

# Yixuan Huang

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## Education

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**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

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**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

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**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

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**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

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**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

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

**Yixuan Huang**, Jialin Yuan, Weiyu Liu, Chanhho 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

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

## Invited Talks

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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

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

## Mentoring

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*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

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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

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

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

## Outreach

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