

# Zackory Erickson

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Carnegie Mellon University  
Robotics Institute  
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Pittsburgh, PA 15213

## Current Positions

**Assistant Professor**, Carnegie Mellon University, Robotics Institute  
Courtesy appointment: Biomedical Engineering  
Sept 2021–present

## Education

**Ph.D., Robotics** 2016–2021  
Georgia Institute of Technology  
Advisor: Charles C. Kemp

**M.S., Computer Science** 2020  
Georgia Institute of Technology  
Advisor: Charles C. Kemp

**B.S., Computer Science, Mathematics (double major)** 2012–2016  
University of Wisconsin–La Crosse

## Honors and Awards

**Best Paper Finalist**, ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2025  
*“LAMS: LLM-Driven Automatic Mode Switching for Assistive Teleoperation”*

**OSCAR Scholar**, University of Pittsburgh, Alzheimer’s Disease Research Center (ADRC) 2024

**Best Paper Award**, ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2024  
*“Independence in the Home: A Wearable Interface for a Person with Quadriplegia to Teleoperate a Mobile Manipulator”*

**Best Poster Award**, CMU Mechanical Engineering Research Symposium 2024  
*“Extended Kalman Filter for Real-Time State Estimation of Cloth for Robot Manipulation”*

**NVIDIA Academic Hardware Grant** 2022  
*“Adapting to Distribution Shift in Deformable Manipulation with Assistive Robots”*

**NVIDIA Fellowship Finalist** 2020

**Best Student Paper Award**, IEEE International Conference on Rehabilitation Robotics (ICORR) 2019  
*“Multidimensional Capacitive Sensing for Robot-Assisted Dressing and Bathing”*

**Best Paper Award in Service Robotics Finalist**, IEEE ICRA 2019  
*“Classification of Household Materials via Spectroscopy”*

**President’s Fellowship**, Georgia Tech 2016–2020

**4th Heidelberg Laureate Forum** 2016

**Honorable Mention**, NSF GRFP 2016

**Strzelczyk Award** 2016  
Awarded to the top graduating senior in the College of Science and Health for academic achievement and service to the campus and community.

<b>MIT CONVERGE</b>	2015
One of 18 prospective PhD students in the nation invited to tour MIT.	
<b>Berkeley Engineering Preview Days</b>	2015
One of 14 prospective PhD students nationwide invited to tour UC Berkeley.	
<b>Grace Olwell Memorial Endowment Fund Scholarship</b>	2015
<b>Xcel Energy Scholarship</b>	2015
<b>John and Lois Storlie Scholarship in Computer Science</b>	2014
<b>Undergraduate Research Grant, UW–La Crosse</b>	2013
<b>Scottish Rite Abbott Scholarship</b>	2013
<b>Dean’s List, UW–La Crosse</b>	8 semesters

## Mentoring

### *PhD Students*

<b>Junxiang (Jim) Wang, CMU, RI</b>	2024–
<b>Zheyuan Hu, CMU, RI (co-advised with Aviral Kumar)</b>	2024–
<b>Hongyi Chen, CMU, RI (co-advised with Jeffrey Ichnowski)</b>	2024–
<b>Kavya Puthuveetil, CMU, RI (co-advised with Reid Simmons)</b>	2022–
<b>Zulekha Karachiwalla, CMU, RI (co-advised with Henny Admoni)</b>	2022–
<b>Je-Han Yang, CMU, BME (co-advised with Douglas Weber)</b>	2022–
<b>Yufei Wang, CMU, RI (co-advised with David Held)</b>	2021–
<b>Akhil Padmanabha, CMU, RI (co-advised with Carmel Majidi)</b>	2021–2025
Current: Meta	

### *M.S. Students*

<b>Alexis Hao, CMU, RI</b>	2024–
<b>Tiancheng (Tony) Wu, CMU, RI</b>	2024–
<b>Mino Nakura, CMU, RI</b>	2024–
<b>Pratik Bhowal, CMU, RI</b>	2024–
<b>Divyam Goel, CMU, RI</b>	2024–
<b>Xinwen Xu, CMU, MechE</b>	2024–
<b>Aditi Guruprasad, University of Pittsburgh, Bioengineering</b>	2024–2025
<b>Jing Gao, CMU, RI</b>	2024–2025
<b>Zoe LaLena, CMU, RI</b>	2024–2025
<b>Yatharth Ahuja, CMU, RI</b>	2023–2024
<b>Yiran Tao, CMU, RI</b>	2023–2025
Current: PhD Student at MIT	

