R. Skye Thompson

EDUCATION

Brown University — Providence, RI
PhD candidate in Computer Science — September 2021-Ongoing

Massachusetts Institute of Technology — Cambridge, MA
S.B. in Electrical Engineering and Computer Science — June 2021

RESEARCH

Robotics and AI Institute — *Foundation Models Team* — June 2024 - September 2024
Research Intern — Cambridge, MA

- Executed and presented a research project exploring force-based residual learning for manipulation skill transfer.
- Developed simulation environment and training pipeline for integration into an existing project.

Brown Computer Science — *Intelligent Robot Lab* — September 2021 - Present
Research Assistant and PhD student — Providence, RI

- Ongoing research projects on learning robotic manipulation skills robust to transfer to new objects and environments.
- Installed, maintained, documented and instructed new users on ROS-based robot systems for manipulation experiments
- Ongoing mentorship of undergraduate students on independent research practices in robotics.

MIT Computer Science and AI Lab — *Learning and Intelligent Systems Group* — Jan 2019 - August 2021
Undergraduate Researcher — Cambridge, MA

- Formulated novel object representations for learning robotic manipulation skills robust to category-level geometric variance.
- Evaluated effectiveness of such representations in learned skill transfer to new objects, compared to state-of-the-art approaches.

CMU Robotics Institute Summer Scholars — *Intelligent Autonomous Manipulation Lab* — May 2020 - Aug 2020
Summer Research Scholar — Pittsburgh, PA

- Developed empirical methods for identifying optimal packing arrangement and control procedures for distributed manipulator array
- Explored planar translation task learning on manipulator array in simulation, using transpose convolutional policies.

MIT Computer Science and AI Lab — *LTAMP, Learning and Intelligent Systems Group* — May 2018 - Dec 2018
Undergraduate Researcher — Cambridge, MA

- With team, engineered a learning, task, and motion planning system, enabling robots to solve complex manipulation problems.
- Acknowledged in IJRR 2021 "*Learning compositional models of robot skills for task and motion planning" Z. Wang, C.Garrett et. al*

MIT Media Lab — *Scalable Cooperation Group* — Jan 2018 - May 2018
Undergraduate Researcher — Cambridge, MA

- Devised and tested bayesian learning models for forecasting geopolitical events in the DARPA hybrid forecasting competition.

University of Texas at Dallas — *Sensing, Robotics, Vision, Controls, and Estimation Lab* — May 2014 - Aug 2017
Research Assistant — Dallas, Texas

- Engineered a ROS-based system allowing concurrent control and monitoring of up to 32 mobile robots.
- Developed computer vision tools for modeling the shape of wounds using real-time camera and depth data.

TEACHING

CSCI 1952D: Intelligent Robotics — Jan 2026 - Feb 2026
Guest Lecturer — Providence, RI

- Prepared presentations introducing undergraduate students to ROS and consulted on assignment design

R.bot and Crow Oct 2021 - Ongoing
Author and Illustrator Providence, RI

- Developed, wrote, and illustrated a series of comics targeted at high school/undergraduate students introducing topics in robotics.

MIT Spinning Arts - ***Firespinning Trainer*** Sept 2019 - June 2021

- Led safety trainings and evaluations for safely spinning fire for groups of 10-25 students, as well as small weekly flow arts classes.
- Managed weekly practice sessions and rehearsals for students, including monitoring safety and giving safety feedback

MIT Office of the First Year—***Designing the First Year at MIT, Student Liaison*** Feb 2018 - May 2018

- Led a team of four in evaluating student experience in their first year at MIT. Recommendations resulted in a large scale, experimental curriculum change for the incoming Class of 2022.

BK TecHouse — ***Rwanda Robotics Academy*** Dec 2017 - Jan 2018
Curriculum Development and Instructor Kigali, Rwanda

- Developed curriculum for a three-week introductory robotics camp for Rwandan high school students.
- Guided thirty students of varying experience and english proficiency in prototyping agricultural robots.

