

Daniel Seita

seita@usc.edu

<https://danielseita.github.io>

Last Updated: September 17, 2025.

EMPLOYMENT (SINCE PHD)

Assistant Professor

University of Southern California

August 2023 — Present

Los Angeles, CA

- I am a tenure-track Assistant Professor with standard research, teaching, advising, and service duties.

Post-Doc

Carnegie Mellon University, Robotics Institute (advisor: David Held)

Sept 2021 — July 2023

Pittsburgh, PA

EDUCATION

University of California, Berkeley. PhD, Computer Science. GPA: 3.90/4.00

Awarded 2021

Advised by John Canny and Ken Goldberg.

Williams College. BA, Computer Science and Mathematics (double major), GPA: 3.90/4.00

Awarded 2014

PEER-REVIEWED CONFERENCE AND JOURNAL PUBLICATIONS

A list of these publications is also available on [my Google Scholar page](#).

Asterisks (*) indicate equal first authorship, daggers (†) indicate equal non-first authorship.

- [1] Yunshuang Li, Yiyang Ling, Gaurav Sukhatme[†], and **Daniel Seita**[†]. “Learning Geometry-Aware Nonprehensile Pushing and Pulling with Dexterous Hands”. In: *Under Review* (2026).
- [2] Jason Chen, I-Chun Arthur Liu, Gaurav Sukhatme, and **Daniel Seita**. “ROPA: Synthetic Robot Pose Generation for RGB-D Data Augmentation”. In: *Under Review* (2026).
- [3] Yiyang Ling*, Karan Owalekar*, Oluwatobiloba Adesanya, Erdem Biyik, and **Daniel Seita**. “IMPACT: Intelligent Motion Planning with Acceptable Contact Trajectories via Vision-Language Models”. In: *Under Review* (2026).
- [4] Faiz Aladin, Ashwin Balasubramanian, Lars Lindemann, and **Daniel Seita**. “V-MORALS: Visual Morse Graph-Aided Discovery of Regions of Attraction in a Learned Space”. In: *Under Review* (2026).
- [5] Siddharth Srikanth, Freddie Liang, Ya-Chuan Hsu, Varun Bhatt, Shihan Zhao, Henry Chen, Bryon Tjanaka, Minjune Hwang, Akanksha Saran, **Daniel Seita**[†], Aaquib Tabrez[†], and Stefanos Nikolaidis[†]. “Red-Teaming Vision-Language-Action Models via Quality Diversity Prompt Generation for Robust Robot Policies”. In: *Under Review* (2026).
- [6] Kuanning Wang, Yongchong Gu, Yuqian Fu, Zeyu Shangguan, Sicheng He, Xiangyang Xue, Yanwei Fu, and **Daniel Seita**. “SCOOP’D: State-based Sim2Real Generative Policy for Generalizable Mixed-Liquid-Solid Scooping”. In: *Under Review* (2026).
- [7] Kuanning Wang, Ke Fan, Yuqian Fu, Siyu Lin, Hu Luo, **Daniel Seita**, Yanwei Fu, Yu-Gang Jiang, and Xiangyang Xue. “OCRA: Object-Centric Learning with 3D and Tactile Priors for Human-to-Robot Action Transfer”. In: *Under Review* (2026).
- [8] Nikita Sarawgi, Omei M. Manyar, Fan Wang, Thinh H. Nguyen, **Daniel Seita**, and Satyandra K. Gupta. “Expanding Picking Actions for Time-Efficient Online 3D Bin Packing”. In: *Under Review* (2026).
- [9] Yipeng Gao, Yunhao Ge, Peilin Cai, **Daniel Seita**, and Laurent Itti. “iArt: Towards Open-World Text-to-Articulated Objects Generation”. In: *Under Review* (2026).
- [10] Haozhe Lou, Mingtong Zhang, Haoran Geng, Hanyang Zhou, Sicheng He, Zhiyuan Gao, Siheng Zhao, Jiageng Mao, Pieter Abbeel, Jitendra Malik, **Daniel Seita**, and Yue Wang. “DREAM: A Differentiable Real-to-Sim-to-Real Framework for Dexterous Manipulation”. In: *Under Review* (2025).
- [11] I-Chun Arthur Liu, Jason Chen, Gaurav Sukhatme, and **Daniel Seita**. “D-CODA: Diffusion for Coordinated Dual-Arm Data Augmentation”. In: *Conference on Robot Learning (CoRL)* (2025).
- [12] Enyu Zhao*, Vedant Raval*, Hejia Zhang*, Jiageng Mao, Zeyu Shangguan, Stefanos Nikolaidis, Yue Wang, and **Daniel Seita**. “ManipBench: Benchmarking Vision-Language Models for Low-Level Robot Manipulation”. In: *Conference on Robot Learning (CoRL)* (2025).

