Curriculum Vitae

Personal Information

Hongyu Li
Brown University
Department of Computer Science
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Homepage: https://lhy.xyz/
GitHub: https://github.com/lhy0807
Google Scholar: https://scholar.google.com/citations?user=aM2PHREAAAAJ&hl=en

Education

08/2023–Current **Ph.D., Computer Science**
Brown University, Providence, RI, USA
Advisor: Professor Srinath Sridhar

08/2021–05/2023 **M.Sc., Computer Science**
Northeastern University, Boston, MA, USA
Thesis: Toward Stereo-based Obstacle Detection using Efficient Deep Neural Network
Advisor: Professor Taşkın Padır
Advisor: Professor Huaizu Jiang

08/2018–12/2020 **B.Sc., Computer Science**
Rensselaer Polytechnic Institute, Troy, NY, USA
Second Major: Economics
Honors: Cum Laude, Dean's Honor List

Experience

05/2023–08/2023 **Research Intern**
Honda Research Institute, San Jose, CA
Researched visuotactile perception under the supervision of Dr. Nawid Jamali and Dr. Soshi Iba. Paper in progress. Filed patents **P.1** and **P.2**.

09/2022–12/2022 **Research Intern**
Honda Research Institute, San Jose, CA

Researched in-hand object 6D pose estimation using visuotactile perception under the supervision of Dr. Nawid Jamali and Dr. Soshi Iba. Published paper **J.2**. Filed patents **P.3** and **P.4**.

09/2021–05/2023 **Graduate Research Assistant**
Robotics and Intelligent Vehicles Research Lab, Northeastern University, Boston, MA
PI: Professor Taşkın Padır
Researched in the fields of robot perception and navigation. Published papers **J.1**, **C.1**, and **C.2**.

03/2021–06/2021 **Artificial Intelligence Intern**
KPMG China, Nanjing, China
Developed the speech processing modules for KPMG AI Factory Platform.

Publications

∗ or † represents equal contribution or equal advising, depending on the roles of the authors.

Journals

J.1 Linfeng Zhao*, **Hongyu Li***, Taşkın Padır, Huaizu Jiang†, Lawson L.S Wong†. *E(2)-Equivariant Graph Planning for Navigation.* Accepted by IEEE Robotics and Automation Letters (RA-L) 2024. Present at IROS 2024.

J.2 **Hongyu Li**, Snehal Dikhale, Soshi Iba, Nawid Jamali. *ViHOPE: Visuotactile In-Hand Object 6D Pose Estimation with Shape Completion.* Accepted by IEEE Robotics and Automation Letters (RA-L) 2023. Present at ICRA 2024.

Conferences

C.1 **Hongyu Li**, Zhengang Li*, Neşet Ünver Akmandor*, Huaizu Jiang, Yanzhi Wang, Taşkın Padır. *StereoVoxelNet: Real-Time Obstacle Detection Based on Occupancy Voxels From a Stereo Camera Using Deep Neural Networks.* Accepted by IEEE International Conference on Robotics and Automation (ICRA) 2023. Project homepage: https://lhy.xyz/stereovoxelnet

C.2 Neşet Ünver Akmandor, **Hongyu Li**, Gary M. Lvov, Eric Dusel, Taşkın Padır. *Deep Reinforcement Learning based Robot Navigation in Dynamic Environments using Occupancy Values of Motion Primitives.* Accepted by IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022.

Presentations

1. **Hongyu Li**, Snehal Dikhale, Soshi Iba, Nawid Jamali. *ViHOPE: Visuotactile In-Hand Object 6D Pose Estimation with Shape Completion.* Spotlight Talk at NeurIPS 2023 Workshop on Touch Processing.

2. **Hongyu Li**, Huaizu Jiang, Taşkın Padır. *StereoNavNet: Learning to Navigate using Stereo Camera with Auxiliary Occupancy Voxels.* Spotlight Talk at CVPR 2023 Workshop on 3D Vision and Robotics.
3. **Hongyu Li**, Zhengang Li*, Neşet Ünver Akmandor*, Huaizu Jiang, Yanzhi Wang, Taşkın Padır. *StereoVoxelNet: Real-Time Obstacle Detection Based on Occupancy Voxels From a Stereo Camera Using Deep Neural Networks.* Presented at IROS 2022 workshop "Agile Robotics: Perception, Learning, Planning, and Control," Kyoto, Japan, October 2022.

Awards

1. ICRA 2023 Travel Grant ($1,300)

Patents

P.1 **Hongyu Li**, Nawid Jamali, Soshi Iba. SYSTEMS AND METHODS FOR TAXEL HYPER-RESOLUTION THROUGH MULTI-CONTACT LOCALIZATION. *Patent Pending.*

P.2 **Hongyu Li**, Nawid Jamali, Soshi Iba. REPRESENTATION LEARNING OF TAXEL-BASED TACTILE SENSOR. *Patent Pending.*

P.3 **Hongyu Li**, Nawid Jamali, Snehal Dikhale, Soshi Iba. SYSTEMS AND METHODS FOR VISUOTACTILE OBJECT POSE ESTIMATION WITH SHAPE COMPLETION. *Patent Pending.*

P.4 **Hongyu Li**, Nawid Jamali, Soshi Iba. SYSTEMS AND METHODS FOR A SHAPE COMPLETION MODEL. *Patent Pending.*

P.5 Feiyu Zhu, Tianjian Dai, **Hongyu Li**, Tiancheng Mai, Yuchen Liang, Xiaojing Su. A kind of ball serving device for balls sport training. Granted CN107007996A

Teaching

01/2024–05/2024 **Teaching Assistant**
Department of Computer Science, Brown University, Providence, RI
CSCI 1430 Introduction to Computer Vision

09/2021–05/2022 **Graduate Teaching Assistant**
Khoury College of Computer Sciences, Northeastern University, Boston, MA
CS 7610 Foundations of Distributed Systems
DS 2500 Intermediate Programming with Data

09/2019–07/2020 **Teaching Assistant**
Department of Computer Science, Rensselaer Polytechnic Institute, Troy, NY
CSCI 1190 Beginning Programming for Engineers

Services

Reviewer

1. IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2024
2. ACM CHI Conference on Human Factors in Computing Systems (**CHI**) 2024
3. IEEE International Conference on Robotics and Automation (**ICRA**) 2024
4. Elsevier **Neurocomputing**

Providence, RI, January 20, 2024