

## Hanbo Xie

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<https://xhb120633.github.io/>

### EDUCATION

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03/25-Now	<b>Princeton University</b> Visiting Student Research Collaborator <ul style="list-style-type: none"><li>Supervisor: Tom Griffiths</li></ul>	Princeton, New Jersey, US
08/24-Now	<b>Georgia Institute of Technology</b> Ph.D. in Psychology <ul style="list-style-type: none"><li>Supervisor: Robert Wilson</li></ul> Minor in Computer Science	Atlanta, Georgia, US
08/22-05/24	<b>the University of Arizona</b> M.A of Psychology <ul style="list-style-type: none"><li>Supervisor: Robert Wilson</li></ul>	Tucson, Arizona, US
09/15-06/19	<b>the Southwestern University of Finance and Economics</b> Bachelor of Management <ul style="list-style-type: none"><li>Major: Human Resource Management</li></ul>	Chengdu, China

### EMPLOYMENT

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08/24-Now	<b>Georgia Institute of Technology</b> Graduate Assistant	Atlanta, Georgia, US
08/22-08/24	<b>the University of Arizona</b> Teaching Assistant for: <ul style="list-style-type: none"><li>Introduction to Psychology, Personality, Research Methods, Judgment and Decision-Making</li></ul>	Tucson, Arizona, US
07/22-08/22	<b>NeuroMatch Academy Summer School 2022</b> Project Teaching Assistant <ul style="list-style-type: none"><li>Three-week Computational Neuroscience supervision on projects of 8 groups.</li></ul>	Global Virtually
07/19-07/22	<b>School of Psychological and Cognitive Sciences, Peking University</b> Research Assistant in Zhou Lab <ul style="list-style-type: none"><li>Assisted a <i>Nature Science Foundation</i> project research (data collection, coding, data analysis, manuscript writing)</li><li>Lead an independent research project.</li></ul>	Beijing, China

### PUBLICATION

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\* Denotes equal contribution, † Denotes Correspondence, Underscore denotes mentee

#### Journal Articles:

Qiu, S., Tang, Y., Yu, H., **Xie, H.**, Dreher, J. C., Hu, Y., & Zhou, X. (2025). Toward a computational understanding of bribe - taking behavior. *Annals of the New York Academy of Sciences*.

Fang, Z., Zhao, M., Xu, T., Li, Y., **Xie, H.**, Quan, P., ... & Zhang, R. Y. (2024). Individuals with anxiety and depression use atypical decision strategies in an uncertain world. *eLife*, 13.

**Xie, H.** (2023). The promising future of cognitive science and artificial intelligence. *Nat Rev Psychology*.

#### Conference:

Zhang, Z.\*, **Xie, H.\***, Baker, T., Peters, M., & Wilson, R. C. (2025). Linking strategies to think aloud in a stochastic learning task. *In Proceedings of the Annual Meeting of the Cognitive Science Society*.

**Xie, H.**, Xiong, H., & Wilson, R. C. (2024) From Strategic Narratives to Code-Like Cognitive Models: An LLM-Based Approach in A Sorting Task. *First Conference on Language Modeling (COLM)*.

**Xie, H.**, Xiong, H., & Wilson, R. C. (2024) Evaluating Predictive Performance and Learning Efficiency of Large Language Models with Think Aloud in Risky Decision Making. *Computational Cognitive Neuroscience (CCN)*, MIT.

**Xie, H.**, Xiong, H., & Wilson, R. C. (2023). Text2Decision: Decoding Latent Variables in Risky Decision Making from Think Aloud Text. *NeurIPS 2023 AI for Science Workshop*.

**Xie, H.**, Xiong, H., & Wilson, R. C. (2023). Computational introspection: Can large language models reveal cognitive algorithms from human language? Poster session presented at the *5th Chinese Computational and Cognitive Neuroscience Conference*, Beijing, China.