- [13] Haodi Hu, Yue Wu, **Daniel Seita**[†], and Feifei Qian[†]. “Granular Loco-manipulation: Repositioning Rocks and Boulders Through Strategic Sand Avalanche using a Locomoting, Multi-legged Robot”. In: *Conference on Robot Learning (CoRL)* (2025).
- [14] Siheng Zhao*, Jiageng Mao*, Wei Chow, Zeyu Shangguan, Tianheng Shi, Rong Xue, Yuxi Zheng, Yijia Weng, Yang You, **Daniel Seita**, Leonidas Guibas, Sergey Zakharov, Vitor Campagnolo Guizilini, and Yue Wang. “Robot Learning on Any Images”. In: *Conference on Robot Learning (CoRL)* (2025).
- [15] Sicheng He, Zeyu Shangguan, Kuanning Wang, Yongchong Gu, Yuqian Fu, Yanwei Fu, and **Daniel Seita**. “Sequential Multi-Object Grasping with One Dexterous Hand”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (2025).
- [16] Hanyang Zhou*, Haozhe Lou*, Wenhao Liu*, Enyu Zhao, Yue Wang, and **Daniel Seita**. “The MOTIF Hand: A Robotic Hand for Multimodal Observations with Thermal, Inertial, and Force Sensors”. In: *International Symposium on Experimental Robotics (ISER)* (2025).
- [17] Zhonghao Shi, Enyu Zhao, Nathaniel Dennler, Jingzhen Wang, Xinyang Xu, Kaleen Shrestha, Mengxue Fu, **Daniel Seita**, and Maja Matarić. “HRI-Bench: Benchmarking Vision-Language Models for Real-Time Human Perception in Human-Robot Interaction”. In: *International Symposium on Experimental Robotics (ISER)* (2025).
- [18] Wei Chow*, Jiageng Mao*, Boyi Li, **Daniel Seita**, Vitor Guizilini, and Yue Wang. “PhysBench: Benchmarking and Enhancing Vision-Language Models for Physical World Understanding”. In: *International Conference on Learning Representations (ICLR)* (2025).
- [19] Zeyu Shangguan, **Daniel Seita**, and Mohammad Rostami. “Cross-domain Multi-modal Few-shot Object Detection via Rich Text”. In: *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)* (2025).
- [20] Hao Jiang, Yuhai Wang[†], Hanyang Zhou[†], and **Daniel Seita**. “Learning to Singulate Objects in Packed Environments using a Dexterous Hand”. In: *International Symposium of Robotics Research (ISRR)* (2024).
- [21] Vedant Raval*, Enyu Zhao*, Hejia Zhang, Stefanos Nikolaidis, and **Daniel Seita**. “GPT-Fabric: Smoothing and Folding Fabric by Leveraging Pre-Trained Foundation Models”. In: *International Symposium of Robotics Research (ISRR)* (2024).
- [22] Haodi Hu, Feifei Qian[†], and **Daniel Seita**[†]. “Learning Granular Media Avalanche Behavior for Indirectly Manipulating Obstacles on a Granular Slope”. In: *Conference on Robot Learning (CoRL)* (2024).
- [23] I-Chun Arthur Liu, Sicheng He, **Daniel Seita**[†], and Gaurav Sukhatme[†]. “VoxAct-B: Voxel-Based Acting and Stabilizing Policy for Bimanual Manipulation”. In: *Conference on Robot Learning (CoRL)* (2024).
- [24] Lawrence Yunliang Chen, Baiyu Shi, Roy Lin, **Daniel Seita**, Ayah Ahmad, Richard Cheng, Thomas Kollar, David Held, and Ken Goldberg. “Bagging by Learning to Singulate Layers Using Interactive Perception”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (2023).
- [25] Lawrence Yunliang Chen, Baiyu Shi, **Daniel Seita**, Richard Cheng, Thomas Kollar, David Held, and Ken Goldberg. “AutoBag: Learning to Open Plastic Bags and Insert Objects”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2023).
- [26] **Daniel Seita**, Yufei Wang[†], Sarthak J Shetty[†], Edward Yao Li[†], Zackory Erickson, and David Held. “ToolFlowNet: Robotic Manipulation with Tools via Predicting Tool Flow from Point Clouds”. In: *Conference on Robot Learning (CoRL)* (2022).
- [27] Sashank Tirumala*, Thomas Weng*, **Daniel Seita***, Oliver Kroemer, Zeynep Temel, and David Held. “Learning to Singulate Layers of Cloth using Tactile Feedback”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (2022).
- [28] Lawrence Yunliang Chen*, Huang Huang*, Ellen Novoseller, **Daniel Seita**, Jeffrey Ichnowski, Michael Laskey, Richard Cheng, Thomas Kollar, and Ken Goldberg. “Efficiently Learning Single-Arm Fling Motions to Smooth Garments”. In: *International Symposium of Robotics Research (ISRR)* (2022).
- [29] Minho Hwang, Jeffrey Ichnowski, Brijen Thananjeyan, **Daniel Seita**, Samuel Paradis, Danyal Fer, Thomas Low, and Ken Goldberg. “Automating Surgical Peg Transfer: Calibration with Deep Learning Can Exceed Speed, Accuracy, and Consistency of Humans”. In: *IEEE Transactions on Automation Science and Engineering (TASE)* (2022).
- [30] Vincent Lim*, Huang Huang*, Yunliang Chen, Jonathan Wang, Jeffrey Ichnowski, **Daniel Seita**, Michael Laskey, and Ken Goldberg. “Planar Robot Casting with Real2Sim2Real Self-Supervised Learning”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2022).
- [31] Ryan Hoque*, **Daniel Seita***, Ashwin Balakrishna, Aditya Ganapathi, Ajay Tanwani, Nawid Jamali, Katsu Yamane, Soshi Iba, and Ken Goldberg. “VisuoSpatial Foresight for Physical Sequential Fabric Manipulation”. In: *Autonomous Robots (AURO)* (2021).

