

Kathryn Wantlin

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Education

PRINCETON UNIVERSITY

Princeton, NJ

Ph.D., Computer Science

May 2028

M.S.E., Computer Science

May 2023

Relevant Courses: Machine Learning & Pattern Recognition, Probabilistic Modeling, Robot Planning Meets ML, Dynamics and Control of Multi-Agent Systems, Probabilistic Topics in RL, Information Theory, Computer Vision

Teaching Experience: Introduction to Machine Learning, Algorithms/Data Structures, Introduction to Computer Science

HARVARD UNIVERSITY

Cambridge, MA

A.B., Computer Science, Economics Secondary, Chinese Language Citation

May 2021

Relevant Courses: Machine Learning, Multi-Robot Systems, Autonomous Robot Systems, Embedded Systems, AI for Social Impact, Digital Fabrication, Data Visualization, Research Topics in HCI, Abstraction and Design in Computation

Teaching Experience: Multi-Robot Systems - Control, Communication, and Security (Graduate Level), Mathematics for Computation, Statistics, and Data Science

Skills

Programming: Python, Java, Javascript, ROS, C++, MATLAB, MuJoCo

Machine Learning Frameworks: PyTorch, JAX

Publications

Barnett, S., **Wantlin, K.**, Adams, R.P.

Measuring Cooperation with Counterfactual Planning

Conference on Game Theory and AI for Security (GameSec) 2025

Leonard, N.E., Cox, J., Trueman, D., Santos, M., **Wantlin, K.**, Han, I.X., Witzman, S., James, T.

Rhythm Bots: A Sensitive Improvisational Environment

Neural Information Processing Systems (NeurIPS) 2024, Creative AI Track

International Conference on Robotics and Automation (ICRA) 2022, Workshop on Robotics and Art

Preprints

Wantlin, K., Zheng, C., Eysenbach, B.E.

Contrastive Learning for Zero-Shot Imitation

Wantlin, K., Wu, C., Huang, S.C., Banerjee, O., Dadabhoy, F., Mehta, V.V., Han, R.W., Cao, F., Narayan, R.R., Colak, E.,

Adamson, A. S., Heacock, L., Tison, G.H., Tamkin, A., Rajpurkar, P.

BenchMD: A Benchmark for Universal Learning on Medical Images and Sensors

Research Experience

MIT Center for Brains, Minds and Machines

Massachusetts Institute Of Technology

Summer School Program

Aug. 2025

- Completed research project (advised by Brian Cheung and Vighnesh Subramaniam of MIT) studying search capabilities of autoregressive/diffusion model architectures and RL algorithms applied to the Sudoku problem

Google AI/Princeton University

Princeton University

Graduate Research w/ *Prof. Elad Hazan*

Jun. 2025 – Present

- Apply spectral filtering methods to build world models for long-horizon planning and control

Princeton RL Lab

Princeton University

Graduate Research w/ *Prof. Ben Eysenbach*

Jan. 2024 – Present

- Developed a theoretically consistent goal-conditioned imitation learning algorithm with temporal contrastive learning and self-directed goal exploration

Laboratory for Intelligent Probabilistic Systems

Princeton University

Graduate Research w/ Prof. Ryan Adams

Jun. 2022 – Present

- Utilized spatial point processes and continuous-time MCMC to perform inverse design of emergent shape formation in morphogenetic systems
- Developing causal representation learning methods for solving robotic assembly problems

Harvard Medical AI Lab

Harvard Medical School

Visiting Graduate Research Fellow w/ Prof. Pranav Rajpurkar

Nov. 2021 – Jan. 2024

- Combined deep learning Viewmaker networks with hand-generated data augmentations to improve performance for self-supervised learning in VAE models for ECG classification
- First-author Medical AI Benchmark using self-supervised algorithms to investigate generalization of multi-modality models under clinically-relevant distribution shifts (<https://github.com/rajpurkarlab/BenchMD>)

Leonard Robotics Lab

Princeton University

Graduate Researcher w/ Prof. Naomi Leonard

Sept. 2021 – May 2023

- Utilized computer vision to detect human observers and define motion of “Rhythm Bots” kinetic art installation via space-filling parametric equations and nonlinear opinion dynamics ([ICRA 2022 Workshop on Robotics and Art](#))

Harvard Economics and Computer Science Research Group

Harvard University

Undergraduate Thesis w/ Prof. David Parkes

Sept. 2020 – May 2021

- Designed auction-based information exchange policies for robots engaged in cooperative mapping tasks, demonstrating increased robustness to routing failure

Professional Experience**MIT Lincoln Laboratory - Advanced Systems and Capabilities Group**

Lexington, MA

Summer Research Intern

Jun. 2021 – Aug. 2021

- Optimized GPS-free autonomous flight algorithms using keypoint identification and matching
- Reduced system memory usage 4x while maintaining navigation performance by experimentally confirming optimal data redundancy in keypoint matching scheme
- Quantified receptive field of utilized neural networks and visualized attention network weights to interpret model performance

Hewlett Packard Enterprise

Seattle, WA

AI Engineer Intern

May 2020 – Aug. 2020

- Modularized AutoML tool's data manager to in-memory backend, improving data processing speeds by 60%
- Wrote computer vision data pre-processing node for prebuilt AutoML workflow in Jupyter Notebooks; notebooks served as user tutorials/documentation upon tool's release

Harvard University Derek Bok Center

Cambridge, MA

Learning Lab Undergraduate Fellow

Oct. 2019 – Aug. 2020

- Designed Slack analytics dashboard with D3 to help staff gauge project engagement across the Bok Center
- Worked with team of Fellows to create comprehensive tutorials on digital art technologies for classrooms, including Adobe Illustrator/After Effects; reproduced a section of a professional Vox video to demonstrate the creative process

Leadership/Volunteer Experience**International Conference on Learning Representations (2025) – Reviewer****Machine Learning for Health Symposium (Collocated with NeurIPS 2022) – Reviewer****Princeton ReMatch Mentoring Program (2021-2022) – Computer Science Mentor**

Honors and Awards**Princeton Computer Science Department Tapia Scholarship (2025)****Princeton School of Engineering and Applied Science (SEAS) Travel Grant (2024)****Princeton University Gordon Y.S. Wu Fellowship in Engineering (2023)****Princeton University Teaching Assistantship, Full Graduate Funding (2021-2023)**