<b>Michaela Tecson</b> , CMU, RI	2023–
<b>Tariq Hussain</b> , CMU, MechE	2023–2025
<b>Yexin Hu</b> , CMU, CEE Current: PhD Student at TU Wien	2023–2025
<b>Abhishek Tandon</b> , CMU, RI Current: Adobe	2023–2024
<b>Anujraaj (Argo) Goyal</b> , CMU, RI Current: Snapchat	2023–2024
<b>Zhanyi Sun</b> , CMU, RI Current: PhD Student at Stanford	2023–2024
<b>MRSD Project: Operating room logistics</b> , CMU, RI Students: Gaurav Sethia, Jinkai Qiu, Roman Kaufman, Tanmay Agarwal, Yungjun Kim, Siddharth Ghodasara	2023–
<b>Sankalp Chopkar</b> , CMU, RI	2022–2024
<b>Atharva Kusalkar</b> , CMU, RI	2022–2024
<b>Saurav Kambil</b> , CMU, MechE	2022–2024
<b>Zilin Zhang</b> , CMU, RI	2022–2024
<b>MRSD Project: Auxilio</b> , CMU, RI Students: Shaolin Kataria, Shivam Tripathy, Praveen Venkatesh, Abhinav Gupta, Atharva Pusalkar	2022–2023
<b>Fukang Liu</b> , CMU, MechE Current: PhD Student at Georgia Tech	2021–2023
<b>Vaidehi Patil</b> , CMU, RI	2021–2022
<b>MRSD Project: TouRI</b> , CMU, RI Students: Shivani Sivakumar, Jashkumar Diyora, Shruti Gangopadhyay, Prakhar Pradeep, Jigarkumar Patel	2021–2022
<b>Pratyusha Karnati</b> , Georgia Tech, CS Current: Google X Robotics	2020–2021
<b>Yijun (Esther) Gu</b> , Georgia Tech, CS Current: PhD Student at Imperial College London	2019–2021

### ***Undergraduate Students***

<b>Divya Gupta</b> , CMU, CS	2024–
<b>Vivianna Lieu</b> , CMU, CS	2024–
<b>Annika Srinivasan</b> , UIUC, MechE	2024–
<b>Cindy Sun</b> , CMU, MechE	2024–
<b>Victoria de Leon</b> , ITESM, Robotics	2024–
<b>Tanisha Mehta</b> , CMU, ECE, CS	2024–
<b>Catherine Li</b> , CMU, CS	2024–
<b>Navin Sriram</b> , Indian Institute of Technology Madras, CS	2024–
<b>Sreyas Venkataraman</b> , Indian Institute of Technology, Kharagpur, CS	2024–
<b>Ziyu Wang</b> , Tsinghua University, IIIS	2024–

<b>Bharath Hegde</b> , BITS Pilani University, CS	2024–
<b>Zhenghao (Cary) Jin</b> , CMU, ECE	2024–
<b>Glenda Tan</b> , CMU, CS	2024–
<b>Jessica Han</b> , CMU, CS	2024–
<b>Ryan Ding</b> , CMU, CS	2024–
<b>Pranavi Kondapalli</b> , CMU, CS	2024–
<b>Maxwell Soh</b> , CMU, CS	2023–
<b>Ellen Lee</b> , CMU, CS	2023–
<b>Weikang Wan</b> , Peking University, CS	2023–2024
<b>Chen Chen</b> , Tsinghua University, CS	2023–
<b>Janavi Gupta</b> , CMU, CS	2023–
<b>Sumayya Syeda</b> , CMU, CIT	2023–
<b>Preethi Krishnamoorthy</b> , CMU, CS	2023–
<b>Jessie Yuan</b> , CMU, CS	2023–
<b>Madeliene Brutin</b> , CMU, CS	2023–2024
<b>Kendra Givens</b> , Middle Tennessee State University (NSF REU, RISS), CS	2023–2024
<b>Alexandra Gillespie</b> , Colby College (NSF REU, RISS), CS	2023–2024
<b>Yikang (Bruce) Cheng</b> , CMU, CS	2022–2023
<b>Jacob Delgado-López</b> , University of Puerto Rico (NSF REU, RISS), CS Current: PhD student at JHU	2022
<b>Wesley Lewis</b> , University of Virginia (NSF REU, RISS), CS	2022–2024
<b>Allen Zheng</b> , CMU, CS	2022–2024
<b>Qin (Alicia) Wang</b> , CMU, CS	2022–2023
<b>Daphne Han</b> , CMU, CB	2022
<b>Alexandra (Sasha) Wald</b> , CMU, CS	2021–2024
<b>Kavya Puthuveetil</b> , Virginia Commonwealth University (NSF REU), BME	2021–2022
<b>Samantha Mutiti</b> , Georgia Tech, BME	2021
<b>Holden Schaffer</b> , Georgia Tech, CS	2020–2021
<b>Siyang (Sylvia) Li</b> , Georgia Tech, CS	2018–2019
<b>Jiaqi (Julia) Chen</b> , Georgia Tech, CS Current: PhD Student at ETH Zurich	2018
<b>Katelyn Sosnowski</b> , University of Arizona (NSF REU), BME Current: BME PhD Student at University of Arizona	2018
<b>Mallak Taleb</b> , University of Michigan (NSF REU), BME	2018
<b>Bharat Srirangam</b> , Georgia Tech, CS Current: Woot, Inc.	2018–2020