- [32] Ryan Hoque, Ashwin Balakrishna, Carl Putterman, Michael Luo, Daniel S. Brown, **Daniel Seita**, Brijen Thananjeyan, Ellen Novoseller, and Ken Goldberg. “LazyDagger: Reducing Context Switching in Interactive Imitation Learning”. In: *IEEE Conference on Automation Science and Engineering (CASE)* (2021).
- [33] **Daniel Seita**, Pete Florence, Jonathan Tompson, Erwin Coumans, Vikas Sindhwani, Ken Goldberg, and Andy Zeng. “Learning to Rearrange Deformable Cables, Fabrics, and Bags with Goal-Conditioned Transporter Networks”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2021).
- [34] Harry Zhang, Jeff Ichnowski, **Daniel Seita**, Jonathan Wang, Huang Huang, and Ken Goldberg. “Robots of the Lost Arc: Self-Supervised Learning to Dynamically Manipulate Fixed-Endpoint Cables”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2021).
- [35] Aditya Ganapathi, Priya Sundaresan, Brijen Thananjeyan, Ashwin Balakrishna, **Daniel Seita**, Jennifer Grannen, Minh Hwang, Ryan Hoque, Joseph Gonzalez, Nawid Jamali, Katsu Yamane, Soshi Iba, and Ken Goldberg. “Learning Dense Visual Correspondences in Simulation to Smooth and Fold Real Fabrics”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2021).
- [36] Samuel Paradis, Minh Hwang, Brijen Thananjeyan, Jeffrey Ichnowski, **Daniel Seita**, Danyal Fer, Thomas Low, Joseph E. Gonzalez, and Ken Goldberg. “Intermittent Visual Servoing: Efficiently Learning Policies Robust to Instrument Changes for High-precision Surgical Manipulation”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2021).
- [37] **Daniel Seita**, Aditya Ganapathi, Ryan Hoque, Minh Hwang, Edward Cen, Ajay Kumar Tanwani, Ashwin Balakrishna, Brijen Thananjeyan, Jeffrey Ichnowski, Nawid Jamali, Katsu Yamane, Soshi Iba, John Canny, and Ken Goldberg. “Deep Imitation Learning of Sequential Fabric Smoothing From an Algorithmic Supervisor”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (2020).
- [38] Minh Hwang, Brijen Thananjeyan, Samuel Paradis, **Daniel Seita**, Jeffrey Ichnowski, Danyal Fer, Thomas Low, and Ken Goldberg. “Efficiently Calibrating Cable-Driven Surgical Robots with RGBD Fiducial Sensing and Recurrent Neural Networks”. In: *IEEE Robotics and Automation Letters (RA-L)* (2020).
- [39] Ryan Hoque*, **Daniel Seita***, Ashwin Balakrishna, Aditya Ganapathi, Ajay Tanwani, Nawid Jamali, Katsu Yamane, Soshi Iba, and Ken Goldberg. “VisuoSpatial Foresight for Multi-Step, Multi-Task Fabric Manipulation”. In: *Robotics: Science and Systems (RSS)* (2020).
- [40] Minh Hwang*, **Daniel Seita***, Brijen Thananjeyan, Jeffrey Ichnowski, Samuel Paradis, Danyal Fer, Thomas Low, and Ken Goldberg. “Applying Depth-Sensing to Automated Surgical Manipulation with a da Vinci Robot”. In: *International Symposium on Medical Robotics (ISMR)* (2020).
- [41] **Daniel Seita***, Nawid Jamali*, Michael Laskey*, Ron Berenstein, Ajay Kumar Tanwani, Prakash Baskaran, Soshi Iba, John Canny, and Ken Goldberg. “Deep Transfer Learning of Pick Points on Fabric for Robot Bed-Making”. In: *International Symposium of Robotics Research (ISRR)* (2019).
- [42] Xinlei Pan, **Daniel Seita**, Yang Gao, and John Canny. “Risk Averse Robust Adversarial Reinforcement Learning”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2019).
- [43] **Daniel Seita**, Sanjay Krishnan, Roy Fox, Stephen McKinley, John Canny, and Kenneth Goldberg. “Fast and Reliable Autonomous Surgical Debridement with Cable-Driven Robots Using a Two-Phase Calibration Procedure”. In: *IEEE International Conference on Robotics and Automation (ICRA)* (2018).
- [44] **Daniel Seita**, Xinlei Pan, Haoyu Chen, and John Canny. “An Efficient Minibatch Acceptance Test for Metropolis-Hastings”. In: *Conference on Uncertainty in Artificial Intelligence (UAI)* (2017).
- [45] **Daniel Seita**, Florian T. Pokorny, Jeffrey Mahler, Danica Kragic, Michael Franklin, John Canny, and Ken Goldberg. “Large-Scale Supervised Learning of the Grasp Robustness of Surface Patch Pairs”. In: *IEEE International Conference on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAN)* (2016).

