

Kellen Kanarios

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RESEARCH INTERESTS

Reinforcement learning, Continual learning, Unsupervised learning, Robot Learning.

EDUCATION

University of Michigan, Ann Arbor, MI PhD in Electrical and Computer Engineering	August 2024 Now Cumulative GPA: 3.94/4.00
University of Michigan, Ann Arbor, MI Bachelor of Science: <i>Mathematics with Honors and Computer Science with High Honors</i> Thesis Title: <i>Meta Learning for Continual Reinforcement Learning</i>	August 2020 August 2024 Cumulative GPA: 3.85/4.00

ACADEMIC EXPERIENCE

ECE Department Head Graduate Student Instructor for ECE 567 (Reinforcement Learning Theory)	Ann Arbor, MI Winter 2026
EECS Department Teaching Assistant for EECS 602 (Reinforcement Learning Theory)	Ann Arbor, MI Winter 2024
EECS Department Grader for EECS 592 (Advanced Artificial Intelligence)	Ann Arbor, MI Fall 2023
EECS Department Grader for EECS 574 (Advanced Computational Complexity)	Ann Arbor, MI Fall 2023
EECS Department Research Assistant (Synthesizing TensorFlow Programs)	Ann Arbor, MI Summer 2022

PROJECTS

Meta Learning for Continual Reinforcement Learning Lead Investigator	Ann Arbor, MI April 2024 August 2024
<ul style="list-style-type: none">Implemented existing meta-gradient GVF discovery algorithm in JAX and studied generalization ability.Proposed and implemented modifications to improve stability and forward transfer.	
Parallel Algebraic Multigrid Methods for Higher-Order PDEs (UCLA RIPS) Research Intern	Ann Arbor, MI June 2023 August 2023
<ul style="list-style-type: none">Designed and implemented a new algorithm that improved convergence factor of existing state of the art by a factor > 108 on a fourth-order PDE that arises in nuclear fusion applications.1 of 36 students selected (5000+ applicants).Manuscript available at (link)	

PUBLICATIONS

Motion-Planning via Contrastive Reinforcement Learning and Gumbel Monte-Carlo Tree Search Published	
<ul style="list-style-type: none">K. Kanarios and L. Ying. Motion-Planning via Contrastive Reinforcement Learning and Gumbel Monte-Carlo Tree Search. In Workshop on Reinforcement Learning Beyond Rewards @ Reinforcement Learning Conference (RLC), 2025.	
Cost Aware Best Arm Identification Published	
<ul style="list-style-type: none">K. Kanarios, Q. Zhang, and L. Ying. Cost Aware Best Arm Identification. In Proceedings of the Reinforcement Learning Conference (RLC), 2024.	

SKILLS

- Programming:** Python, C, C++, CUDA, \LaTeX
- Libraries:** JAX, PyTorch
- Software:** Git, Vim, Linux

SELECTED COURSES

PhD Courses

- Large Language Model Theory
- Advanced Compilers
- Optimization Theory
- Stochastic Processes
- Information Theory

Bachelor's Courses

- Convex Optimization
- Functional Analysis
- Measure Theory
- Honors Algebra I+II
- Analysis on Manifolds
- Probability Theory
- Reinforcement Learning
- Machine Learning Theory
- Large Language Models
- Randomness and Computation
- Machine Learning
- Operating Systems
- Applied Parallel Programming with GPUs

AWARDS

ECE Honor Roll

One of twenty students awarded for cultivating community within ECE.

Ann Arbor, MI
June 2025

James B Angell Scholar

Semester of all As.

Ann Arbor, MI
N/A

Outreach

Reinforcement Learning Seminar

Founder (YouTube)

Ann Arbor, MI
Jan 2025 | Present

EECS Undergraduate Research

Advisor

Ann Arbor, MI
Jan 2025 | Present

ECE Pure Program

Advisor

Ann Arbor, MI
August 2025 | Present

HIGHLIGHTED TALKS

Reinforcement Learning Conference

Cost Aware Best Arm Identification (link).

Amherst, MA
August 10, 2024

Joint Mathematics Meeting

Parallel Algebraic Multigrid for Higher-Order PDEs (link).

San Francisco, CA
Jan 5, 2024

Seminar Talks

Math Undergraduate Seminar, University of Michigan

Dec 2023: *Parallel Algebraic Multigrid for Higher-Order PDEs*

Directed Reading Program

April 2022: *An Introduction to Brownian Motion and Stochastic Calculus*

REFERENCES

Prof. Lei Ying

Professor, Electrical and Computer Engineering, University of Michigan, Ann Arbor, MI

E-mail: leiying@umich.edu

Scholar Profiles: Home Page | Google Scholar

Prof. Susana Serna

Director, RIPS, Institute of Pure and Applied Mathematics, Los Angeles, CA

E-mail: sserna@ipam.ucla.edu

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