<b>Eliot Xing</b> , Georgia Tech, CE	2017–2022
<b>Vamsee Gangaram</b> , Georgia Tech, CS Current: Microsoft	2017–2020
<b>Jong Hwa (Austin) Jang</b> , Georgia Tech, CS	2017–2018
<b>Maggie Collier</b> , University of Alabama at Birmingham (NSF REU), BME Current: Robotics PhD student at CMU, NDSEG fellow	2017
<b>Nathan Luskey</b> , Georgia Tech, BME Current: MSCS student at CMU	2017–2018

## Teaching

<b>16-467: Introduction to Human-Robot Interaction</b> , CMU	Spring 2025
<b>16-762: Mobile Manipulation</b> , CMU	Spring 2024
<b>16-741: Mechanics of Manipulation</b> , CMU	Fall 2022–2025
<b>16-887: Robotic Caregivers and Intelligent Physical Collaboration</b> , CMU	Spring 2022–2023
<b>Robotic Caregivers (BMED 4833/8813)</b> , Co-instructor, Georgia Tech	Spring 2021
<b>Robotic Caregivers (BMED 4803/8813)</b> , Co-developer and instructor, Georgia Tech	Spring 2020

## Invited Talks

<b><i>Robot Learning and Wearable Interfaces in Pursuit of Robotic Caregivers</i></b> University of Texas at Austin	2024
<b><i>Robot Learning, Wearable Sensing, and Teleoperation in Pursuit of Robotic Caregivers</i></b> 16-761: Mobile Robotics, CMU	2024
CMU RI Seminar	2023
RISS RoboLaunch	2023
Northeastern University	2023
University of Utah	2023
University of Illinois Urbana-Champaign	2023
<b><i>My Journey to Professor</i></b> Robotics Institute Summer Scholars Seminar, CMU	2023
<b><i>Robotics and Artificial Intelligence in Healthcare and Opportunities for Innovation</i></b> Clinical Impact Symposia, BrightSpring Health Services	2023
<b><i>Capacitive Servoing and Spectroscopy for Physically Assistive Robotics</i></b> 16-722: Sensing and Sensors, CMU	2022
<b><i>Haptic Perspective-taking from Vision and Force</i></b> CMU RI Seminar	2022
<b><i>Capacitive Proximity Servoing for Physically Assistive Robotics</i></b> Close Proximity Human-Robot Collaboration, RSS	2022
<b><i>Robotic Caregiving and Human Interaction</i></b> 24-675: Humanoid Robotics and Cognition, CMU	2022
16-311: Introduction to Robotics, CMU	2022
05-899: Special Topics in HCI: Accessibility, CMU	2021
<b><i>Capacitive Servoing for Physically Assistive Robotics</i></b>	

4th Workshop on Proximity Perception in Robotics, IROS	2021
<b><i>Robotic Caregivers—Sensing, Simulation, and Physical Human-Robot Interaction</i></b>	
Carnegie Mellon University	2021
University of Pennsylvania	2021
<b><i>Physics-based Cloth Simulation and Learning Towards Robotic Caregiving</i></b>	
Workshop on Representing and Manipulating Deformable Objects, ICRA	2021
<b><i>Robotic Caregivers—Recent Advances in Physics-based Simulation</i></b>	
Medical Robotics Club, Georgia Tech	2021
<b><i>Robot-Assisted Dressing</i></b>	
Workshop on Smart and Robotic Homes, RESNA	2018
<b><i>Multimodal Anomaly Detection</i></b>	
Mathematics Colloquium, UW–La Crosse	2015