SELECTED PEER-REVIEWED WORKSHOP PAPERS

- [46] Minjune Hwang, Yigit Korkmaz, **Daniel Seita**[†], and Erdem Biyik[†]. “Causally Robust Preference Learning with Reasons”. In: *RSS Workshop on Human-in-the-Loop Robot Learning* (2025).
- [47] Zeyu Shangquan, Rajas Chitale, Rutvik Patel, Satyandra K. Gupta, and **Daniel Seita**. “Identifying Precursors to Failures in Robotic Lift-and-Place Tasks”. In: *RSS Workshop on Out-of-Distribution Generalization in Robotics* (2025).
- [48] **Daniel Seita**, Abhinav Gopal, Zhao Mandi, and John Canny. “DCUR: Data Curriculum for Teaching via Samples with Reinforcement Learning”. In: *NeurIPS Workshop on Offline Reinforcement Learning* (2021).

- [49] **Daniel Seita**, Justin Kerr, John Canny, and Ken Goldberg. “Initial Results on Grasping and Lifting Physical Deformable Bags with a Bimanual Robot”. In: *IROS Workshop on Deformable Object Manipulation* (2021).
- [50] **Daniel Seita**, Chen Tang, Roshan Rao, David Chan, Mandi Zhao, and John Canny. “ZPD Teaching Strategies for Deep Reinforcement Learning from Demonstrations”. In: *Deep Reinforcement Learning Workshop, NeurIPS* (2019).

