

Priya Sundareshan

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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 Sundareshan**, 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 Sundareshan**, 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 Sundareshan***, 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 Sundareshan***, Jennifer Grannen*, Brijen Thananjeyan, Ashwin Balakrishna, Jeffrey Ichnowski, Ellen Novoseller, Minh 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 Sundareshan**, Brijen Thananjeyan, Ashwin Balakrishna, Daniel Seita, Jennifer Grannen, Minh 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 Sundareshan***, 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 Sundareshan***, Brijen Thananjeyan, Jeffrey Ichnowski, Ashwin Balakrishna, Minh Hwang, Vainavi Viswanath, Michael Laskey, Joseph E. Gonzalez, Ken Goldberg. Untangling Dense Knots by Learning Task-Relevant Key-points. *Conference on Robot Learning (CoRL)*, 2020. **Oral**.

[2] **Priya Sundareshan**, 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 Sundareshan**, 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

INVITED TALKS	Learning Robot Manipulation of 1D, 2D, and 3D Deformable Structures	
	<i>(with Jennifer Grannen, Ken Goldberg)</i>	
	RSS 2021 Workshop on Deformable Object Simulation in Robotics	

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

PROFESSIONAL ACTIVITIES	<i>Paper Reviewing</i>	
	Robotics and Automation Letters (RA-L): 2022.	
	International Conference on Intelligent Robots and Systems (IROS): 2022	
	International Conference on Robotics and Automation (ICRA): 2021	