University of Texas at Dallas — ***CSOUTREACH*** May 2014 - Aug 2017
Robotics Camp Instructor Dallas, Texas

- Taught yearly one-week introductory Arduino robotics courses for middle and high schoolers
- Designed curriculum for introducing embedded systems, control, and programming topics

Teaching Courses and Qualifications

Brown Sheridan Center *Teaching Essentials for Graduate TAs* May 2026
CiRTL Course *Creating a Transgender Inclusive STEM Environment* March 2026

Extracurriculars and Leadership

Brown IRL - ***Lab Meeting Organizer*** June 2022 - June 2023

- Re-started regular meetings of students in lab, arranged space for weekly meetings, internal speakers, and discussion topics.

MIT East Campus - ***Third East Hall Chair*** Feb 2019 - June 2021

- Organized events and managed living community of 40+ undergraduate students.

CMU Robotics Institute Summer Scholars - ***Student Presentation Organizer*** May 2020 - Aug 2020

- Researched and proposed virtual alternatives to traditional poster session during remote summer program.
- Led team of students in organizing virtual poster session where participants could present their research

MIT East Campus - ***Orientation Design/Construction Lead*** Feb 2019 - Sep 2019

- Designed a 3 story, 1650 sq ft, hexagonal wooden fort, approved by City of Cambridge, for dorm's freshman orientation.
- Led a team of 20+ undergraduate students, some completely new to building, in safe construction over the course of 1.5 weeks.

Publications

CoRL 2026 (in review) "*Skillwrapper: Generative Predicate Invention for Skill Abstraction*"
Z. Yang, B. Hedegaard, A. Jaafar, Y. Wei, **Skye Thompson,** S. Raman, et. al

ICRA 2026 "*One-Shot Cross-Geometry Transfer through Part Decomposition", Brown IRL*
Skye Thompson, Ondrej Biza, George Konidaris

ICRA 2023 "*On the Role of Structure in Manipulation Skill Learning ", Brown IRL*
Eric Rosen*, Ben Abbatamateo*, **Skye Thompson**, Tuluhan Akbulut, George Konidaris

CoRL 2023 - "*One-shot Imitation Learning via Interaction Warping*"
Ondrej Biza**, Skye Thompson,** Kishore Reddy Pagidi, Abhinav Kumar, Elise van der Pol, Robin Walters, et.al

ICRA 2021 - "*Shape-Based Transfer of Generic Skills ", MIT CSAIL*
Skye Thompson, Tomás Lozano-Perez, Leslie Kaelbling

ICRA 2021 - "*Towards Robust Planar Translations using Delta-Manipulator Arrays", CMU Robotics Institute*
Skye Thompson, Pragna Mannam, Zeynep Temel, Oliver Kroemer

IROS 2018 - "*A Robot System for Automated Wound Filling with Jetted Materials", UTD SeRViCE Lab*
Bashir Hosseini Jafari, Namhyung Lee, **R. Skye Thompson**, Jackson Schellhorn, Bogdan Antohe, Nicholas Gans

Presentations:

ICRA 2026, Poster - "*One-Shot Cross-Geometry Transfer through Part Decomposition*"
ReALM-Gen Workshop, ICLR 2026, Poster - "*Adapting Diffusion Policies to Novel Environments via Policy-Steered Optimization*"
ICRA 2023, Poster - "*On the Role of Structure in Manipulation Skill Learning "*
CoRL 2023, Poster - "*One-shot Imitation Learning via Interaction Warping"*
ICRA 2021, Oral - "*Shape-Based Transfer of Generic Skills "*
ICRA 2021, Oral - "*Towards Robust Planar Translations using Delta-Manipulator Arrays"*

Awards and Fellowships

NSF Graduate Research Fellowship 2021
IBM Thomas J. Watson Memorial Scholarship 2017