TEACHING AT USC

A New Course (TBD)	Fall 2026
Introduction to Robotics (CSCI 545)	Fall 2025
Robotic Manipulation (CSCI 699)	Fall 2024
Introduction to Robotics (CSCI 545)	Spring 2024
Deep Learning for Robotic Manipulation (CSCI 699)	Fall 2023

MENTORING: PHD STUDENTS (ADVISEES) AT USC

- Hao Jiang (2025-)
 - Honorable Mention, CRA Outstanding Undergraduate Research Award
 - USC Viterbi Fellow
- Kyle Hatch (2025-), co-advised with Yue Wang
 - USC Viterbi Fellow
- Tien Toan Nguyen (2025-), co-advised with Yue Wang
 - USC Viterbi Fellow
- Ayano Hiranaka (2024-), co-advised with Erdem Bıyık
 - USC Viterbi Fellow
- Minjune Hwang (2024-)
 - USC Viterbi Fellow
- Yunshuang Li (2024-), co-advised with Gaurav Sukhatme
 - USC Viterbi Fellow
- Yiyang Ling (2024-)
- Zeyu Shangguan (2024-)

MENTORING: UNDERGRADS, MASTER’S STUDENTS, AND VISITORS/VOLUNTEERS

Below, I only list students who I worked with for at least one semester or one summer; see the [lab website](#) for more details.

Name	Institution	Status	Years	Next
Min Aung Paing	UC San Diego	Ugrad (JumpStart)	2025-	
Ethan Foong	Northwestern	Undergrad (SURE)	2025-	
Aidan Parris	USC	Undergrad	2025-	
Leyaa George	USC	Undergrad	2025-	
Cole Sevier	USC	Undergrad	2025-	
Kyle Macasilli-Tan	USC	Undergrad	2025-	
Freddie Liang	USC	Undergrad	2025-	
Faiz Aladin	USC	MS ECE	2025-	
Anthony Zhang	USC	MS CS	2025-	
Michael Gu	USC	MS CS	2025-	
Zinan Li	USC	MS CS	2025-	
Ashwin Balasubramanian	USC	MS CS	2025	Google
Nikita Sarawgi	USC	MS CS	2025-	
Hanwen Fan	USC	MS CS	2025-	
Abhinav Pillai	IIT Kharagpur	Undergrad (REU)	2024	ASU, MAE PhD
Gayathri Rajesh	NIT Trichy	Undergrad (IUSSTF)	2024-2025	UC San Diego, CS MS
Ebonee Davis	MIT	Undergrad (SURE)	2024	
Rutvik Patel	USC	Volunteer	2024-2025	GrayMatter Robotics

