September 2025

# EUNICE YIU

Department of Psychology, University of California, Berkeley
2121 Berkeley Way, Berkeley, CA 94704 USA

Email: ey242@berkeley.edu
Website: https://ey242.github.io

## Employment

Sept 2025 - present **University of California, Berkeley, Berkeley, CA**
Postdoctoral Fellow, Department of Psychology
Advisor: Alison Gopnik

## Education

Aug 2020 – August 2025 **University of California, Berkeley, Berkeley, CA**
Ph.D. in Psychology
Dissertation: Relational Reasoning in Children and Machines: Insights into Causal Generalization and Innovation
Committee: Alison Gopnik, Jitendra Malik, Steve Piantadosi & Shiry Ginosar

Aug 2016 – May 2020 **Cornell University, Ithaca, NY**
B.A. in Psychology (Magna Cum Laude), Biological Sciences (Magna Cum Laude), and Economics; Cumulative GPA: 3.996/4.0

## Grants & Fellowships

2025-2026 **Canadian Institute for Advanced Research Next Generation Trainee Fellowship for the Learning in Machines & Brains program**
Amount: $10,000 CAD

2025-2026 **7th Google - Berkeley Artificial Intelligence Research Commons Grant**
Title: Teaching Causal Tool Use to Vision–Language Models with Human Development Data
Amount: TBD

2025 **Departmental Semester Fellowship at UC Berkeley**
Amount: $18,750

2024-2025 **6th Google - Berkeley Artificial Intelligence Research Commons Grant**
Title: Learning and Optimizing Causal Structures through Intrinsic Objectives: A Comparative Study of Human and Artificial Agents
Amount: $41,000 (with $20,000 in Google Cloud Credits)

2023-2024 **5th Meta - Berkeley Artificial Intelligence Research Commons Grant**
Title: A Curriculum for Foundational AI Models Inspired by Human Cognition
Amount: $35,000

2023, 2025 **Berkeley Graduate Division Conference Travel Grant**
Amount: $1500 (each year)

## Honors & Awards

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| 2025 | **Society for Research in Child Development SECC Poster Competition Winner**<br>Poster Title: Thinking Step-by-Step Facilitates Visual Analogical Reasoning in Children and Adults |
| 2023 | **Curiosity, Creativity and Complexity Conference Travel Award**, Columbia University<br>Poster Title: Discovering New Functions in Everyday Tools By Children, Adults and LLMs |
| 2023 | **Computational Cognitive Models of Learning and Development Workshop Travel Award**, Harvard University |
| 2020 | **Phi Beta Kappa**, Chapter of Cornell University<br>Honor Society Membership for top 10% graduating class |
| 2020 | **T.A. Ryan Award** , Cornell University<br>Best Undergraduate Honors Project in Psychology<br>Thesis Title: Does Toddler Mental Rotation Relate to Their Processing Strategies and Play? |
| 2020 | **Robert R. Capranica Award**, Cornell University<br>(Undergraduate Research Award for Outstanding Thesis in Neuroethology)<br>Thesis Title: The Relationship between Spatial Occupancy Time & Firing Patterns of Hippocampal CA1 Neurons in Response to Changes in the Social Context |

## Publications

* equal contribution, † undergraduate mentee

1. **Yiu, E.**, Allen, K.R., Ginosar, S., & Gopnik, A. (*in press*). Empowerment Gain and Causal Model Construction: Children and adults are sensitive to controllability and variability in their causal generalization and interventions. *Philosophical Transactions of the Royal Society A*. (Special Issue: World models, A(G)I, and the Hard problem(s) of life–mind continuity).
2. Dahmani, A.*, **Yiu, E.***, & Gopnik, A. (*2025*). Children Spontaneously Design Curricula to Tackle Challenging Tasks. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 47).
3. **Yiu, E.,** Qraitem, M., Wong, C.†, Majhi, A. N.†, Bai, Y., Ginosar, S., ... & Saenko, K. (2025). KiVA: Kid-inspired visual analogies for testing large multimodal models. In *International Conference on Learning Representations*.
4. Goddu, M. K.*, **Yiu, E.***, & Gopnik, A. (2024). Causal relational problem solving in toddlers. *Cognition*, *254*, 105959.
5. **Yiu, E.**, Kosoy, E., & Gopnik, A. (2024). Transmission versus truth, imitation versus innovation that large language and language-and-vision models cannot (yet). *Perspectives on Psychological Science*, 17456916231201401.
6. **Yiu, E.***, Sandbrink, K. J.*, & Gopnik, A. (2024). To observe or to bet? Investigating purely exploratory and purely exploitative actions in children, adults, and computational models. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46).
7. Wu, W. Y., **Yiu, E.**, Ophir, A. G., & Smith, D. M. (2023). Effects of social context manipulation on dorsal and ventral hippocampal neuronal response. *Hippocampus*, *33*(7), 830-843.
8. **Yiu, E.**, Collins, J., & Gopnik, A. (2022). Three-Dimensional Object Completion in Humans and Computational Models. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44).
9. Bambha, V. P., Beckner, A. G., Shetty, N., Voss, A. T., Xie, J., **Yiu, E.,** ... & Casasola, M. (2022). Developmental Changes in Children's Object Insertions during Play. *Journal of Cognition and Development*, 1-20.

