

# Priya Sundaresan

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**ACADEMIC** **Stanford University**, Stanford, CA 2021 - 2026 (expected)

**BACKGROUND** *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 (2020-2021)* 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 (2017-2020)* 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**, Undergraduate 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** [11] Lorenzo Shaikewitz\*, Yilin Wu\*, Suneel Belkhale\*, Jennifer Grannen, **Priya Sundaresan**, Dorsa Sadigh. In-Mouth Robotic Bite Transfer with Visual and Haptic Sensing. *Under Review*.

[10] **Priya Sundaresan**, Suneel Belkhale, Dorsa Sadigh. Learning Visuo-Haptic Skewering Strategies for Robot-Assisted Feeding. *Conference on Robot Learning (CoRL), 2022. Oral Presentation.*

[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, 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 Sundaesan**, Brijen Thananjeyan, Ashwin Balakrishna, Daniel Seita, Jennifer Grannen, Minh Hwang, Ryan Hoque, Joseph E. Gonzalez, 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 Sundaesan\***, 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 Sundaesan\***, 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 Presentation**.

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

<b>AWARDS</b>	FANUC Student Fellowship	2022
	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*  
International Conference on Robotics and Automation (ICRA): 2023  
Robotics and Automation Letters (RA-L): 2022.  
International Conference on Intelligent Robots and Systems (IROS): 2022  
International Conference on Robotics and Automation (ICRA): 2021