

DHRUV SHAH

CONTACT INFORMATION	Berkeley AI Research 2121 Berkeley Way Berkeley, CA USA 94720	<i>E-Mail:</i> shah@cs.berkeley.edu <i>Webpage:</i> cs.berkeley.edu/~shah
EDUCATION	University of California, Berkeley <i>Ph.D. Student in Electrical Engineering & Computer Science</i> Advisor: Prof. Sergey Levine GPA: 4.0/4.0	August 2019 – Present
	Indian Institute of Technology, Bombay <i>B.Tech. (with Honors) in Electrical Engineering</i> GPA: 9.54/10	July 2015 – May 2019
RESEARCH EXPERIENCE	Berkeley Artificial Intelligence Research Lab <i>Graduate Student Researcher</i> Conducting research on enabling mobile robot navigation in open-world environments.	August 2019 – Present
	Google Research <i>Research Intern / Student Researcher</i> Worked with Brian Ichter and Alexander Toshev, at Google Brain Robotics, on learning skill-centric state abstractions for long-horizon reasoning.	May 2021 – Jan 2022
	University of Sydney <i>Visiting Research Student</i> Worked with Donald Dansereau, at the Australian Centre for Field Robotics (ACFR), on robotic imaging through scattered media using time-of-flight imaging.	May 2019 – August 2019
	Imperial College London <i>Visiting Research Student</i> Worked with Stefan Leutenegger on visual servoing for dexterous aerial manipulation using non-linear model-based control and decoupled dynamics.	May 2018 – July 2018
	Carnegie Mellon University <i>Visiting Research Student</i> Worked with Sebastian Scherer, at the Robotics Institute, on subterranean localization and mapping of radiation sources for aerial inspection of critical facilities.	May 2017 – July 2017
	Indian Institute of Technology, Bombay <i>Undergraduate Researcher</i> Worked with Leena Vachhani on algorithms for multi-agent mobile robot platforms, and Ajit Rajwade on computational imaging using Bayesian experimental design.	July 2017 – May 2019
HONORS AND AWARDS	Best Systems Paper Award (Finalist) , Robotics: Science and Systems	2022
	Google Research–BAIR Commons Grant , UC Berkeley	2022
	Berkeley Fellowship , UC Berkeley	2019–24
	Undergraduate Research Award , IIT Bombay	2019
	INAE Travel Grant for presenting at IEEE ICRA 2019, Montreal	2019

Department Color Award for exceptional contribution to the department	2019
INAE Travel Grant for presenting at IEEE GlobalSIP 2018, Anaheim	2018
Institute Academic Prize , IIT Bombay	2017–18
Gold Medal in the Indian National Chemistry Olympiad	2015
National Talent Search Scholarship	2011–18

INVITED
TALKS

Intuitive Interfaces for Learning from Offline Data Scientific Speaker Series, Wayve	September 2022
Kilometer-Scale Navigation with Geographic Hints ML Seminar, Toyota Research Institute	March 2022
RACER Seminar, NASA Jet Propulsion Laboratory	March 2022
Berkeley Deep Drive Seminar, UC Berkeley	February 2022
Skill-Centric State Abstractions for Planning Google Brain Open Research Talks, Google Research	November 2021
Learning to Explore Open-World Environments Google Brain Open Research Talks, Google Research	November 2021
ICLR 2021 Workshop on Never-Ending Reinforcement Learning	May 2021
Robots Around Us Outreach at Independence High School, San Jose CA	February 2022

PRE-PRINTS

- [1] **PnP-Nav: Plug-and-Play Policies for Generalizable Visual Navigation Across Robots**
Under Review
Dhruv Shah[†], Ajay Sridhar[†], Arjun Bhorkar, Noriaki Hirose, Sergey Levine
- [2] **ExAug: Robot-Conditioned Navigation Policies via Geometric Experience Augmentation**
Under Review
Noriaki Hirose, Dhruv Shah, Ajay Sridhar, Sergey Levine