## Selected Conference Presentations

* equal contribution, † undergraduate mentee

1. **Yiu, E.**, Majhi, A.N.†, Allen, K.R., Ginosar, S., & Gopnik, A. (2025). Children use both controllability and variability for generalization (2025). Poster presented at the 46th Annual Meeting of the Cognitive Science Society; 2025 July 30-August 2; San Francisco, USA.
2. **Yiu, E.,** & Gopnik, A. Thinking Step-by-Step Facilitates Visual Analogical Reasoning in Children and Adults (2025). Poster presented at the Society for Research in Child Development; 2025 May 3; Minneapolis, MN, USA.
3. **Yiu, E.,** Qraitem, M., Wong, C.†, Majhi, A. N.†, Bai, Y., Ginosar, S., Gopnik, A. & Saenko, K. KiVA: Kid-inspired visual analogies for testing large multimodal models (2025). Poster presented at the Thirteenth International Conference on Learning Representations; 2025 April 24; Singapore.
4. **Yiu, E.,** Qraitem, M., Wong, C.†, Majhi, A. N.†, Bai, Y., Ginosar, S., … & Saenko, K. KiVA: Kid-inspired visual analogies for testing large multimodal models (2024). Spotlight talk presented at the Multimodal Algorithmic Reasoning Workshop at NeurIPS; 2024 December 15; Vancouver, Canada.
5. **Yiu, E.***, Sandbrink, K.*, Liu, E.†, & Gopnik, A. To observe or to bet? Investigating purely exploratory and purely exploitative actions in children, adults, and computational models (2023). Poster presented at the 45th Annual Meeting of the Cognitive Science Society; 2024 July 24-27; Rotterdam, The Netherlands.
6. **Yiu, E.**, Goddu, M., & Gopnik, A. Causal-functional Reasoning in Children and AI (2024). Talk presented at the Functions, relations, and abstractions in infants, preschoolers, and AI Symposium at Cognitive Development Society Conference; 2024 March 23; Pasadena, CA, USA.
7. **Yiu, E.***, Sandbrink, K.*, Liu, E.†, & Gopnik, A. Children prioritize purely exploratory actions in observe or bet tasks (2023). Poster presented at the Intrinsically Motivated Open-ended Learning Workshop at NeurIPS; 2023 December 16; New Orleans, LA, USA.
8. **Yiu, E.***, Dahmani, A.*, Lee, T. E., Ke, N. R., Kroemer, O., & Gopnik, A. Towards Understanding Automated Causal Curriculum Learning in Humans and Reinforcement Learning Agents (2023). Talk presented at the Interactive Causal Learning Conference; 2023 December 1-2; Boca Raton, FL, USA.
9. **Yiu, E.**, & Gopnik, A. Discovering New Functions in Everyday Tools by Children, Adults and LLMs (2023). Poster presented at the Curiosity, Creativity and Complexity Conference; 2023 May 23-25; Columbia University, NY, USA.
10. **Yiu, E.**, Collins, J., & Gopnik, A. Three-Dimensional Object Completion in Humans and Computational Models (2022). Talk presented at CogSci; 2022 July 28-30; Toronto, Canada.
11. **Yiu, E.**, Collins, J., & Gopnik, A. Symmetry Preference in 3D Object Completion (2022). Talk presented at From Neuroscience to Artificially Intelligent Systems (NAISys) Conference; 2022 April 5-9; Cold Spring Harbor Laboratory, NY, USA.

## Invited Talks

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| 2025 | Cognitive Tools Lab (PI: Judith Fan), Stanford University, USA |
| 2025 | The Nature of Intelligence Workshop, Santa Fe Institute, USA |
| 2025 | Early Learning and Cognition Lab (PI: Caren Walker), UC San Diego, USA |
| 2025 | Computation, Cognition and Development Lab (PI: Tomer Ullman), Harvard University, USA |
| 2024 | Language and Cognition Lab (PI: Michael Frank), Stanford University, USA |
| 2024 | AI, Psychology and Neuroscience Summer Cluster, Simons Institute for the Theory of Computing, USA |
| 2024 | Brain Science and Large Language Models Symposium, Leopoldina and Max Planck Institute for Brain Research, Germany (media coverage: *Frankfurter Allgemeine Zeitung*) |

