

Alice Zhang

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in [Alice Zhang](#)

🌐 <http://licezhang.github.io/>

Graduate researcher working on AI tools to promote human cooperation

Education

- 2024 – ····  **Ph.D., Oxford University** Experimental Psychology.
Funded by the Mary Somerville Clarendon Scholarship | Advisor: Dr. Chris Summerfield
- 2017 – 2021  **B.S., Massachusetts Institute of Technology** Computation and Cognition.
Relevant coursework: Advanced NLP, Algorithms and Data Structures, Computational Cognitive Science, Human Intelligence Enterprise, Theory of Computation | GPA: 4.9/5.0

Experience

- 2024 – ····  **Graduate Researcher** Oxford (PI: Chris Summerfield).
Developing and studying LLM-based mediator tools that can help groups reach agreement through deliberation.
- Lead technical development of prompted and fine-tuned LLMs.
 - Build backend infrastructure (AWS-based API) to support large-scale human studies, and run experiments with hundreds of participants.
 - Analyze text data and assess models for fairness and bias.
 - Collaborate with cross-disciplinary partners at Princeton and UCLA, and with the non-profit Search for Common Ground to apply AI tools in real-world peacebuilding.
- 2022 – 2024  **Research Assistant** NYU (PI: Cate Hartley).
Designed and conducted behavioral experiments examining how learning and decision-making change during childhood and adolescence.
- Developed child-friendly online tasks in JsPsych and PsychoPy, and collected and analyzed behavioral data in Python and R.
 - Applied reinforcement learning models to characterize age-related shifts in decision-making strategies.
- 2021 – 2022  **Software Engineer** Flatiron Health.
Developed full-stack features in React and C# for an oncology electronic medical record (EMR) system.
- Developed a decision support tool to enable compliance with new clinical regulations.
 - Developed a clinician messaging feature to improve coordination across care teams.
- 2020  **Data Science Intern** Nference.
Applied BERT-based language models to classify and cluster biomedical news articles, and built a Flask and React web app to visualize relationships among articles as part of an internal research tool.
- 2019  **Garage Software Engineering Intern** Microsoft.
Worked with a team of interns to build a React Native mobile app for the Museum of Fine Arts in Boston. The app featured a TensorFlow Lite-based reverse image search to enable visitors to explore visually related artworks.

Research Publications

Preprints

- 1 K. Nussenbaum, A. Kahn, **A. Zhang**, N. Daw, and C. Hartley, *Shifts in learning dynamics drive developmental improvements in the acquisition of structured knowledge*, 2025.  DOI: https://doi.org/10.31234/osf.io/amvth_v1.

Journal Articles

- 1 **A. Zhang**, A. E. Kahn, N. D. Daw, K. Nussenbaum, and C. A. Hartley, "Children leverage predictive representations for flexible, value-guided choice," *Cognition*, vol. 266, p. 106 340, 2026, ISSN: 0010-0277. [DOI: https://doi.org/10.1016/j.cognition.2025.106340](https://doi.org/10.1016/j.cognition.2025.106340).
- 2 L. C. Rosenfeld, M. C. Tepper, S. H. Leff, *et al.*, "Pre-implementation patient, provider, and administrator perspectives of remote measurement-based care in a safety net outpatient psychiatry department," *Learning Health Systems*, vol. 9, no. 2, e10472, 2025, ISSN: 2561-326X. [DOI: 10.2196/71570](https://doi.org/10.2196/71570).
- 3 **A. Zhang**, M. Langenkamp, M. Kleiman-Weiner, T. Oikarinen, and F. Cushman, "Similar failures of consideration arise in human and machine planning," *Cognition*, vol. 259, p. 106 108, 2025, ISSN: 0010-0277. [DOI: https://doi.org/10.1016/j.cognition.2025.106108](https://doi.org/10.1016/j.cognition.2025.106108).
- 4 N. J. Carson, X. Yang, B. Mullin, *et al.*, "Predicting adolescent suicidal behavior following inpatient discharge using structured and unstructured data," *Journal of affective disorders*, vol. 350, pp. 382–387, 2024. [DOI: https://doi.org/10.1016/j.jad.2023.12.059](https://doi.org/10.1016/j.jad.2023.12.059).

Poster Presentations

- 1 **A. Zhang**, A. E. Kahn, N. D. Daw, K. Nussenbaum, and C. A. Hartley, "Children leverage predictive representations for flexible, value-guided choice," Multi-disciplinary Conference on Reinforcement Learning and Decision Making, 2025.
- 2 **A. Zhang***, J. Rubruck*, S. Bhattamishra, and C. Summerfield, "From simple to complex: Shared learning dynamics in humans and neural networks," Cognitive Computational Neuroscience, 2025. [URL: https://2025.ccneuro.org/abstract_pdf/Zhang_2025_From_simple_complex_shared_learning_dynamics.pdf](https://2025.ccneuro.org/abstract_pdf/Zhang_2025_From_simple_complex_shared_learning_dynamics.pdf).
- 3 K. Nussenbaum, **A. Zhang**, A. E. Kahn, N. D. Daw, and C. A. Hartley, "Children leverage predictive representations for reward-guided choice," Flux Congress for Developmental Cognitive Neuroscience, 2024.
- 4 **A. Zhang**, K. Nussenbaum, and C. A. Hartley, "Development of non-local learning," Cognitive Computational Neuroscience, 2023. [URL: https://2023.ccneuro.org/proceedings/0000878.pdf](https://2023.ccneuro.org/proceedings/0000878.pdf).
- 5 **A. Zhang**, K. Nussenbaum, and C. A. Hartley, "Development of non-local learning," International Conference on Learning and Memory, 2023.

Skills

Language models	■ Fine-tuning, Prompt Engineering, Embedding Analysis
Machine learning	■ Pytorch, Reinforcement Learning
Software & Data Analysis	■ Python, R, JavaScript (React), SQL, AWS (S3, EC2, RDS), Git
Research & Communication	■ Human-Subjects Research, Science Communication, Cross-Disciplinary Collaboration

Other Training

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| 2025 | ■ Data, Democracy, and the New Social Fabric Summer School. Graz, Austria. |
| | ■ Analytical Connectionism Summer School. London, UK. |
| 2023 | ■ Computational & Cognitive Neuroscience Summer School. Suzhou, China. |