## Academic Service

<b>Workshop Organizer</b> — IROS, Robotic MANipulation of Deformable Objects (ROMADO)	2025
<b>Area Chair</b> — Robotics: Science and Systems (RSS)	2025
<b>Workshop Organizer</b> — HRI, Enhancing Independence with Physical Caregiving Robots	2025
<b>Workshop Organizer</b> — RSS, Learning for Assistive Robotics	2024
<b>Faculty Senate</b> — CMU, representing the Robotics Institute	2024–
<b>Advisory board</b> — University of Wisconsin–La Crosse, Computer Science Department	2024–
<b>Panelist</b> — HRI, Workshop on HRI for Aging in Place	2024
<b>Workshop Organizer</b> — ICRA, Exploring Role Allocation in Human-Robot Co-Manipulation	2024
<b>Associate Editor</b> — IEEE Robotics and Automation Letters (RA-L)	2023–
Manipulation and Grasping	
<b>NSF AI-CARING Arena Lead</b> — NSF AI Institute	2023–
Arena on AI for Interactive Coaches and Services	
<b>Virtual Experience Chair</b> — Conference on Robot Learning (CoRL)	2023
<b>Seminar and Panel Organizer</b> , Life as a Professor, CMU	2023–
Semesterly seminar where a panel of CMU faculty discuss their perspectives on becoming and being a professor for graduate students interested in the academic career path	
<b>Special Session Organizer</b> — RO-MAN, Special Session on Human-Agent/Robot Interaction in Health-care and Medicine	2023
<b>Workshop Organizer</b> — ICRA, Emerging paradigms for assistive robotic manipulation: from research labs to the real world	2023
<b>PhD Admissions Committee</b> — CMU, Robotics Institute	2022–
<b>Chair</b> — IROS 2022 session on Art and Entertainment and Manipulation	2022
<b>Co-Chair</b> — ICRA 2022 session on Physical HRI	2022
<b>Area Chair</b> — Conference on Robot Learning (CoRL)	2022–2023
<b>Workshop Organizer</b> — IROS, 5th Workshop on Proximity Perception - Towards Next-Generation Multi-Modal Sensing in Soft Structures	2022

**Carnegie Mellon University**

PhD Admissions Committee Co-Chair	2024–
PhD Admissions Committee	2023–
Organized Seminar Series, Life as a Professor	2023–

**Associate Editor**

IEEE Conference on Robot and Human Interactive Communication (RO-MAN)	2021, 2022
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**Reviewer**

T-RO, ICRA, IROS, RA-L, CoRL, Humanoids, HRI, Sensors, RO-MAN, Science Robotics, RSS Pioneers

**Workshop Organizer** — ICRA, Learning for Caregiving Robots 2021

**Seminar Organizer**, Georgia Tech

Life as a Professor: Student Advising and Recruiting	2020
Life as a Professor: Funding 101	2019
Life as a Professor: Starting a Start-Up	2018

**Panelist**

Graduate Intro to Robotics Research, Georgia Tech	2018
Summer Undergraduate Research Experience (SURE) Program, Georgia Tech	2017–2019

**RoboGrads** (robotics graduate student organization), Georgia Tech

Vice President for Robotics PhD	2019–2020
President	2018–2019

**Student Thesis Committees**

Caleb Escobedo, CU Boulder, PhD	2024–
Christian Berger, CMU, MSR	2024
Christopher Chang, CMU, MSR	2024
Zhiyang (Jerry) He, UC Berkeley, PhD	2023–

**Student Qualifying Exam Committees**

Maggie Collier, CMU, PhD	2024
Ruixuan Liu, CMU, PhD	2023

**Outreach**

**AI Scholars**, Co-organizer, CMU 2023–

Each summer, AIS provides 30+ rising high school seniors who have historically been excluded from STEM fields the opportunity to explore artificial intelligence through 4 weeks of courses and hands-on projects with Carnegie Mellon faculty, staff, and researchers.

**AI4ALL**, Co-organizer, CMU 2022

**RoboGrads**, Vice President of Outreach, Georgia Tech 2017–2018

Organized K-12 outreach events for over 30 robotics labs at Georgia Tech

**Biomedical Robotics Club**, Mentor, Georgia Tech 2016–2019

Mentoring over 50 undergraduate students in how to research and build assistive devices and robots for people with impairments.

**FIRST Lego League**, Judge 2015–2021

**CS Outreach & Diversity Club**, UW–La Crosse 2015–2016

Organizing CS and robotics events for K-12 students.

