Laura Smith

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OBJECTIVE

My goal is to enable systems to learn from their interactions in the real world, with an eye towards endowing machines with human-like intelligence and capabilities.

EDUCATION

Ph.D. Student in Computer Science — 8/20 – 5/25 (expected)
University of California, Berkeley — GPA: 3.947/4.00

B.A. in Computer Science — 2016 – 2020
University of California, Berkeley — GPA: 3.967/4.00
Highest Distinction in General Scholarship

Relevant Coursework: Deep Reinforcement Learning (A+), Deep Unsupervised Learning (A+), Information Theory & Coding (A-), Convex Optimization* (A), Optimization & Approximation (A+), Machine Learning (A+), Machine Learning Systems (A+), Linear System Theory (A), Real Analysis (A), Artificial Intelligence (A+), Probability & Random Processes (A), Discrete Math & Probability Theory (A+)*

AWARDS

Fellowships

- *Google PhD Fellowship*, current
- *National Science Foundation Graduate Research Fellowship*, 2020-2023
- *EECS Excellence Award*, supplementary fellowship for outstanding academic record, UC Berkeley, 2020-2021

Honors

- *CRA Outstanding Undergraduate Researcher Award Finalist*, awarded to roughly 20 graduating seniors in computer science from North America, 2019
- *NeurIPS Robot Learning Workshop Travel Award*, DeepMind, 2019
- *Upsilon Pi Epsilon CS Honors Society*, UC Berkeley, 2018
- *The Leadership Award*, Cal Alumni Association, 2016, 2017, 2019

RESEARCH

Graduate Student Researcher — August 2020 – present
Robotics and AI Lab (RAIL), advised by Sergey Levine
Developing intelligent, autonomous systems that learn continually in the real world.

Undergraduate Researcher — May 2018 – May 2020
Robot Learning Lab (RLL), advised by Pieter Abbeel
Developed sample-efficient, vision-based methods, via representation learning and model-based approaches, to enable robot learning in real-world domains.

PREPRINTS

Laura Smith*, Yunhao Cao, Sergey Levine. Efficient Real-World RL for Legged Locomotion via Adaptive Policy Regularization. *submitted to ICRA, 2024.* [website]

Annie Chen*, Govind Chada*, **Laura Smith**, Archit Sharma, Zipeng Fu, Sergey Levine, Chelsea Finn. Adapt On-the-Go: Behavior Modulation for Single-Life Robot Deployment. *submitted to ICLR, 2024.* [OpenReview]

Rafael Rafailov*, Kyle Beltran Hatch*, Anikait Singh, Aviral Kumar, **Laura Smith**, Ilya Kostrikov, Philippe Hansen-Estruch, Victor Kolev, Philip J. Ball, Jiajun Wu, Sergey Levine, Chelsea Finn. D5RL: Diverse Datasets for Data-Driven Deep Reinforcement Learning. *submitted to ICLR, 2024.* [OpenReview]

PUBLICATIONS

Laura Smith, J. Chase Kew, Tianyu Li, Xue Bin Peng, Sehoon Ha, Jie Tan, Sergey Levine. Learning and Adapting Agile Locomotion Skills by Transferring Experience. *published at RSS, 2023.* [website]

Laura Smith*, Ilya Kostrikov*, Sergey Levine. A Walk in the Park: Learning to Walk in 20 Minutes With Model-Free Reinforcement Learning. *published at Robotics Science and Systems (RSS) Demo Track, 2023.* [website]

Kevin Zakka, Philipp Wu, **Laura Smith**, Nimrod Gileadi, Taylor Howell, Xue Bin Peng, Sumeet Singh, Yuval Tassa, Pete Florence, Andy Zeng, Pieter Abbeel. RoboPianist: Dexterous Piano Playing with Deep RL. *published at CoRL, 2023.* [website]

Philip J. Ball*, **Laura Smith***, Ilya Kostrikov*, Sergey Levine. Efficient Online Reinforcement Learning with Offline Data. *published at ICML, 2023.* [arXiv]

