

Nathan O. Lambert

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EDUCATION

University of California, Berkeley
PhD in Electrical Engineering and Computer Sciences
Advisors: Prof. Kristofer Pister and Dr. Roberto Calandra | Committee: Sergey Levine, Claire Tomlin
Expected - Dec. 2021 | Berkeley, CA
PhD Candidate | GPA: 4.0

Cornell University
BS in Electrical and Computer Engineering
May 2017 | Ithaca, NY
GPA: 4.0

EXPERIENCE

DeepMind Research Intern
Summer 2021* | Robotics Team | Virtual

Facebook AI Research Student Researcher & Intern
May 2019-October 2020 | Dr. Roberto Calandra | Robotics Team | Menlo Park, CA

Tesla Motors Engineering Intern
Summer 2015 | Hardware, Test, & Analysis Team | Palo Alto, CA

PUBLICATIONS

- [1] A. Alvara, **Nathan Lambert**, E. Sin, L. Lee, and K. Pister, "Bliss: Interplanetary exploration with swarms of low-cost spacecraft," *To Appear.*, 2021.
 - [2] F. Campos, **Nathan Lambert**, M. Selden, J. Zhou, D. Drew, and K. Pister, "Botnet: A simulator for studying the effects of accurate communication models on high-agent-count multi-agent control," *To Appear.*, 2021.
 - [3] **Nathan Lambert**, R. Calandra, and K. Pister, "Causes of compounding prediction errors with one-step deep dynamics models," *To Appear.*, 2021.
 - [4] L. Pineda, B. Amos, A. Zhang, **Nathan Lambert**, and R. Calandra, "Mbri-lib: A modular library for model-based reinforcement learning," *arXiv preprint arXiv:2104.10159*, 2021.
 - [5] S. Dean, T. K. Gilbert, **Nathan Lambert**, and T. Zick, "Axes for sociotechnical inquiry in ai research," *IEEE Transactions on Technology and Society*, pp. 1–1, 2021.
 - [6] B. Zhang, R. Rajan, L. Pineda, **Nathan Lambert**, A. Biedenkapp, K. Chua, F. Hutter, and R. Calandra, "On the importance of hyperparameter optimization for model-based reinforcement learning," *International Conference on Artificial Intelligence and Statistics*, 2021.
 - [7] M. Andrus, S. Dean, T. Gilbert, **Nathan Lambert**, and T. Zick, "Ai development for the public interest: From abstraction traps to sociotechnical risks," *IEEE International Symposium on Technology and Society, 12-15th November, Tempe: Arizona*, 2020.
 - [8] **Nathan Lambert**, A. Wilcox, H. Zhang, K. S. Pister, and R. Calandra, "Learning accurate long-term dynamics for model-based reinforcement learning," *arXiv preprint arXiv:2012.09156*, 2020.
 - [9] **Nathan Lambert**, C. Schindler, D. Drew, and K. Pister, "Nonholonomic yaw control of an underactuated flying robot with model-based reinforcement learning," *IEEE Robotics and Automation Letters*, vol. 6, no. 2, pp. 455–461, 2021.
 - [10] **Nathan Lambert**, F. Toddywala, B. Liao, E. Zhu, L. Lee, and K. Pister, "Learning for microrobot exploration: Model-based locomotion, robust navigation, and low-power deep classification," *International Conference on Manipulation, Automation and Robotics at Small Scales (MARSS)*, 2020.
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- [11] **Nathan Lambert**, B. Amos, O. Yadan, and R. Calandra, "Objective mismatch in model-based reinforcement learning," *Learning for Decision and Control (L4DC)*, 2020.
- [12] T. Li, **Nathan Lambert**, R. Calandra, A. Rai, and F. Meier, "Learning generalizable locomotion skills with hierarchical reinforcement learning," *International Conference on Robotics and Automation (ICRA)*: <https://arxiv.org/abs/1909.12324>, 2020.
- [13] **Nathan Lambert**, D. S. Drew, J. Yaconelli, S. Levine, R. Calandra, and K. S. J. Pister, "Low-level control of a quadrotor with deep model-based reinforcement learning," *IEEE Robotics and Automation Letters*, vol. 4, no. 4, pp. 4224–4230, 2019.
- [14] D. S. Drew, **Nathan Lambert**, C. B. Schindler, and K. S. Pister, "Toward controlled flight of the ionocraft: A flying microrobot using electrohydrodynamic thrust with onboard sensing and no moving parts," *IEEE Robotics and Automation Letters*, vol. 3, no. 4, pp. 2807–2813, 2018.
- [15] K. B. Vinayakumar, V. Gund, **Nathan Lambert**, S. Lodha, and A. Lal, "Enhanced lithium niobate pyroelectric ionizer for chip-scale ion mobility-based gas sensing," *Proceedings of IEEE Sensors*, no. 1, pp. 3–5, 2017.