PUBLICATIONS

- [3] **LM-Nav: Robotic Navigation with Large Pre-Trained Models of Language, Vision, and Action**
Conference on Robot Learning (CoRL) 2022
Dhruv Shah[†], Blazej Osinski[†], Brian Ichter, Sergey Levine
- [4] **Offline Reinforcement Learning for Customizable Visual Navigation**
Conference on Robot Learning (CoRL) 2022 (Oral Talk)
D. Shah[†], A. Bhorkar[†], H. Leen, I. Kostrikov, N. Rhinehart, S. Levine
- [5] **Learning Robotic Navigation from Experience: Principles, Methods, and Recent Results**
Philosophical Transactions of the Royal Society of London: B 2022 (Invited Paper)
Sergey Levine, *Dhruv Shah*
- [6] **ViKiNG: Vision-Based Kilometer-Scale Navigation with Geographic Hints**
Robotics: Science and Systems (RSS) 2022 (Long Talk)
Best Systems Paper Award (Finalist)
Dhruv Shah, Sergey Levine
- [7] **Value Function Spaces: Skill-Centric State Abstractions for Long-Horizon Reasoning**

International Conference on Learning Representations (ICLR) 2022

Dhruv Shah, Peng Xu, Yao Lu, Ted Xiao, Alex Toshev, Sergey Levine, Brian Ichter

- [8] **Hybrid Imitative Planning with Geometric and Predictive Costs for Off-road Environments**

International Conference on Robotics and Automation (ICRA) 2022

N. Dashora[†], D. Shin[†], **D. Shah**, H. Leopold, D. Fan, A. Agha, N. Rhinehart, S. Levine

- [9] **Rapid Exploration for Open-World Navigation with Latent Goal Models**

Conference on Robot Learning (CoRL) 2021 (Oral Talk)

ICLR 2021 Workshop on Never-Ending Reinforcement Learning (Oral Talk)

Dhruv Shah, Benjamin Eysenbach, Nicholas Rhinehart, Sergey Levine

- [10] **ViNG: Learning Open-World Navigation with Visual Goals**

International Conference on Robotics and Automation (ICRA) 2021

Dhruv Shah, Benjamin Eysenbach, Gregory Kahn, Nicholas Rhinehart, Sergey Levine

- [11] **Aerial Manipulation Using Hybrid Force and Position NMPC Applied to Aerial Writing**

Robotics: Science and Systems (RSS) 2020

D. Tzoumanikas, F. Graule, Q. Yan, **D. Shah**, M. Popovic, S. Leutenegger

- [12] **The Ingredients of Real World Robotic Reinforcement Learning**

International Conference on Learning Representations (ICLR) 2020 (Spotlight Talk)

H. Zhu[†], J. Yu[†], A. Gupta[†], **D. Shah**, K. Hartikainen, A. Singh, V. Kumar, S. Levine

- [13] **Swarm Aggregation without Communication and Global Positioning**

Robotics and Automation Letters (RA-L) 2019

International Conference on Robotics and Automation (ICRA) 2019

Dhruv Shah, Leena Vachhani

- [14] **Projection Design for Compressive Source Separation using Mean Errors and Cross-Validation**

International Conference on Image Processing (ICIP) 2019

Dhruv Shah, Ajit Rajwade

- [15] **Designing Constrained Projections for Compressed Sensing: Mean Errors and Anomalies with Coherence**

Global Conference on Signal and Information Processing (GlobalSIP) 2018

Dhruv Shah[†], Alankar Kotwal[†], Ajit Rajwade

TEACHING **CS 285: Deep Reinforcement Learning** Fall 2021

EXPERIENCE *University of California, Berkeley*

Head Graduate Student Instructor with Prof. Sergey Levine

CS 101: Introduction to Programming Spring 2019, Summer 2016

Indian Institute of Technology, Bombay

Teaching Assistant with Prof. Deepak B. Phatak and Prof. Ganesh Ramakrishnan

MA 207: Partial Differential Equations Fall 2018

Indian Institute of Technology, Bombay

Head Teaching Assistant with Prof. Swapneel Mahajan

SERVICE **Organizer**

Workshop on Learning from Diverse, Offline Data @ RSS 2022

Workshop on Language and Robot Learning @ CoRL 2022 (**Lead Organizer**)

Reviewer

Robotics — CoRL, RA-L, ICRA, IROS, ISRR

Machine Learning — ICLR, NeurIPS

REFERENCES Available on request.