Yixuan Huang

yixuan.huang@utah.edu +1-858-250-9569 https://yixuanhuang98.github.io/

Education

University of Utah, Salt Lake City, UT *Aug 2020 - Present*
Ph.D. in Computing: Robotics

- GPA: 3.98/4.0
- **Advisor:** Prof. Tucker Hermans
- Selected Coursework: Robotics, Robot Control, Robot Learning, Motion planning, Computer Vision

Northeastern University, Shenyang, Liaoning (China) *Sep 2016 - Jun 2020*
*B.E. in Computer Science and Technology (**top** student in the department)*

- GPA: 93.2/100, Rank: 1/278
- Coursework: Discrete Mathematics, Statistics and Probability, Numerical Analysis, Electronic Theory

University of California, San Diego, La Jolla, CA *Sep 2018 - Jun 2019*
Exchange student

- GPA: 3.91/4
- Senior Coursework: Deep Learning, Machine Learning, Operating System, Computer Networks

Research Experience

Visiting Student Researcher *Stanford, CA*
Stanford University *Jan 2024 – Aug 2024*
Advisor: Prof. Jeannette Bohg

Graduate Research Assistant *Salt Lake City, UT*
University of Utah *May 2021 – Present*
Advisor: Prof. Tucker Hermans

Undergraduate Research Assistant *La Jolla, CA*
University of California, San Diego *Aug 2019 - Aug 2020*
Advisor: Prof. Sicun Gao

Preprints

Yixuan Huang, Chirstopher Agia, Jimmy Wu, Tucker Hermans, Jeannette Bohg. "Points2Plans: From Point Clouds to Long-Horizon Plans with Composable Relational Dynamics," ArXiv 2024. [Project Website] [Paper]

Conference Publications

Yixuan Huang, Jialin Yuan, Chanho Kim, Pupul Pradhan, Bryan Chen, Li Fuxin, Tucker Hermans. "Out of Sight, Still in Mind: Reasoning and Planning about Unobserved Objects with Video Tracking Enabled Memory Models," International Conference on Robotics and Automation (ICRA) 2024. [Project Website] [Paper]

Yixuan Huang, Adam Conkey, Tucker Hermans. "Planning for Multi-Object Manipulation with Graph Neural Network Relational Classifiers," International Conference on Robotics and Automation (ICRA) 2023. [Project Website] [Paper]

Yixuan Huang, Michael Bentley, Tucker Hermans, Alan Kuntz. "Toward Learning Context-Dependent Tasks from Demonstration for Tendon-Driven Surgical Robots," International Symposium on Medical Robotics (ISMR) 2021. ***(Best Paper Award Finalist & Best Student Paper Award Finalist)*** [Paper]

Journal Publications

Yixuan Huang, Nichols Crawford Taylor, Adam Conkey, Weiyu Liu, Tucker Hermans. "Latent Space Planning for Multi-Object Manipulation with Environment-Aware Relational Classifiers," IEEE Transactions on Robotics (T-RO) 2024. [Project Website] [Paper]

Workshop Publications

Yixuan Huang, Chirstopher Agia, Jimmy Wu, Tucker Hermans, Jeannette Bohg. "Points2Plans: From Point Clouds to Long-Horizon Plans with Composable Relational Dynamics," 2024 CoRL Workshop on Learning Effective Abstractions for Planning (LEAP). **Oral Presentation**

Yixuan Huang, Jialin Yuan, Weiyu Liu, Chanho Kim, Li Fuxin, Tucker Hermans. "Latent Space Planning for Unobserved Objects with Environment-Aware Relational Classifiers," 2023 IROS Workshop Causality for Robotics.

Yixuan Huang. "Reasoning and Planning about Unobserved Objects with Memory Models," 2023 CoRL Workshop for Neural Representation Learning for Robot Manipulation.

Honors and Awards

2021 International Symposium on Medical Robotics Best Paper Award Finalist	*Nov 2021*
2021 International Symposium on Medical Robotics Best Student Paper Award Finalist	*Nov 2021*
2021 International Symposium on Medical Robotics NSF Travel Award	*Oct 2021*
University of Utah School of Computing Department Fellowship	*Aug 2020*
National Scholarship (top 1%)	*Nov 2017 & 2018*
Northeastern University Excellent Student (top 1%)	*Dec 2017 & 2018*
Second Place in National Mathematical Modeling Competition in China	*Oct 2017*
First Place in Provincial Mathematical Modeling Competition	*Oct.2017*

Invited Talks

Feb 2024, "Reasoning and Planning for Unobserved Objects with Environment-Aware Relational Classifiers and Memory Models", University of Illinois Urbana-Champaign, Host: Katie Driggs-Campbell, Champaign, IL.
Nov 2021, "Toward Learning Context-Dependent Tasks from Demonstration for Tendon-Driven Surgical Robots", University of Utah Robotics Seminar, Host: Jake J Abbott, Salt Lake City, UT.

Teaching

CS 6300 Artificial Intelligence	*University of Utah*
Guest Lecture about Reinforcement Learning	*Nov 2024*
CS 4300 Artificial Intelligence	*University of Utah*
Guest Lecture about Imitation Learning	*April 2022*
CS 4300 Artificial Intelligence	*University of Utah*
Teaching Assistant	*Jan 2022 – May 2022*
CS 4300 Artificial Intelligence	*University of Utah*
Teaching Assistant	*Aug 2022 – Dec 2022*

Mentoring

*Mentees who co-authored above listed publications/articles are indicated with *.*

Nichols Crawford Taylor* (Utah Undergrad → Northeastern PhD Student)	Fall 2021 - Spring 2024
Pupul Pradhan* (Utah Master → Evans & Sutherland)	Summer 2023
Novella Alvina (Utah Master)	Fall 2024 - Present

Reviewing

Conference on Robot Learning (CoRL)	2023, 2024
Robotics: Science and Systems (RSS)	2024
Robotics and Automation Letters (RA-L)	2024
International Conference on Robotics and Automation (ICRA)	2023, 2024, 2025
International Conference on Intelligent Robots and Systems (IROS)	2024

International Conference on Learning Representations (ICLR)	2025
IEEE Transactions on Artificial Intelligence	2024
IEEE Transactions on Instrumentation and Measurement	2024
IEEE Transactions on Industrial Electronics	2024
Workshop on Learning Effective Abstractions for Planning (LEAP @ CoRL)	2024

Skills

Computer Languages: C/C++, MATLAB, Python (TensorFlow, PyTorch), Java, VHDL

Software & Tools: IsaacGym, ROS, Gazebo, PyBullet, HTML, LaTeX

Outreach

Robotics lab tour co-organizer, University of Utah Bridge Program	2022, 2023

References

Tucker Hermans
Associate Professor in the Kahlert School of Computing at the University of Utah
Email: `tucker.hermans@utah.edu`
Phone Number: (+1) 254-541-2829

Jeannette Bohg
Assistant Professor in the Computer Science Department at Stanford University
Email: `bohg@stanford.edu`
Phone Number: (+1) 650-497-1021

Fuxin Li
Associate Professor in the School of Electrical Engineering and Computer Science at the Oregon State University
Email: `fuxin.li@oregonstate.edu`
Phone Number: (+1) 541-737-5987