**FIRST Robotics**, Mentor, Central High School and Holmen High School 2012–2016

## Peer-Reviewed Publications (Conferences and Journals)

- [1] **Geometric Red-Teaming for Robotic Manipulation**  
*Conference on Robot Learning (CoRL)*, 2025  
Divyam Goel, Yufei Wang, Tiancheng Wu, Helen Qiao, Pavel Piliptchak, David Held<sup>†</sup>, Zackory Erickson<sup>†</sup>
- [2] **Force-Modulated Visual Policy for Robot-Assisted Dressing with Arm Motions**  
*Conference on Robot Learning (CoRL)*, 2025  
Alexis Yihong Hao, Yufei Wang, Navin Sriram Ravie, Bharath Hegde, David Held<sup>†</sup>, Zackory Erickson<sup>†</sup>
- [3] **CoRI: Synthesizing Communication of Robot Intent for Physical Human-Robot Interaction**  
*Conference on Robot Learning (CoRL)*, 2025  
Junxiang Wang, Emek Barış Küçüktabak, Rana Soltani Zarrin, Zackory Erickson
- [4] **Incremental Learning for Robot Shared Autonomy**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025  
Yiran Tao, Guixiu Qiao, Dan Ding, Zackory Erickson
- [5] **Real-World Offline Reinforcement Learning from Vision Language Model Feedback**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025  
Sreyas Venkataraman\*, Yufei Wang\*, Ziyu Wang, Navin Sriram Ravie, Zackory Erickson<sup>†</sup>, David Held<sup>†</sup>
- [6] **SkinGrip: An Adaptive Soft Robotic Manipulator with Capacitive Sensing for Whole-Limb Bed Bathing Assistance**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025  
Fukang Liu, Kavya Puthuveetil, Akhil Padmanabha, Karan Khokar, Zeynep Temel, Zackory Erickson
- [7] **RoboCAP: Robotic Classification and Precision Pouring of Diverse Liquids and Granular Media with Capacitive Sensing**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025  
Yexin Hu\*, Alexandra Gillespie\*, Akhil Padmanabha, Kavya Puthuveetil, Wesley Lewis, Karan Khokar, Zackory Erickson
- [8] **ArticuBot: Learning Universal Articulated Object Manipulation Policy via Large Scale Simulation**  
*Robotics Science and Systems (RSS)*, 2025  
Yufei Wang\*, Ziyu Wang\*, Mino Nakura, Pratik Bhowal, Chia-Liang Kuo, Yi-Ting Chen, Zackory Erickson<sup>†</sup>, David Held<sup>†</sup>
- [9] **High-density Electromyography for Effective Gesture-based Control of Physically Assistive Mobile Manipulators**  
*npj Robotics*, 2025  
Jehan Yang, Kent Shibata, Douglas Weber, Zackory Erickson
- [10] **LAMS: LLM-Driven Automatic Mode Switching for Assistive Teleoperation**  
*ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2025 (Best Paper finalist)  
Yiran Tao\*, Jehan Yang\*, Dan Ding, Zackory Erickson
- [11] **EMGBench: Benchmarking Out-of-Distribution Generalization and Adaptation for Electromyography**  
*Advances in neural information processing systems (NeurIPS)*, 2024  
Jehan Yang, Maxwell Soh, Viviana Lieu, Douglas J Weber, Zackory Erickson
- [12] **VoicePilot: Harnessing LLMs as Speech Interfaces for Physically Assistive Robots**  
*ACM Symposium on User Interface Software and Technology (UIST)*, 2024  
Akhil Padmanabha\*, Jessie Yuan\*, Janavi Gupta, Zulekha Karachiwalla, Carmel Majidi, Henny Admoni, Zackory Erickson
- [13] **DiffTORI: Differentiable Trajectory Optimization for Deep Reinforcement and Imitation Learning**