Wenhao Liu	USC	MS EE	2024-	
Jonathan Zamora-Anaya	USC	MS CS	2024-	
Rajas Chitale	USC	MS CS	2024-	
Hanyang Zhou	USC	MS CS	2024-2025	Startup
Harshitha Rajaprakash	USC	MS CS	2024	USC, CS PhD
Karan Owalekar	USC	MS CS	2024-2025	Field AI
Vedant Raval	USC	MS CS	2023-2025	AutoX
Enyu Zhao	USC	MS CS	2023-2025	Utah, CS PhD
Charlene Yuen	USC	MS CS	2023-2025	Applied Research Associates
Anupam Patil	USC	MS CS	2023-2024	Wealth.com
Dhanush Penmetsa	USC	MS ECE	2023-2024	
Yuhai Wang	USC	MS Analytics	2023-2025	Northeastern, Civil & EE PhD
David Kim	USC	Undergrad	2024-2025	
Sam Burns	USC	Undergrad	2024-2025	
Maria Guerrero Cordoba	USC	Undergrad	2024-2025	
Letian Zhang	USC	Undergrad	2024-2025	CMU, INI MSIS
Jason Chen	USC	Undergrad	2024-	
Oluwatobiloba Adesanya	USC	Undergrad	2024-	
Jonathan Ong	USC	Undergrad	2024-	
Rida Faraz	USC	Undergrad	2024-2025	
Siddarth Rudraraju	USC	Undergrad	2024	
Anisha Chitta	USC	Undergrad	2024	
Zitong (Cynthia) Huang	USC	Undergrad	2024	
Vijay Kumaravelrajan	USC	Undergrad	2024	
Hao Jiang	USC	Undergrad	2023-2025	USC, CS PhD
Emily K. Zhu	USC	Undergrad	2023-2024	
Qian (Peter) Wang	USC	Undergrad	2023-2024	Yale, CS PhD
Ce (Chris) Wang	USC	Volunteer	2023-2024	Ambarella
Mansi Agarwal	CMU	MS Robotics	2023	Amazon
Sashank Tirumala	CMU	MS Robotics	2021-2023	AIM Intel. Machines → Waymo
Sarthak Shetty	CMU	MS MechEng	2021-2023	Path Robotics → Wayve
Edward Li	CMU	Undergrad	2021-2023	
Vincent Lim	UC Berkeley	Undergrad	2021-2022	
Baiyu Shi	UC Berkeley	Undergrad	2022-2023	Stanford, ME PhD
Zhao Mandi	UC Berkeley	Undergrad	2019-2021	Stanford, EE PhD
Abhinav Gopal	UC Berkeley	Undergrad/MS	2020-2021	Berkeley, EECS MS → Rubbrband
Harry Zhang	UC Berkeley	Undergrad	2020-2021	CMU, MS Robotics → MIT, AA/Stat PhD
Jonathan Wang	UC Berkeley	Undergrad	2020-2021	Quant Research at DRW
Samuel Paradis	UC Berkeley	Undergrad/MS	2019-2021	Google
Edward Cen	UC Berkeley	Undergrad	2019	Hudson River Trading
Aditya Ganapathi	UC Berkeley	Undergrad	2019-2021	Berkeley, EECS MS → Grabango
Ryan Hoque	UC Berkeley	Undergrad/MS	2018-2020	Berkeley, EECS PhD → Apple

RESEARCH TALKS

Data-Efficient Learning for Robot Manipulation using Augmentation and Vision-Language Models

Gwangju Institute of Science and Technology, South Korea (remote)

September 2025

National Taiwan University, Taiwan

September 2025

Bridging the Gap: High-Level VLMs and Low-Level Sensorimotor Information

Harvey Mudd College

July 2025

Schaeffler Group (remote)

June 2025

Stanford Vision Lab

May 2025

Benchmarking and Guiding Physical Reasoning in Vision-Language Models for Robotic Manipulation

[R3: Reasoning for Robust Robot Manipulation in the Open World](#) (RSS 2025 Workshop)

June 2025

Representations for Dexterous Robot Manipulation

Osaka University, Japan (Robotic Manipulation Lab)

December 2024

Kyoto University, Japan (Human-Robot Interaction Lab)	December 2024
University of California, Irvine (AI/ML Seminar)	November 2024
University of Southern California, Department Advisory Board Meeting	November 2024

Representations in Robot Manipulation: Learning to Manipulate Ropes, Fabrics, Bags, Liquids, and Plants

University of Illinois, Urbana-Champaign (CS)	April 2023
University of Toronto (CS)	April 2023
University of Southern California (CS)	April 2023
Princeton University (ECE)	April 2023
Northeastern University (CS)	March 2023
Duke University (ECE)	March 2023
University of Wisconsin, Madison (CS)	March 2023
New York University (CS/ECE)	March 2023
Columbia University (MechE)	March 2023
University of Washington	November 2022
University of Michigan	November 2022
Cornell University	October 2022
Carnegie Mellon University	September 2022

Recent Progress in Deformable Object Manipulation

Carnegie Mellon University, lab of Prof. Wenzhen Yuan	May 2022
Carnegie Mellon University, lab of Prof. Zackory Erickson	January 2022

Deformable Object Manipulation with Model-Free, Model-Based, and Transporter Network Methods

University of California, Berkeley, BAIR Seminar	April 2021
Carnegie Mellon University, lab of Prof. David Held	April 2021
Stanford University, multiple labs	April 2021
Williams College, Colloquium	April 2021
University of Toronto, AI in Robotics Seminar	March 2021
Siemens Corporation	February 2021

Object- and Action-Centric Learning

NeurIPS 2020 Robot Learning Workshop (invited to assist Research Scientist Pete Florence).	December 2020
--	---------------