# Teaching Experience

## Graduate Student Instructor

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| Fall 2023 | **PSYCH101: Research and Data Analysis in Psychology** |
| | Instructor: Arman Catteron, UC Berkeley |
| Fall 2021 | **PSYCH133: Psychology of Sleep** |
| | Instructor: Matthew Walker, UC Berkeley |

## Undergraduate Teaching Assistant

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| Spring 2019 – | **PHYS1101-1102: General Physics I-II** |
| Spring 2020 | Instructor: Nicholas Taylor, Cornell University |
| Spring 2019 | **HD3620: Human Bonding** |
| | Instructor: Cindy Hazan, Cornell University |

# Mentoring

## Roles

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|---|---|
| 2023-2025 | Mentor, Research Experience Pathways, Berkeley Department of Psychology |
| 2022-2024 | Mentor, Summer Undergraduate Program in Engineering Research at Berkeley (SUPERB), Berkeley Artificial Intelligence Research |

## Mentorship Highlights

Wei Gao (2023-2024): Master's student at Harvard University, Learning Design, Innovation & Technology Program
Miranda Zhang (2024): Master's student at Harvard University, Department of Education
Kai Hung (2022): PhD student at MIT, Institute of Data, Systems and Society
Fei Dai (2022): PhD student at UC Berkeley, Department of Psychology
Yuki Bian (2021-2022): Product Manager at Roblox
Iran Torres Aleman (2021-2023): Master's in Public Health at UC Berkeley, Class of 2025

## Complete List of Mentees

Berkeley undergraduates ([‡] supervised honors thesis)

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| Amaan Ali (present) | Anisa Noor Majhi (present) | Emma Gurevich (present) |
| Janna Umagat (present) | Kaydee Manikhong (present) | Ray Huang[‡] (present) |
| Verena Ghobrial (present) | Seyeon Min (present) | Nitya Sriram (2023-2025) |
| Shivalika Jhabua (2023-2025) | Benel Higuchi (2023-2024) | Yuna Lee (2023-2024) |
| Wei Gao (2023-2024) | Hillary Peng Sim (2023-2024) | Charlie Wong (2023-2024) |
| Sophia Liu (2022-2024) | Megan Lui (2021-2024) | Miranda Zhang (2024) |
| Azzurra Cappuccini (2022-2023) | Eileen Liu[‡] (2022-2023) | Iran Torres Aleman[‡] (2021-2023) |
| Luc LaMontagne (2021-2023) | Yuki Bian (2021-2022) | |

Non-Berkeley undergraduates (summer interns)

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|---|---|---|
| Alexis Davis (2024; Howard University) | Kate Choi (2024; Yale University) | Linda Marie Trevino (2024; UT Austin) |
| Nicole Fan (2024; Cornell University) | Nora Chen (2024; UC San Diego) | Jalaya Allen (2023; Northfolk State University) |
| Xuan Ma (2023; Bard College) | Fei Dai (2022; UC San Diego) | Kai Hung (2022; Rice University) |
| Julia Olson (2022; University of Oregon) | Henry Lawrence (2021; Gonzaga University) | |

## Professional Service

Conference Reviewer

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|---|---|
| Cognitive Science | Cognitive Science Society (CogSci), Budapest CEU Conference on Cognitive Development (BCCCD) |
| Artificial Intelligence | Conference on Language Modeling (COLM), Association for Computational Linguistics (ACL), Conference on Computer Vision and Pattern Recognition (CVPR) |

Co-Organized Workshops and Challenges

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| *in prep for 2026* | Simons Institute for the Theory of Computing: AI, Psychology and Neuroscience Summer Cluster |
| *in prep for 2026* | Cognitive Development Society (CDS) Preconference Workshop: A Unified Account of Motivation in Development |
| 2025 | Kid-inspired Visual Analogies (KiVA) Challenge (multi-month competition), Guest Track Challenge at Google DeepMind's Third Perception Test Workshop, International Conference on Computer Vision (ICCV) |
| 2024 | Cognitive Development Society (CDS) Preconference Workshop: AI & Cognitive Development |

## Professional Development

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|---|---|
| 2024 | Diverse Intelligences Summer Institute, St. Andrews, Scotland, UK |
| 2023 | Computational Cognitive Models of Learning and Development Workshop, Harvard University, Cambridge, USA |
| 2022 | Brains, Minds and Machines Summer Course, Woods Hole, USA |

## Programming Skills

- Python (PyTorch, NumPy, Pandas, Matplotlib, PyGame)
- R (statistical analysis, data visualization, Bayesian modeling with Stan)
- Matlab (statistical analysis, computational modeling)
- JavaScript / jsPsych (online behavioral experiment design)
- HTML/CSS (web-based experiment interfaces and project sites)
- GitHub, Google Cloud & Firebase (collaborative coding, online data collection and storge)