- Advances in neural information processing systems (NeurIPS)*, 2024 (**Spotlight Presentation**)  
Weikang Wan\*, Ziyu Wang\*, Yufei Wang\*, Zackory Erickson†, David Held†
- [14] **RoboGen: Towards Unleashing Infinite Data for Automated Robot Learning via Generative Simulation**  
*International Conference on Machine Learning (ICML)*, 2024  
Yufei Wang\*, Zhou Xian\*, Feng Chen\*, Tsun-Hsuan Wang, Yian Wang, Katerina Fragkiadaki, Zackory Erickson, David Held, Chuang Gan
  - [15] **RL-VLM-F: Reinforcement Learning from Vision Language Foundation Model Feedback**  
*International Conference on Machine Learning (ICML)*, 2024  
Yufei Wang\*, Zhanyi Sun\*, Jesse Zhang, Zhou Xian, Erdem Bıyık, David Held†, Zackory Erickson†
  - [16] **Do Mistakes Matter? Comparing Trust Responses of Different Age Groups to Errors Made by Physically Assistive Robots**  
*IEEE International Conference on Robot and Human Interactive Communication (ROMAN)*, 2024  
Sasha Wald\*, Kavya Puthuveetil\*, Zackory Erickson
  - [17] **Unfolding the literature: A review of robotic cloth manipulation**  
*Annual Review of Control, Robotics, and Autonomous Systems*, 2024  
Alberta Longhini, Yufei Wang, Irene Garcia-Camacho, David Blanco-Mulero, Marco Moletta, Michael Welle, Guillem Alenyà, Hang Yin, Zackory Erickson, David Held, Júlia Borràs, Danica Kragic
  - [18] **AdaFold: Adapting Folding Trajectories of Cloths via Feedback-Loop Manipulation**  
*IEEE Robotics and Automation Letters (RA-L)*, 2024  
Alberta Longhini, Michael C. Welle, Zackory Erickson, Danica Kragic
  - [19] **BodyMAP-Jointly Predicting Body Mesh and 3D Applied Pressure Map for People in Bed**  
*IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024  
Abhishek Tandon\*, Anujraaj Goyal\*, Henry M Clever, Zackory Erickson
  - [20] **Force Constrained Visual Policy: Safe Robot-Assisted Dressing via Multi-Modal Sensing**  
*IEEE Robotics and Automation Letter (RA-L)*, 2024  
Zhanyi Sun\*, Yufei Wang\*, David Held†, Zackory Erickson†
  - [21] **Independence in the Home: A Wearable Interface for a Person with Quadriplegia to Teleoperate a Mobile Manipulator**  
*ACM/IEEE International Conference on Human Robot Interaction (HRI)*, 2024 (**Best Paper Award**)  
Akhil Padmanabha, Janavi Gupta, Chen Chen, Jehan Yang, Vy Nguyen, Douglas J Weber, Carmel Majidi, Zackory Erickson
  - [22] **Quantifying Assistive Robustness Via the Natural-Adversarial Frontier**  
*Conference on Robot Learning (CoRL)*, 2023  
Jerry Zhi-Yang He, Daniel S Brown, Zackory Erickson, Anca Dragan
  - [23] **A Multimodal Sensing Ring for Quantification of Scratch Intensity**  
*Nature Communications Medicine*, 2023  
Akhil Padmanabha, Sonal Choudhary, Carmel Majidi, Zackory Erickson
  - [24] **Robust Body Exposure (RoBE): A Graph-based Dynamics Modeling Approach to Manipulating Blankets over People**  
*IEEE Robotics and Automation Letters (RA-L)*, 2023  
Kavya Puthuveetil, Sasha Wald, Atharva Pusalkar, Pratyusha Karnati, and Zackory Erickson
  - [25] **One Policy to Dress Them All: Learning to Dress People with Diverse Poses and Garments**  
*Robotics Science and Systems (RSS)*, 2023  
Yufei Wang, Zhanyi Sun, Zackory Erickson†, David Held†
  - [26] **HAT: Head-Worn Assistive Teleoperation of Mobile Manipulators**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2023

