Jason Xinyu Liu

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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.*
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.*
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.* [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.* [PDF]
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.* [PDF, 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*. [PDF, 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*. [PDF]
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*. [PDF]
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*. [PDF]
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*. [PDF, 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*. [PDF, Website]

Invited Talks

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 2025	Brown, CSCI 1470: Deep Learning

Fall 2024   Brown, CSCI 1951X: Formal Proof and Verification

Workshop Organization

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

2024 - 2025   Lekai Chen (CU Boulder 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   **JMLR** 2025, **CoRL-W** 2024, **RSS-W** 2024, **IROS** 2024, **ICRA** 2023, **ICRA** 2022