FELLOWSHIPS AND AWARDS

Graduate

- 2021 Berkeley EECS Demetri Angelakos Memorial Achievement Award
- 2021 Heart to Humanity Eternal (H2H8) Pioneer
- 2018 NDSEG Graduate Research Fellowship Program Top 200
- 2018 NSF Graduate Research Fellowship Program Honorable Mention
- 2017 Berkeley EECS Department Fellowship
- 2017 NSF Graduate Research Fellowship Program Honorable Mention

Undergraduate

- 2017 Cornell Rowing Charles E. Courtney Award
- 2016 Tau Beta Pi Scholarship
- 2016 Southeastern New England Defense Industry Alliance STEM Scholarship II
- 2016 Cornell Athletics 400 Club Induction
- 2015 Southeastern New England Defense Industry Alliance STEM Scholarship I
- 2015 Tau Beta Pi Induction
- 2015 Eta Kappa Nu Induction
- 2014 American Society of Engineering Education SMART Scholar Award

TEACHING

Graduate

- Fall 2020 Teaching Assistant for CS188: Introduction to Artificial Intelligence
- Summer 2020 Teaching Assistant for CS188: Introduction to Artificial Intelligence
- Spring 2020 **Instructor for CS188: Introduction to Artificial Intelligence**
- Fall 2019 Teaching Assistant for EE 16B: Designing Information Devices and Systems II

Undergraduate

- Spring 2017 Grader for ECE 4320: Integrated Micro Sensors and Actuators
- Fall 2016 Teaching Assistant for ECE 3250: Mathematics of Signal and System Analysis

INVITED TALKS

- March 2021 Cornell Robotics Seminar, Virtual. *Improving Model Predictive Control in Model-based Reinforcement Learning*.
- April 2020 UC Berkeley Semiautonomous Seminar, Berkeley, CA. *Minimum Data Model-based Reinforcement Learning*.

PEER REVIEW

★ indicates top reviewer.

Conference Proceedings

- Conference on Machine Learning (ICML) 2020
- Conference on Learning Representations (ICLR) 2021★
- Conference on Robot Learning (CORL) 2020
- Conference on Robotics and Automation (ICRA) 2020, 2021
- Conference on Intelligent Robots and Systems (IROS) 2021
- Conference on Decision and Control (CDC) 2021

Journals

- Robotics and Automation Letters (RA-L) 2019, 2020
- Transactions on Cybernetics 2020

COMMUNITY SERVICE

Graduate

Fall 2020 Founder of UC Berkeley EECS Equal Access to Application Assistance (EAAA) Program
2020-2021 Wellness Coordinator: UC Berkeley Electrical Engineering Graduate Student Assembly (EEGSA)
Fall 2017 Bay Area Scientists in Schools

Undergraduate

Fall 2016 Cornell *Splash!* Program (with Eta Kappa Nu Honors Society)
July 2016 Cornell CATALYST Summer Engineering Diversity Program
2015-2017 Big Red Leadership Institute

ACADEMIC ORGANIZING

NeurIPs 2021 4th workshop on robot learning.
Tapia 2021 panel on student mental health and well-being.

EXTRACURRICULARS

Cornell Varsity Lightweight Rowing Student-Athlete
2013-2017 | Coach Chris Kerber | Cornell University | Ithaca, NY

Berkeley Lightweight Crew Novice Rowing Coach
2017-2018 | University of California, Berkeley | Berkeley, CA