- Akhil Padmanabha\*, Qin Wang\*, Daphne Han, Jashkumar Diyora, Kriti Kacker, Hamza Khalid, Liang-Jung Chen, Carmel Majidi, Zackory Erickson
- [27] **SLURP! Spectroscopy of Liquids Using Robot Pre-Touch Sensing**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2023  
 Nathaniel Hanson\*, Wesley Lewis\*, Kavya Puthuveetil, Donelle Furline Jr, Akhil Padmanabha, Taskin Padir, Zackory Erickson
  - [28] **EDO-Net: Learning Elastic Properties of Deformable Objects from Graph Dynamics**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2023  
 Alberta Longhini\*, Marco Moletta\*, Alfredo Reichlin, Michael C. Welle, David Held, Zackory Erickson, Danica Kragic
  - [29] **Elastic Context: Encoding Elasticity for Data-driven Models of Textiles**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2023  
 Alberta Longhini, Marco Moletta, Alfredo Reichlin, Michael C. Welle, Alexander Kravberg, Yufei Wang, David Held, Zackory Erickson, Danica Kragic
  - [30] **A Study of Causal Confusion in Preference-Based Reward Learning**  
*International Conference on Learning Representations (ICLR)*, 2023  
 Jeremy Tien, Jerry Zhi-Yang He, Zackory Erickson, Anca D. Dragan, Daniel S. Brown
  - [31] **ToolFlowNet: Robotic Manipulation with Tools via Predicting Tool Flow from Point Clouds**  
*Conference on Robot Learning (CoRL)*, 2022  
 Daniel Seita, Yufei Wang, Edward Yao Li, Sarthak J Shetty, Zackory Erickson, and David Held
  - [32] **Learning Representations that Enable Generalization in Assistive Tasks**  
*Conference on Robot Learning (CoRL)*, 2022  
 Jerry Zhi-Yang He, Zackory Erickson, Daniel S. Brown, Aditi Raghunathan, and Anca Dragan
  - [33] **Characterization of a Meso-Scale Wearable Robot for Bathing Assistance**  
*IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2022  
 Fukang Liu, Vaidehi Patil, Zackory Erickson, and Zeynep Temel
  - [34] **Visual Haptic Reasoning: Estimating Contact Forces by Observing Deformable Object Interactions**  
*IEEE Robotics and Automation Letters (RA-L)*, 2022  
 Yufei Wang, David Held, and Zackory Erickson
  - [35] **CapSense: A Real-Time Capacitive Sensor Simulation Framework for Physical Human-Robot Interaction**  
*IEEE Robotics and Automation Letters (RA-L)*, 2022  
 Christian Schöffmann, Zackory Erickson, and Hubert Zangl
  - [36] **Bodies Uncovered: Learning to Manipulate Real Blankets Around People via Physics Simulations**  
*IEEE Robotics and Automation Letters (RA-L)*, 2022  
 Kavya Puthuveetil, Charles C. Kemp, and Zackory Erickson
  - [37] **Characterizing Multidimensional Capacitive Servoing for Physical Human-Robot Interaction**  
*IEEE Transactions on Robotics (T-RO)*, 2022  
 Zackory Erickson, Henry M. Clever, Vamsee Gangaram, Eliot Xing, Greg Turk, C. Karen Liu, and Charles C. Kemp
  - [38] **Assistive VR Gym: Interactions with Real People to Improve Virtual Assistive Robots**  
*IEEE Conference on Robot and Human Interactive Communication (RO-MAN)*, 2020  
 Zackory Erickson\*, Yijun Gu\*, and Charles C. Kemp

- [39] **Multimodal Material Classification for Robots using Spectroscopy and High Resolution Texture Imaging**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2020  
 Zackory Erickson, Eliot Xing, Bharat Srirangam, Sonia Chernova, and Charles C. Kemp
- [40] **Bodies at Rest: 3D Human Pose and Shape Estimation from a Pressure Image using Synthetic Data**  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020 (Oral)  
 Henry M. Clever, Zackory Erickson, Ariel Kapusta, Greg Turk, C. Karen Liu, and Charles C. Kemp
- [41] **Assistive Gym: A Physics Simulation Framework for Assistive Robotics**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2020  
 Zackory Erickson, Vamsee Gangaram, Ariel Kapusta, C. Karen Liu, and Charles C. Kemp
- [42] **Learning to Collaborate from Simulation for Robot-Assisted Dressing**  
*IEEE Robotics and Automation Letters (RA-L)*, 2020  
 Alexander Clegg, Zackory Erickson, Patrick Grady, Greg Turk, Charles C. Kemp, and C. Karen Liu
- [43] **Active Robot-Assisted Feeding with a General-Purpose Mobile Manipulator: Design, Evaluation, and Lessons Learned**  
*Robotics and Autonomous Systems*, 2020  
 Daehyung Park, Yuuna Hoshi, Harshal P. Mahajan, Ho Keun Kim, Zackory Erickson, Wendy A. Rogers, Charles C. Kemp
- [44] **Multidimensional Capacitive Sensing for Robot-Assisted Dressing and Bathing**  
*IEEE International Conference on Rehabilitation Robotics (ICORR)*, 2019 (Best Student Paper)  
 Zackory Erickson, Henry M. Clever, Vamsee Gangaram, Greg Turk, C. Karen Liu, and Charles C. Kemp
- [45] **Classification of Household Materials via Spectroscopy**  
*IEEE Robotics and Automation Letters (RA-L)*, 2019 (Best Paper Award in Service Robotics Finalist at ICRA 2019)  
 Zackory Erickson, Nathan Luskey, Sonia Chernova, and Charles C. Kemp
- [46] **Personalized Collaborative Plans for Robot-Assisted Dressing via Optimization and Simulation**  
*Autonomous Robots*, 2019  
 Ariel Kapusta, Zackory Erickson, Henry M. Clever, Wenhao Yu, C. Karen Liu, Greg Turk, and Charles C. Kemp
- [47] **Autonomous Tool Construction Using Part Shape and Attachment Prediction**  
*Robotics: Science and Systems (RSS)*, 2019  
 Lakshmi Nair, Nithin Srikanth, Zackory Erickson, Sonia Chernova
- [48] **Deep Haptic Model Predictive Control for Robot-Assisted Dressing**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2018  
 Zackory Erickson, Henry M. Clever, Greg Turk, C. Karen Liu, and Charles C. Kemp
- [49] **Tracking Human Pose During Robot-Assisted Dressing using Single-Axis Capacitive Proximity Sensing**  
*IEEE Robotics and Automation Letters (RA-L)*, 2018  
 Zackory Erickson, Maggie Collier, Ariel Kapusta, and Charles C. Kemp
- [50] **3D Human Pose Estimation on a Configurable Bed from a Pressure Image**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2018  
 Henry M. Clever, Ariel Kapusta, Daehyung Park, Zackory Erickson, Yash Chitalia, Charles C. Kemp
- [51] **Semi-Supervised Haptic Material Recognition for Robots using Generative Adversarial Networks**  
*Conference on Robot Learning (CoRL)*, 2017  
 Zackory Erickson, Sonia Chernova, and Charles C. Kemp

