Jason Xinyu Liu

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Education

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

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

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

Publications

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]

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]

Workshop Publications

AAAI-FSS 2024	**A Survey of Robotic Language Grounding: Tradeoffs between Symbols and Embeddings** V. Cohen*, **J.X. Liu***, R. Mooney*, S. Tellex*, D. Watkins* *AAAI Fall Symposium on Unifying Representations for Robot Application Development (UR-RAD) 2024*. [PDF]
RSS 2024 SemRob AAAI-FSS 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 *Robotics: Science and Systems (RSS) Workshop on Semantic Reasoning and Goal Understanding in Robotics (SemRob) 2024* *AAAI Fall Symposium on Unifying Representations for Robot Application Development (UR-RAD) 2024*. [website]
AAAI-FSS 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 *AAAI Fall Symposium on Unifying Representations for Robot Application Development (UR-RAD) 2023*. Best Paper Finalist. [PDF, Website]
IJCAI-W 2022	**LTL-Transfer: Skill Transfer for Temporally-Extended Task Specifications** **J.X. Liu***, A. Shah*, E. Rosen, M. Jia, G.D. Konidaris, S. Tellex *IJCAI Workshop on Generalization in Planning 2022*. [PDF, Slides]

RSS-W 2021	**Leveraging Temporal Structure in Safety-Critical Task Specifications for POMDP Planning** **J.X. Liu**, E. Rosen, S. Zheng, G. D. Konidaris, S. Tellex *Robotics: Science and Systems (RSS) Workshop on Robotics for People 2021*. [PDF, Poster]
RSS-W 2021	**Dialogue Object Search** M. Roy*, K. Zheng*, **J.X. Liu**, S. Tellex *Robotics: Science and Systems (RSS) Workshop Robotics for People 2021*. [PDF]

Invited Talks

October 2024 (upcoming)	UT Austin, Forum for Artificial Intelligence
October 2024 (upcoming)	CU Boulder, CS Department Seminar
August 2024	Arizona State, Logos Robotics Lab
July 2024	Oxford, CS Department Seminar
October 2022	Northeast Robotics Colloquium

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

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

Mentorship

Spring 2024 -	Ivy He (Brown Ph.D.)
Fall 2023 -	Yichen Wei (Brown Master's)
Summer 2023	Anneke Wernerfelt (Haverford Undergraduate. Now Master's at UPenn)
Summer 2023	Sofia Juliani (Rutgers Undergraduate)
Spring 2021	Shihab Khalfalla (UConn Undergraduate. Now at Microsoft)
Summer 2020 - Fall 2021	Suchen Zheng (Brown Master's. Now Ph.D. at Yale)

Summer 2020   Tyler Edwards (UPenn Undergraduate. Now Master's at UPenn)
- Fall 2021

Service

Brown   **First-year Ph.D. student mentor**, 2021-2023
Google exploreCSR (explorecsr.cs.brown.edu), Spring 2021

Review   **RSS-W** 2024, **IROS** 2024, **ICRA** 2023, **ICRA** 2022