SEIJI SHAW

CONTACT

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EDUCATION

Ph.D. Electrical Engineering and Computer Science — 2022-Present
Massachusetts Institute of Technology, Cambridge, MA
Advisor: Prof. Nicholas Roy

M.S. Electrical Engineering and Computer Science — 2022-2024
Massachusetts Institute of Technology, Cambridge, MA
Advisor: Prof. Nicholas Roy
Thesis: *Characterizing the Epistemic Uncertainty of Predictive Action Models and Sampling-Based Motion Planners for Robotic Manipulation*

Sc.B. Mathematics-Computer Science, magna cum laude — 2018-2022
Brown University, Providence, RI
Advisor: Prof. George Konidaris
Honors Thesis: *Towards Safe Learning in Robotic Manipulation*

EMPLOYMENT

Graduate Researcher — 2022-Present
Computer Science and Artifical Intelligence Lab, MIT
Robust Robotics Group (PI: Nicholas Roy)

Undergraduate Researcher — 2020-2022
Department of Computer Science, Brown University
Intelligent Robot Lab (PI: George Konidaris)

Research Intern — Summer 2021
Mitsubishi Electric Research Laboratories, Cambridge, MA
Data Analytics Group (PI: Daniel Nikovski)

Research Intern — Summers 2015, 2019
Cedars-Sinai Medical Center
Hong Lab (PI: TingTing Hong)

AWARDS AND HONORS

Best Paper in Robot Manipulation Award Finalist, ICRA 2024
Senior Prize, Brown University Dept. of Computer Science 2022
Sigma Xi, inducted 2022
Outstanding Winner, COMAP Mathematical Contest in Modelling 2020
Rachel Carson Award, COMAP Mathematical Contest in Modelling 2020

PRE-PRINTS

1. Seiji Shaw, Aidan Curtis, Leslie Pack Kaelbling, Tomás Lozano-Pérez, and Nicholas Roy. Towards practical finite sample bounds for motion planning in tamp. *arXiv preprint arXiv:2407.17394*, 2024. (in press) *Algorithmic Foundations of Robotics*

PUBLICATIONS

5. Michael Noseworthy, Seiji Shaw, Chad Kessens, and Nicholas Roy. Amortized inference for efficient grasp model adaptation. In *Proceedings of the International Conference on Robotics and Automation*, 2023

4. Thomas Cohn, Seiji Shaw, Max Simchowitz, and Russ Tedrake. Constrained bimanual planning with analytic inverse kinematics. In *Proceedings of the International Conference on Robotics and Automation*, 2023. **Best Paper in Robot Manipulation Award Finalist.**
3. Seiji Shaw, Devesh K Jha, Arvind Raghunathan, Radu Corcodel, Diego Romeres, George Konidaris, and Daniel Nikovski. Constrained dynamic movement primitives for safe learning of motor skills. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2023
2. Seiji Shaw, Ben Abbatematteo, and George Konidaris. Rmps for safe impedance control in contact-rich manipulation. In *Proceedings of the International Conference on Robotics and Automation*, 2022
1. Tiffany Ding*, Soryan Kumar*, and Seiji Shaw*. A seabird population model to evaluate plastic pollution policies. *UMAP Journal of Undergraduate Mathematics and its Applications*, 41(3), 2020

GRANTS AND FELLOWSHIPS

National Science Foundation Graduate Research Fellowship 2022-2025
Ford Foundation Fellowship, Honorable Mention 2022
Karen T. Romer Undergraduate Research and Teaching Award 2019

TEACHING

Head Teaching Assistant, CSCI 1951R: Introduction to Robotics Fall 2020
Dept. Computer Science, Brown University
Instructor: Stefanie Tellex

OUTREACH

Technical Volunteer in Quest for Embodied Intelligence Fall 2022-Present
Quest for Artifical Intelligence, Massachusetts Institute of Technology

Choreorobotics Mentor and Controls Engineer Spring-Summer 2022
Dept. Theatre and Performance Studies, Brown University

Workshop Instructor 2019-2020
Brown Design Workshop, Dept. of Engineering, Brown University

Mentor, Team 6000 Firehawk Robotics 2018-2019
Shalhevet High School, Los Angeles, California

Mentor, Team 5987 Galaxia 2017-2018
Reali Hebrew Day School, Haifa, Israel

REFEREEING

IEEE International Conference on Robotics and Automation 2023
IEEE International Conference on Robotics and Automation 2024

OTHER

Student Mashgiach, MIT GradHillel 2023-Present
Shabbat Program Coordinator, MIT GradHillel 2023-2024
Orthodox Student Community Liaison, Brown-RISD Hillel 2019-2021
Blacher Outstanding New Student Initiatives Award, Brown-RISD Hillel 2019