- [52] **What Does the Person Feel? Learning to Infer Applied Forces During Robot-Assisted Dressing**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2017  
 Zackory Erickson, Alexander Clegg, Wenhao Yu, Greg Turk, C. Karen Liu, and Charles C. Kemp
- [53] **Learning to Navigate Cloth using Haptics**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017  
 Alexander Clegg, Wenhao Yu, Zackory Erickson, C. Karen Liu, and Greg Turk
- [54] **A Multimodal Execution Monitor with Anomaly Classification for Robot-Assisted Feeding**  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017  
 Daehyung Park, Hokeun Kim, Yuuna Hoshi, Zackory Erickson, Ariel Kapusta, and Charles C. Kemp
- [55] **Multimodal Execution Monitoring for Anomaly Detection During Robot Manipulation**  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2016  
 Daehyung Park, Zackory Erickson, Tapomayukh Bhattacharjee, and Charles C. Kemp

## Workshop Papers

- [1] **Towards Wearable Interfaces for Robotic Caregiving**  
*HRI 2025: Workshop on Physical Caregiving Robots*, 2025  
 Akhil Padmanabha, Carmel Majidi, Zackory Erickson
- [2] **Towards an LLM-Based Speech Interface for Robot-Assisted Feeding**  
*UIST 2024 demo track: Symposium on User Interface Software and Technology*, 2024  
 Jessie Yuan, Janavi Gupta, Akhil Padmanabha, Zulekha Karachiwalla, Carmel Majidi, Henny Admoni, Zackory Erickson
- [3] **Towards the Development of Wound Care Robots: An Observational Study Outlining Robotic Design Needs for Wound Care**  
*HRI 2024: Workshop on HRI for Aging in Place*, 2024  
 Zulekha Karachiwalla, Ellen Lee, Andrew Dierkes, Zackory Erickson, Henny Admoni
- [4] **Elastic Context: Encoding Elasticity for Data-driven Models of Textiles**  
*ICRA 2023: Embracing contacts. Making robots physically interact with our world*, 2023  
 Alberta Longhini, Marco Moletta, Alfredo Reichlin, Michael C. Welle, Alexander Kravberg, Yufei Wang, David Held, Zackory Erickson, Danica Kragic
- [5] **HAT: Head-Worn Assistive Teleoperation of Mobile Manipulators**  
*ICRA 2023: Emerging paradigms for assistive robotic manipulation: from research labs to the real world*, 2023  
 Akhil Padmanabha\*, Qin Wang\*, Daphne Han, Jashkumar Diyora, Kriti Kacker, Hamza Khalid, Liang-Jung Chen, Carmel Majidi, Zackory Erickson
- [6] **A Study of Causal Confusion in Preference-Based Reward Learning**  
*ICML 2022: Workshop on Spurious Correlations, Invariance and Stability*, 2022  
 Jeremy Tien, Jerry Zhi-Yang He, Zackory Erickson, Anca Dragan, Daniel S. Brown