WORKSHOP ORGANIZATION

Representing and Manipulating Deformable Objects	ICRA 2025
Robotic Manipulation of Deformable Objects	IROS 2024
Agile Robotics: From Perception to Dynamic Action	ICRA 2024
3D Visual Representations for Robot Manipulation	ICRA 2024
Representing and Manipulating Deformable Objects	ICRA 2024
Representing and Manipulating Deformable Objects	ICRA 2023
Representing and Manipulating Deformable Objects	ICRA 2022

RESEARCH GRANTS, SPONSORSHIP, GIFTS

- [1] **NSF Research Experiences for Undergraduates (REU):** *REU Site: Robotics and Autonomous Systems, #2447397*.
Period: 06/2025 - 08/2027.
Award: \$360,422.
Role: PI. **Other Co-PIs:** Erdem Biyik.
Purpose: To provide undergraduate researchers summer internship opportunities at USC.
- [2] **NAIRR Pilot:** *SPOT-MH: A Multi-Modal Foundation Model for Detecting Precursors to Failures in Robotic Material Handling*.
Period: 03/2025 - 03/2026.
Award: 30,000 GPU hours.
Role: PI. **Other Co-PIs:** Satyandra K. Gupta.
Purpose: To provide computational resources to train a novel foundation model.
- [3] **Industry Gifts:** OpenAI Researcher Access Program, \$6000 API credits total (\$5000 in 07/2024; \$1000 in 12/2024).
- [4] **Internal Funding at USC:** Undergraduate Research Associates Program (URAP), \$3300 for 2025-2026.

AWARDS AND HONORS

Best Industrial Robotics Research for Applications Finalist at IROS 2023.	2023
Best Paper Award at IROS 2022 ROMADO-SI Workshop .	2022
Invited to attend RSS Pioneers .	2022
Eugene L. Lawler Prize. (\$2000)	2019
Honorable Mention, Best Student Paper Award at UAI 2017. (\$500)	2017
Graduate Fellowships for STEM Diversity (GFSD) Fellowship , a 6-year fellowship for research. (\$120,000)	2015–2021
Honorable Mention, NSF Graduate Research Fellowship.	2015
Berkeley Fellowship, a 2-year fellowship awarded to selected incoming UC Berkeley students. (\$59,000)	2014–2016
Lucille B. Abt Scholarship, award by the AG Bell Association for the Deaf and Hard of Hearing. (\$7,500)	2014

UNIVERSITY OR DEPARTMENT SERVICE

- USC Robotics and Autonomous Systems Center (RASC), faculty advisor to students who run our robotics seminar and who run the blog website to promote the robotics research at USC (2024-Present)
- USC Robotics REU, organizer and mentor (Summer 2024)
- USC PhD Fellowship Committee (2024)
- Mentor for the CMU AI Mentoring Program (2021-2022)
- Primary maintainer for the [Berkeley AI Research Blog](#) (2017-2021)
- Assisted EECS faculty with reviewing PhD applications to Berkeley AI Research (2019-2020)

ACADEMIC SERVICE

- **“Shadow” Treasurer** for RSS 2026.
- **Associate Editor** for IROS 2022, IROS 2023, IROS 2024, IROS 2025, RA-L 2024, RA-L 2025, ICRA 2026.
- **Area Chair** for CoRL 2024, CoRL 2025.
- **Accessibility and Robot Demonstrations Co-Chair** for RSS 2025.
- **Registration Co-Chair** for RSS 2024.
- **Organizing Committee** for RSS Pioneers 2023.
- **Inclusion Co-Chair** for CoRL 2022 and CoRL 2023.
- **Paper Reviewing:** in the interest of full disclosure, [this webpage](#) has a complete list of my paper reviewing duties, with paper venues and the number of reviewed papers per year, for workshops, conferences, and journals.

COMMITTEES FOR OTHER STUDENTS

Below, I only list committees for students not in my lab.

