Priya Sundaresan

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ACADEMIC BACKGROUND

Stanford University, Stanford, CA — 2021 - 2026 (expected)
Ph.D. in Computer Science, Artificial Intelligence
Advisors: Dorsa Sadigh, Jeannette Bohg

University of California, Berkeley, Berkeley, CA — 2017 - 2021
M.S. in Electrical Engineering and Computer Science — GPA: 3.790/4.0
Advisor: Ken Goldberg, Joseph Gonzalez
Master's Thesis: *Robotic Untangling and Disentangling of Cables via Learned Manipulation and Recovery Strategies*
B.S. in Electrical Engineering and Computer Science — GPA: 3.701/4.00

EXPERIENCE

Stanford Artificial Intelligence Lab, PhD Student — 2021 - Present
Research in robotic manipulation and perception for collaborative and assistive real-world settings

Amazon Robotics, North Reading, MA
Part-Time Applied Scientist Contractor — 9/2020 - 12/2021
Advanced R&D Robotics Intern — 5/2020 - 8/2020
Research on vision-based grasp planners for warehouse automation

UC Berkeley AUTOLAB, Student Researcher — 8/2018 - 5/2021
Advised by Ken Goldberg
Developed perception-driven algorithms for household and surgical robots

UC Berkeley Department of EECS, Teaching Assistant — 1/2019 - 5/2019
Discussion TA for introductory EE course (EE 16A) on circuit design/linear algebra

PUBLICATIONS

[9] **Priya Sundaresan**, Rika Antonova, Jeannette Bohg. DiffCloud: Real-to-Sim from Point Clouds with Differentiable Simulation and Rendering of Deformable Objects. *International Conference on Intelligent Robots and Systems (IROS), 2022.*

[8] Rika Antonova, Jingyun Yang, **Priya Sundaresan**, Dieter Fox, Fabio Ramos, Jeannette Bohg. A Bayesian Treatment of Real-to-Sim for Deformable Object Manipulation. *IEEE Robotics and Automation Letters (RA-L), 2022.*

[7] Vainavi Viswanath*, Jennifer Grannen*, **Priya Sundaresan***, Brijen Thananjeyan, Ashwin Balakrishna, Ellen Novoseller, Jeffrey Ichnowski, Michael Laskey, Joseph E. Gonzalez, Ken Goldberg. Disentangling Dense Multi-Cable Knots. *International Conference on Intelligent Robots and Systems (IROS), 2021.*

[6] **Priya Sundaresan***, Jennifer Grannen*, Brijen Thananjeyan, Ashwin Balakrishna, Jeffrey Ichnowski, Ellen Novoseller, Minho Hwang, Michael Laskey, Joseph E. Gonzalez, Ken Goldberg. Untangling Dense Non-Planar Knots by Learning Manipulation Features and Recovery Policies. *Robotics: Science and Systems (RSS), 2021.*

[5] Aditya Ganapathi, **Priya Sundaresan**, Brijen Thananjeyan, Ashwin Balakrishna, Daniel Seita, Jennifer Grannen, Minho Hwang, Ryan Hoque, Joseph E. Gon-

zalez, Nawid Jamali, Katsu Yamane, Soshi Iba, Ken Goldberg. Learning Dense Visual Correspondences in Simulation to Smooth and Fold Real Fabrics. *International Conference on Robotics and Automation (ICRA), 2021.*

[4] **Priya Sundaresan***, Aditya Ganapathi*, Brijen Thananjeyan, Ashwin Balakrishna, Daniel Seita, Ryan Hoque, Joseph Gonzalez, Ken Goldberg. MMGSD: Multi-Modal Gaussian Shape Descriptors for Correspondence Matching in 1D and 2D Deformable Objects. *International Conference on Intelligent Robots and Systems (IROS), Workshop on Robotic Manipulation of Deformable Objects, 2020.*

[3] Jennifer Grannen*, **Priya Sundaresan***, Brijen Thananjeyan, Jeffrey Ichnowski, Ashwin Balakrishna, Minho Hwang, Vainavi Viswanath, Michael Laskey, Joseph E. Gonzalez, Ken Goldberg. Untangling Dense Knots by Learning Task-Relevant Keypoints. *Conference on Robot Learning (CoRL)*, 2020. **Oral**.

[2] **Priya Sundaresan**, Jennifer Grannen, Brijen Thananjeyan, Ashwin Balakrishna, Michael Laskey, Kevin Stone, Joseph E. Gonzalez, Ken Goldberg. Learning Rope Manipulation Policies Using Dense Object Descriptors Trained on Synthetic Depth Data. *International Conference on Robotics and Automation (ICRA), 2020.*

[1] **Priya Sundaresan**, Brijen Thananjeyan, Johnathan Chiu, Danyal Fer, Ken Goldberg. Automated Extraction of Surgical Needles from Tissue Phantoms. *Conference on Automation Science and Engineering (CASE), 2019.*

AWARDS

National Science Foundation Graduate Research Fellowship	2021
Timothy B. Campbell Innovation Award, UC Berkeley EECS	2021
James H. Eaton Memorial Scholarship, UC Berkeley EECS	2020
Cal Alumni Association Leadership Award Scholarship	2019

OUTREACH

UC Berkeley AUTOLAB 2018-2021
Prepared and presented robot demos to prospective students at Cal day and lab visit days for local middle/high school students

Bioengineering Honor Society, Webmaster/Projects Chair 2018-2019
Prototyped hardware demos to showcase at local middle/high schools and built club website from scratch
Volunteered at BioEngineering High School Competition (BioEHSC), a student-run science fair where UC Berkeley undergraduates mentor local high school students on a semester-long research project

ACADEMIC SERVICE

External Reviewer for Conferences, Journals
Robotics and Automation Letters (RA-L): 2022.
International Conference on Intelligent Robots and Systems (IROS): 2022
International Conference on Robotics and Automation (ICRA): 2021