessing linguistic capacity and cognitive ability of state-of-the-art NLP models

EXPERIENCE

- University of California Irvine** CA, US
PhD student (Advisor: Richard Futrell) 2021–current
- Understand language prediction in humans and machines
 - Modeling EEG experiments with information-theoretic approach
 - Use transformers and auto-regressive large neural nets to design human-like language processing system
- University of Chicago** IL, US
Research Assistant (Advisor: Allyson Ettinger) 2019–2021
- Model neural responses to language comprehension with noisy channel model
 - Increase pragmatic interpretability of language models
- University of Chicago** IL, US
Research Assistant (Advisor: Ming Xiang) 2019–2021
- Investigate the neural nature of contextual effects on language prediction
 - Design and conduct EEG experiments
- University College London** UK
Summer Research (Advisor: Wing-Yee Chow) 2018
- Investigated psychological and neurological aspects of time-course language prediction
 - Data collection for an eye-tracking and an ERP experiment
- University of Cambridge** UK
Exchange Student 2017
- Independent research on the impact of age and literacy acquisition on first language attrition

PUBLICATIONS AND MANUSCRIPTS

1. **Li, J.**, & Ettinger, A. Heuristic interpretation as rational inference: A computational model of the N400 and P600 in language processing. *Cognition*, 233, 105359.
2. **Li, J.**, Ou, J., & Xiang, M. When contextual expectations are violated: ERP evidence. *Cognition (Submitted)*.

PEER-REVIEWED PRESENTATIONS

1. **Li, J.**, Shiva Upadhye, & Futrell, R (March, 2023). Bridging production and comprehension: A computational model of error generation and correction. Poster at the 36th Annual Conference on Human Sentence Processing (HSP), Pittsburgh, US.
2. **Li, J.**, & Futrell, R (December, 2022). A unified information-theoretic model of EEG signatures of human language processing. *NeurIPS 2022 Workshop on Information-Theoretic Principles in Cognitive Systems*
3. **Li, J.**, Yu, L., & Ettinger, A (December, 2022). Counterfactual reasoning: Do Language Models need world knowledge for causal inference? *NeurIPS 2022 Workshop on Neuro Causal and Symbolic AI*.
4. **Li, J.**, & Futrell, R. (September, 2022). A decomposition of surprisal predicts N400 and P600 in language processing. Poster at 28th annual conference on Architectures and Mechanisms for Language Processing (AMLaP), York, UK.
5. Xu, W., **Li, J.**, Xiang, M., & Futrell, R. (July, 2022). Syntactic adaptation to short-term cue-based distributional regularities. Poster at the 44th Annual Conference Cognitive Science (CogSci), Toronto, Canada.
6. **Li, J.**, & Futrell, R. (March, 2022). Pre-trained language models can track some ERP components in language processing. Poster at the 35th Annual Conference on Human Sentence Processing (HSP), California [virtual], US.
7. Xu, W., **Li, J.**, & Xiang, M. (March, 2022). Syntactic adaptation to short-term cue-based distributional regularities. Poster at the 35th Annual Conference on Human Sentence Processing (HSP), California [virtual], US.
8. **Li, J.**, & Xiang, M. (March, 2021). The benefits and costs of language prediction: Evidence from ERPs. Short talk at the 34th Annual CUNY Conference on Human Sentence Processing (CUNY), Philadelphia [virtual], US.
9. **Li, J.**, & Ettinger, A. (March, 2021). A noisy channel of N400 and P600 effects in sentence processing. Short talk at the 34th Annual CUNY Conference on Human Sentence Processing (CUNY), Philadelphia [virtual], US.

TEACHING

Teaching Assistant at University of California Irvine

- The fundamentals of Psychology (*Spring 2022*)
- Introduction to Linguistics (*Winter 2023, Fall 2022*)

SKILLS

- **Natural languages:** Mandarin (Native), English (Excellent), Japanese (Fluent), Cantonese (Intermediate)
- **Programming languages:** Python, R, MATLAB, Java, HTML, JavaScript
- **Softwares:** EEG, PCibex, PsychoPy, Praat

SCHOLARSHIPS AND AWARDS

- HSP 2023 Student Travel Award 2023
- NeurIPS Student Travel Award 2022
- University of California Irvine Merit Fellowship 2021
- University of Chicago Merit Scholarship 2020
- University of Chicago Merit Scholarship 2019
- HKSAR Government Scholarship Fund 2019
- Undergraduate Summer Research Abroad Scholarship 2018
- Dean's Certificate of Academic Achievement 2017
- Summer Aboard Scholarship 2016

ACADEMIC SERVICE

- Member of colloquium Committee 2022
Language Science Colloquium at University of California Irvine
- Reviewer 2022
Psychophysiology, ACL2023, CogSci2023, EMNLP2022, CoNLL2022, CAMP2021, CAMP2022, SoCalNLP2022