

Academic Appointments

2025 – present **Massachusetts Institute of Technology**
Postdoctoral Fellow in Aeronautics and Astronautics
Advisor: Prof. Julie Shah

Education

2018 – 2025 **Brown University**
Ph.D. in Computer Science
Advisor: Prof. Stefanie Tellex

2021 **Brown University**
M.S. in Computer Science
Advisor: Prof. Stefanie Tellex

2017 **University of California, Berkeley**
B.S. in Electrical Engineering and Computer Sciences
Advisor: Prof. Ken Goldberg and Prof. David Wagner

Fellowships, Awards and Honors

Brown **National Science Foundation Graduate Research Fellowship Program**, 2018
Jack Kent Cooke Foundation Graduate Scholarship, 2018

UC Berkeley **Tau Beta Pi, National Engineering Honor Society**, 2014
Eta Kappa Nu, National EECS Honor Society, 2014
Jack Kent Cooke Foundation Undergraduate Transfer Scholarship, 2014

Publications

HRI 2026 **LEGS-POMDP: Language and Gesture-Guided Object Search in Partially Observable Environments**
I. He, S. Tellex, **J.X. Liu**
ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2026. [Paper, Website]

RA-L 2025 **Open-vocabulary Pick and Place via Patch-level Semantic Maps**
M. Jia, H. Huang, Z. Zhang, C. Wang, L. Zhao, D. Wang, **J.X. Liu**, R. Walters, R. Platt, S. Tellex
IEEE Robotics and Automation Letters (RA-L) 2025. [Paper, Website]

IROS 2024 **Lang2LTL-2: Grounding Spatiotemporal Navigation Commands Using Large Language and Vision-Language Models**
J.X. Liu, A. Shah, G. Konidaris, S. Tellex, and D. Paulius
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2024. [Paper, Website]

IJCAI 2024 **A Survey of Robotic Language Grounding: Tradeoffs between Symbols and Embeddings**
V. Cohen*, **J.X. Liu***, R. Mooney*, S. Tellex*, D. Watkins*
International Joint Conference on Artificial Intelligence (IJCAI) 2024 Survey Track. [Paper]

ICRA 2024 **LTL-Transfer: Skill Transfer for Temporally-Extended Task Specifications**
J.X. Liu*, A. Shah*, E. Rosen, M. Jia, G.D. Konidaris, S. Tellex
IEEE International Conference on Robotics and Automation (ICRA) 2024. [Paper, Website]

- CoRL 2023 **Grounding Complex Natural Language Commands for Temporal Tasks in Unseen Environments**
J.X. Liu*, Z. Yang*, I. Idrees, S. Liang, B. Schornstein, S. Tellex, A. Shah
Conference on Robot Learning (CoRL) 2023. [Paper, Website, Brown News]
AAAI Fall Symposium on Unifying Representations for Robot Application Development (UR-RAD) 2023. **Best Paper Finalist**.
- INTERSPEECH 2023 **Style-transfer based Speech and Audio-visual Scene Understanding for Robot Action Sequence Acquisition from Videos**
 C. Hori, P. Peng, D. Harwath, **J.X. Liu**, K. Ota, S. Jain, R. Corcodel, D. Jha, D. Romeres, J. Le Roux
INTERSPEECH 2023. [Paper]
- ICRA 2022 **Generalizing to New Domains by Mapping Natural Language to Lifted LTL**
 E. Hsiung, H. Mehta, J. Chu, **J.X. Liu**, R. Patel, S. Tellex, G. D. Konidaris
IEEE International Conference on Robotics and Automation (ICRA) 2022. [Paper]
- ACNS 2020 **Minority Reports Defense: Defending Against Adversarial Patches**
 M. McCoyd, W. Park, S. Chen, N. Shah, R. Roggenkemper, M. Hwang, **J.X. Liu**, D. Wagner
Applied Cryptography and Network Security Workshops (ACNS) 2020. [Paper]
- ICRA 2018 **Dex-Net 3.0: Computing Robust Vacuum Suction Grasp Targets in Point Clouds Using a New Analytic Model and Deep Learning**
 J. Mahler, M. Matl, **J.X. Liu**, A. Li, D. Gealy, K. Goldberg
IEEE International Conference on Robotics and Automation (ICRA) 2018. [Paper, Website]
- ICISS 2018 **Detecting Phone Theft Using Machine Learning**
J.X. Liu, D. Wagner, S. Egelman
International Conference on Information Science and System (ICISS) 2018. [PDF]
- RSS 2017 **Dex-Net 2.0: Deep Learning to Plan Robust Grasps with Synthetic Point Clouds and Analytic Grasp Metrics**
 J. Mahler, J. Liang, S. Niyaz, M. Laskey, R. Doan, **J.X. Liu**, J. A. Ojea, K. Goldberg
Robotics: Science and Systems (RSS) 2017. [Paper, Website]