Laura Smith, J. Chase Kew, Xue Bin Peng, Sehoon Ha, Jie Tan, Sergey Levine. Legged Robots that Keep on Learning: Fine-Tuning Locomotion Policies in the Real World. *published at ICRA, 2022.* [website]

Vitchyr H. Pong, Ashvin Nair, **Laura Smith**, Catherine Huang, Sergey Levine. Offline Meta-RL with Online Self-Supervision. *published at ICML, 2022.* [website]

Kimin Lee, **Laura Smith**, Anca Dragan, Pieter Abbeel. B-Pref: Benchmarking Preference-Based Reinforcement Learning. *published at NeurIPS 2021, Datasets and Benchmarks Track.* [website]

Laura Smith*, Kimin Lee*, Pieter Abbeel. PEBBLE: Feedback-Efficient Interactive RL via Relabeling Experience and Unsupervised Pre-Training. *published at ICML 2021 as a* ***long oral presentation (166/5513=3.0%)***. [website]

Laura Smith, Nikita Dhawan, Marvin Zhang, Pieter Abbeel, Sergey Levine. AVID: Learning Multi-Stage Tasks via Pixel-Level Translation of Human Videos. *published at RSS, 2020.* [website]

Marvin Zhang*, Sharad Vikram*, **Laura Smith**, Pieter Abbeel, Matthew Johnson, Sergey Levine. SOLAR: Deep Structured Latent Representations for Model-Based Reinforcement Learning. *published at ICML, 2019.* [website]

Press Coverage

- Robot dog learns to walk on tough terrain in just 20 minutes, by Alex Wilkins. New Scientist. 26 August 2022.
- A technique that allows legged robots to continuously learn from their environment, by Ingrid Fadelli. Tech Xplore. 1 November 2021.
- AVID: a framework to enhance imitation learning in robot, by Ingrid Fadelli. Tech Xplore. 3 January 2020.
- Researchers develop new framework to teach robots, by David Curry. RTInsights. 13 January 2020.

PROFESSIONAL ACTIVITIES

Talks

- BAIR Robotics & Systems Workshop 2022
- Google-BAIR Commons Symposium 2021, 2022

Reviewing

- IEEE Robotics and Automation Letters (RA-L) 2023
- Conference on Neural Information Processing Systems (NeurIPS) 2022
  Benchmarks and Datasets Track
- International Conference on Intelligent Robots and Systems (IROS) 2020, 2022
- International Conference on Robotics and Automation 2022
- International Conference on Learning Representations (ICLR) 2022
  Generalizable Policy Learning in Physical World Workshop

Advising — undergraduate research

- Zhiwei Zhang
- Yiming Ni
- Yunhao Cao
- Stefanie Gschwind

SERVICE & OUTREACH

UC Berkeley Women in EECS, Board Member 2022 – present
Organizing events for female graduate students in computer science and engineering.

AI Research Mentoring Program, Co-Organizer 2020 – present
Coordinating a research mentoring program for underrepresented undergraduates.

Robot Learning Lab Outreach, Co-Organizer 2018 – 2020
Organized lab tours and assisted with demonstrations at large-scale events.

Upsilon Pi Epsilon, Service Committee Member 2018
Held weekly open office hours for lower-division, undergraduate CS courses.

TEACHING

Student Instructor

- *CS 189/289A: Introduction to Machine Learning* Spring 2020
- *CS 287: Advanced Robotics* Fall 2019
- *CS 188: Introduction to Artificial Intelligence* Fall 2018, Spring 2019

Course Staff (Reader, Tutor, Lab Assistant)

- *CS 70: Discrete Mathematics & Probability Theory* Spring 2018
- *CS C8: Data Science* Fall 2017
- *CS 61B: Data Structures & Algorithms* Spring 2016

Lectures

- *Imitation Learning*, CS 287: Advanced Robotics, UC Berkeley Fall 2019
- *Robotics Talk*, for CS Education Day Winter 2018
- *Artificial Intelligence (Special Topics)*, CS 10, UC Berkeley Fall 2018