Name	Institution	Committees	Dates
Jeon Ho Kang	USC (MAE)	PhD Proposal	11/2025
Varun Bhatt	USC (CS)	PhD Proposal	10/2025
Zhehui Huang	USC (CS)	PhD Proposal	10/2025
Yuming Gu	USC (CS)	PhD Proposal	09/2025
Shengqiang Chen	USC (MAE)	Qualifying Exam	06/2025
Hesam Azadjou	USC (BME)	PhD Defense	05/2025
Haodi Hu	USC (MAE)	Qualifying Exam	05/2025
Rishabh Shukla	USC (MAE)	Qualifying Exam	05/2025
Shihan Zhao	USC (CS)	Qualifying Exam	04/2025
Xiaosi (Horace) Zhang	USC (BME)	Master’s Defense	03/2025
Yiyu Chen	USC (MAE)	Qualifying Exam	03/2025
I-Chun (Arthur) Liu	USC (CS)	Qualifying Exam	03/2025
Ishika Singh	USC (CS)	Qualifying Exam, PhD Proposal	10/2024, 11/2025
Junheng Li	USC (MAE)	Qualifying Exam	10/2024
Jesse Zhang	USC (CS)	PhD Proposal	09/2024
Robby Costales	USC (CS)	Qualifying Exam, PhD Proposal	09/2024, 04/2025
Shihan Lu	USC (CS)	PhD Defense	07/2024
Grace Zhang	USC (CS)	Qualifying Exam, PhD Proposal	05/2024, 04/2025
Bingjie Tang	USC (CS)	PhD Proposal	05/2024
Romina Mir	USC (BME)	Qualifying Exam, PhD Defense	04/2024, 08/2025

David Blanco Mulero	Aalto U. (Robotics)	PhD Reviewer	12/2023
Gautam Salhotra	USC (CS)	PhD Defense	12/2023
Hejia Zhang	USC (CS)	PhD Proposal, PhD Defense	11/2023, 04/2024
Jeremy Morgan	USC (CS)	Qualifying Exam	11/2023

TEACHING AND GUEST LECTURES (PRIOR TO USC)

Guest lecture on deep Q-learning, Statistical Techniques for Robotics (CMU, CS 16-831), Prof. David Held	Fall 2022
Guest lecture on deep RL (National University of Singapore, CS5260), Prof. Yang You	Spring 2022
Guest lecture on imitation learning, Deep Reinforcement Learning (CMU, CS 10-703), Prof. Katerina Fragkiadaki	Fall 2021
Guest lecture on policy gradients, Statistical Techniques for Robotics (CMU, CS 16-831), Prof. David Held	Fall 2021
TA for Designing, Visualizing, & Understanding Deep Neural Networks (Berkeley, CS 182/282A), Prof. John Canny	Spring 2019
TA for Designing, Visualizing, & Understanding Deep Neural Networks (Berkeley, CS 182/282A), Prof. John Canny	Fall 2016

OTHER TALKS AND OUTREACH

- (04/2022) Panelist speaker for a Exploring Computing and Information Sciences/Technology for Deaf and Hard-of-Hearing, hosted by the University of Washington and Gallaudet University.
- (02/2021) Panelist speaker for a “Society, Robots and Us” conversation, on people with disabilities and robots.
- (02/2021) Panelist speaker for Explore Computer Science Research Workshop, hosted by Gallaudet University.
- (01/2021) Panelist speaker for the OurCS@UW+AccessComputing discussion on managing disability access in academia/work.

WORK EXPERIENCE (PRIOR TO FINISHING PHD)

Research Intern **May 2020 — Sept 2020**
Google New York City, NY (Virtual)

- Worked in the Google AI robotics team, hosted by Research Scientist Andy Zeng. My project was on robot manipulation using simulators and machine learning for deformable object manipulation.

Research Intern **May 2016 — Aug 2016**
National Security Agency Laurel, MD

- Worked on a research project to utilize reinforcement learning agents for the problem of computer network defense.

Consultant **May 2015 — Aug 2015**
Rochester Institute of Technology Rochester, NY (Virtual)

- Worked as a consultant for an REU at RIT which focused on technology accessibility research for people with disabilities, and provided feedback on students’ research progress. REU supervisor: Prof. Raja Kushalnagar.

OTHER INFORMATION

- Passed my one hour qualifying oral exam (04/2018), to become officially a “PhD candidate.” Committee members: John Canny, Ken Goldberg, Sergey Levine, and Masayoshi Tomizuka.
- Achieved second highest score of 8.25/10, out of 12 Ph.D. students taking the Berkeley AI preliminary oral exams (08/2015).
- Born deaf, can speak in English and am fluent in American Sign Language.
- Born in Niskayuna, New York (United States citizen).