Bingjie Tang

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EDUCATION

Ph.D.	Computer Science, **University of Southern California**.	Sep.2020-Present
	– Advised by *Gaurav Sukhatme.*	
M.S.	Computer Science, **Brown University**.	Sep.2018-May.2020
	– Advised by *George D. Konidaris & Stefanie A. Tellex.*	
B.S.	Computer Science, **Huazhong University of Sci. and Tech**.	Sep.2014-Jun.2018

PROJECT HIGHLIGHTS

Selective Object Rearrangement in Clutter [paper, website]

An image-based, learned method for selective tabletop object rearrangement in clutter using a parallel jaw gripper. Our method consists of three stages: graph-based object sequencing (which object to move), feature-based action selection (whether to push or grasp, and at what position and orientation) and a visual correspondence-based placement policy (where to place a grasped object).

Feature-based Multi-action Tabletop Rearrangement [paper, video]

Proposing a feature-based method that jointly learns two action primitives and a rearrangement planning policy in a table-top setting. Two separate fully-connected networks map visual observations to actions and another deep neural network learns rearrangement planning conditioned on the goal specification, perceptual input and selected action primitive.

Learning Collaborative Push and Grasp Policies in Dense Clutter [paper, video]

Learning planar pushing and 6-DoF grasping operations for dense clutter clean-up as sequential decision making process by using deep reinforcement learning algorithm. Deep neural networks are trained to map from 3D visual observations to actions with a Q-learning framework.

PUBLICATIONS

2022 **Bingjie T.**, Gaurav S. "Selective Object Rearrangement in Clutter", *6th Annual Conference on Robot Learning (CoRL)*, December 2022.

2022 **Bingjie T.**, Gaurav S. "Feature-based Multi-action Tabletop Rearrangement".

2021 **Bingjie T.**, Matthew C., Geroge K., Stefanos N., Stefanie T. "Learning Collaborative Pushing and Grasping Policies in Dense Clutter", *IEEE International Conference on Robotics and Automation (ICRA)*, May 2021.

2021 Y. Luo, H. Zhao, Z. Zhang and **B. Tang** "Open Named Entity Modeling from Embedding Distribution." *IEEE Transactions on Knowledge & Data Engineering*, 2021.

2018 Zhuosheng, Z., Jiangtong L., Hai Z., **Bingjie T.** "Neural Hypernym Discovery with Term Embeddings." *Proceedings of the 12th International Workshop on Semantic Evaluation (SemEval 2018)*, pp.903–908, Workshop of NAACL-HLT 2018.

WORKING EXPERIENCE

Seattle Robotics Lab, Nvidia Corporation, Research Intern. May.2022 - Aug.2022
Manager: Dieter Fox, mentor: Yashraj Narang

MoE Key Lab, Shanghai Jiao Tong University, Research Assistant. Dec.2017 - Mar.2018
Advisor: Prof. Hai Zhao.

Technology Engineering Group (TEG), Tencent., SDE Intern. Jun.2017 - Sep.2017

TEACHING EXPERIENCE

Graduate Teaching Assistant, University of Southern California Aug.2022 - Dec.2022
CSCI455: Introduction to Robotics by Prof. Heather Culbertson.

Graduate Teaching Assistant, University of Southern California Jan.2022 - May.2022
CSCI566: Deep Learning and Its Applications by Prof. Xiang Ren.

Graduate Teaching Assistant, University of Southern California Aug.2021 - Dec.2021
CSCI103-L: Introduction to Programming by Prof. Andrew Goodney.

Graduate Teaching Assistant, Brown University Jan.2020 - May.2020
CSCI1460: Computational Linguistics by Prof. Eugene Charniak.

Graduate Teaching Assistant, Brown University Sep.2019 - Dec.2019
CSCI1951-R: Introduction to Robotics by Prof. Stefanie A. Tellex.

SKILLS

Programming language: Python, C, C++.
Software: Pytorch, Tensorflow, ROS, Pybullet, CoppeliaSim.

Updated September 2022