Guo, Y., Song, S., **Xie, H.**, Gao, X., & Zhang, J. (2022, February). ARIMA and RNN for Selection Sequences Prediction in Iowa Gambling Task. In *2022 2nd International Conference on Artificial Intelligence and Signal Processing (AISP)* (pp. 1-6). IEEE.

Song, S\*, **Xie, H\***, Speekenbrink, M., Zhang, J., Gao, X., & Zhou, X. (2020, October). The computational basis of individuals' learning under uncertainty in groups with collective goals. Oral presentation at the Society for Neuroeconomics, Vancouver, Canada.

### Preprints and Submitted Works:

**Pan, L.\***, **Xie, H\*†**, & Wilson, R. C. (2025). Large Language Models Think Too Fast To Explore Effectively. arXiv preprint arXiv:2501.18009 (*submitted*).

Zhu, J.-Q\*, **Xie, H.\***, Arumugam, D., Wilson, R. C., & Griffiths, T. L. (2025). *Using reinforcement learning to train large language models to explain human decisions*. arXiv preprint arXiv: arXiv:2505.11614 (*Submitted*).

## FUNDING & GRANTS

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- OpenAI Researcher Access Program (2024-2025) "What does think aloud reveal on human cognitive process?" (\$5,000)

## CONTESTS & AWARDS

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- The 1<sup>st</sup> Chinese Computational Psychiatry Hack : **The Champion Team**
- Better Together Psychology Conference: **Best Flash Talk Award**

## LECTURES & INVITED TALKS

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- **Understanding Human Thoughts from Think Aloud: An LLM Approach (Invited Talks)**  
Invited by Fudan Institute of Science and Technology for Brain-Inspired Intelligence (Lab PI: Dr. Tianye Jia), School of Psychological and Cognitive Sciences, East Normal University (Lab PI: Dr. Xiaolin Zhou), Institute of Neuroscience, CAS (Lab PI: Dr. Tianming Yang), School of Psychological and Cognitive Sciences, Peking University (Lab PI: Dr. Hang Zhang). (May - June, 2024).
- **From Behavior to Minds: An Overview of Computational Modeling in Psychology (Invited talk)**  
Invited by Research Methods Community (Jan, 2024).
- **Forging the Future: Uniting AI and Cognitive Science through Large Language Models (Invited talk)**  
Invited by School of Psychological and Cognitive Sciences, East Normal University (May, 2023).
- **Computational Modeling Basics and Implementations in Stan. (Invited talk)**  
Invited by Institute of Applied Psychology in Tianjin University (Sep, 20, 2021, codes and slides available on GitHub)
- **Reinforcement learning in computational cognitive sciences. (Lecture)**  
Video available at: [Reinforcement Learning Modeling Club 1 bilibili](#) (in Chinese, codes and slides available on GitHub)

## COMMUNITY

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- 07/2023: Co-Founder of MindRL Hub (<https://rldmjc.github.io/>) (A global community for Reinforcement Learning scholars from Psychology, Neuroscience and AI)
- 2022 Fall: Mentor in ASFP (for graduate applications mentoring)
- 2022 Fall: Mentor in PRP (for mentoring undergraduate and master students to do research)

## **SKILLS**

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- Programming Skills: Matlab (Psychtoolbox, MLE modeling, VBA toolbox), R(Visualization, RStan), Python (NumPy, psychoPy, PyTorch), JavaScript (JSPsych), CSS, Markdown, LaTeX
- Analytical Skills: Statistical analysis, Computational Modeling(non-Bayesian and Bayesian Modeling, machine learning tools, Neural Networks, fMRI data analysis, Large Language Models(distributed training/inference, mechanism analysis).

## **AD-HOC REBIEWS**

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- Journals: *AMPPS, Computational Psychiatry, Scientific Reports*
- Conferences: *Annual Meetings of Cognitive Sciences (CogSci), Computational Cognitive Neuroscience (CCN), COLM, ICML, ICLR, NeurIPS*