Invited Talks

- March 2026 The University of Edinburgh, RL Seminar
- March 2026 Oxford, Robotics Seminar
- Oct 2025 UIUC, CS Colloquium
- Oct 2025 Tufts, HRI Seminar
- Jan 2025 USC, Robotics Seminar
- Dec 2024 Brown, Brown Database Group
- Oct 2024 Amazon Robotics, Amazon Robotics Research Fall Symposium and PhD Communication Competition
- Oct 2024 UT Austin, Forum for Artificial Intelligence
- Oct 2024 CU Boulder, CS Colloquium
- Sep 2024 MIT, Interactive Robotics Group
- Sep 2024 UT Austin, Center of Autonomy
- Aug 2024 Arizona State, Logos Robotics Lab
- Jul 2024 Oxford, CS Department Seminar
- Oct 2022 Northeast Robotics Colloquium

Guest Lectures

- Spring 2026 Sapienza University of Rome, Hybrid Neurosymbolic Techniques for Non-Markovian Reinforcement Learning
- Spring 2025 Brown, CSCI 1470: Deep Learning
- Fall 2024 Brown, CSCI 1951X: Formal Proof and Verification

Workshop Organization

- CoRL 2025 Evaluation and Deployment Across the Robot Learning Lifecycle. [Website]
- RSS 2025 Robot Planning in the Era of Foundation Models. [Website]
- RSS 2024 Workshop on Task Specification for General-Purpose Intelligent Robots. [Website]

Industry Experience

- Summer 2022 **Research Intern**, *Mitsubishi Electric Research Laboratories*, Cambridge, MA
- Summer 2015 **Software Engineer**, *NetSuite*, San Mateo, CA

Mentorship

- 2026 - Now Aryan Naveen (MIT Ph.D.)
- 2026 - Now Yiran Tao (MIT Ph.D.)
- 2024 - 2025 Ivy He (Brown Ph.D.)
- 2023 - 2025 Yichen Wei (Brown Master's)
- 2023 - 2024 Anneke Wernerfelt (Haverford Undergraduate. Now Master's at UPenn)
- 2023 - 2024 Sofia Juliani (Rutgers Undergraduate)
- Spring 2021 Shihab Khalfalla (UConn Undergraduate. Now at Microsoft)
- 2021 - 2022 Eric Hsiung (Brown Master's. Now Ph.D. at UT Austin)
- 2020 - 2021 Tyler Edwards (UPenn Undergraduate. Now Master's at UPenn)
- 2020 - 2021 Suchen Zheng (Brown Master's. Now Ph.D. at Yale)

Service

- Brown **First-year Ph.D. student mentor**, 2021-2023
Google exploreCSR (explorecsr.cs.brown.edu), Spring 2021
- Review **RSS 2026, JMLR 2025, CoRL-W 2024, RSS-W 2024, IROS 2024, ICRA 2023, ICRA 2022**