

Wasu (Top) Piriyakulkij

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RESEARCH INTERESTS

World models: how agents learn models of their environment on the fly and use them to plan and act, spanning:

1. How to acquire them ([LLM-SMC-S, NeurIPS 2024](#))
2. How to represent them ([PoE-World, NeurIPS 2025 Spotlight](#))
3. How to leverage them for decision-making ([AgentOWL, NeurIPS 2026](#))

EDUCATION

Cornell University

Sep 2022 - Present

PhD in Computer Science

Advisor: Professor Kevin Ellis

Brown University

Sep 2018 - May 2022

Bachelor of Science, ScB-Computer Science and AB-Applied Mathematics, Magna Cum Laude

RELEVANT EXPERIENCE

Research Intern

Jun 2026 - Aug 2026

Microsoft Research Cambridge

Mentor: Niranjani Prasad

Student Researcher

May 2025 - Nov 2025

Google DeepMind

Mentor: Kevin Murphy

SELECTED PAPERS

Joint Learning of Hierarchical Neural Options and Abstract World Model

Wasu Top Piriyakulkij, Wolfgang Lehrach, Kevin Ellis*, Kevin Murphy*

NeurIPS 2026

PoE-World: Compositional World Modeling with Products of Programmatic Experts

Wasu Top Piriyakulkij, Yichao Liang, Hao Tang, and Adrian Weller, Marta Kryven, Kevin Ellis

NeurIPS 2025 (Spotlight)

Doing Experiments and Revising Rules with Natural Language and Probabilistic Reasoning

Wasu Top Piriyakulkij, Cassidy Langenfeld, Tuan Anh Le, and Kevin Ellis

NeurIPS 2024

SELECTED TALKS

Symbolic World Models

@ Ndea Podcast on Youtube

Jan 2026

Towards more human-like learning in AI agents: Active Experimentation and World Modeling

@ Google DeepMind, Kevin Murphy's Group Meeting

Jun 2025

Building Human-like AI as Bayesian Agents that Reason in Natural Language And Code

@ Basis AI x Cornell Meeting

Oct 2024

@ Computational Cognitive Science lab, University of Edinburgh

Mar 2024

ACHIEVEMENT

CRA Outstanding Undergraduate Researcher Award

Oct 2021

Brown CS's Nominee - Honorable Mention

Royal Thai Scholarship in Computer Science

Apr 2017

Recipient

Asia-Pacific Informatics Olympiad

May 2017

Bronze Medalist