Yixuan Huang

yh1542@princeton.edu +1-858-250-9569 https://yixuanhuang98.github.io/

Research Experience

Postdoctoral Research Associate with Prof. Tom Silver — *Princeton, NJ*
Princeton University — *Aug 2025 – Present*

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

Graduate Research Assistant with Prof. Tucker Hermans — *Salt Lake City, UT*
University of Utah — *May 2021 – Aug 2025*

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

Education

University of Utah, Salt Lake City, UT — *Aug 2020 - Aug 2025*
Ph.D. in Computing: Robotics

- GPA: 3.98/4.0
- **Advisor:** Prof. Tucker Hermans

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

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

- GPA: 3.91/4

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]

Conference Publications

Yixuan Huang, Novella Alvina, Mohanraj Devendran Shanthi, Tucker Hermans. "Fail2Progress: Learning from Real-World Robot Failures with Stein Variational Inference," Conference on Robot Learning (CoRL), 2025 [Project Website] [Paper]

Yixuan Huang, Christopher Agia, Jimmy Wu, Tucker Hermans, Jeannette Bohg. "Points2Plans: From Point Clouds to Long-Horizon Plans with Composable Relational Dynamics," IEEE International Conference on Robotics and Automation (ICRA) 2025. [Project Website] [Paper]

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," IEEE 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," IEEE 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]

Preprints

Mingen Li, Houjian Yu, **Yixuan Huang**, Youngjin Hong, Changhyun Choi. "Hierarchical DLO Routing with Reinforcement Learning and Multimodal In-Context VLMs," 2025, In submission. [Paper]

Workshop Publications

Siyeon Kim, Mohanraj Devendran Shanthi, **Yixuan Huang**, Tucker Hermans. "Learning Multimodal Probabilistic Models of Manipulation Skill Effects," 2025 CoRL Workshop on Learning to Simulate Robot Worlds.

Yixuan Huang, Novella Alvina, Mohanraj Devendran Shanthi, Tucker Hermans. "Fail2Progress: Learning from Failures with Stein Variational Inference for Robot Manipulation," 2025 RSS Workshop on Out-of-Distribution Generalization in Robotics Towards Reliable Learning-Based Autonomy. **Best Paper Award Finalist**

Yixuan Huang, Christopher 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

2025 IEEE International Conference on Robotics and Automation Doctoral Consortium	*May 2025*
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

Nov 2025, "Mobile Manipulation", AI@Princeton, Princeton, NJ.

Sep 2025, "Planning for Sequential Multi-Object Robot Manipulation with Learned Relational Dynamics Models", Princeton Postdoctoral Council Seminar Series, Princeton, NJ.

July 2025, "Planning for Sequential Multi-Object Robot Manipulation with Learned Relational Dynamics Models", Oregon State University, Host: Li Fuxin, Corvallis, OR.

May 2025, "Planning for Sequential Multi-Object Robot Manipulation with Learned Relational Dynamics Models", University of Texas at Austin, Host: Roberto Martín-Martín, Austin, TX.

Apr 2025, "From Sensor Data to Long-Horizon Plans with Spatial-Temporal Reasoning", University of Utah Robotics Seminar, Host: Haohan Zhang, Salt Lake City, UT.

Jan 2025, "From Sensor Data to Long-Horizon Plans with Spatial-Temporal Reasoning", University of Utah Graduate Research Symposium, Host: Pratik Soni, Salt Lake City, UT.

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

ECE 531/COS 531: Robot Planning Meets Machine Learning — *Princeton University*
Guest Lecture about Learning Models for Robot Planning — *Oct 2025*

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 - Summer 2025
John Chen (Utah Undergrad)	Spring 2025 -Summer 2025
Bingying Wang (Utah Undergrad)	Spring 2025 - Spring 2025
Tom Wang (Princeton Undergrad)	Fall 2025 - Present
Akash Bhowmick (Princeton Undergrad)	Fall 2025 - Present
Joseph Xu (Princeton Master)	Fall 2025 - Present
Ian Henriques (Princeton Master)	Fall 2025 - Present

Reviewing

Conference on Robot Learning (CoRL)	2023, 2024, 2025
Robotics: Science and Systems (RSS)	2024, 2025
Robotics and Automation Letters (RA-L)	2024, 2025
International Conference on Robotics and Automation (ICRA)	2023, 2024, 2025
International Conference on Intelligent Robots and Systems (IROS)	2024, 2025
International Conference on Learning Representations (ICLR)	2025
IEEE Transactions on Robotics	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, 2025
RSS Workshop on Out-of-Distribution Generalization in Robotics Towards Reliable Learning-Based Autonomy	2025

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