

# Dian Wang

(617) 602-2921 | [wang.dian@northeastern.neu.edu](mailto:wang.dian@northeastern.neu.edu) | [pointw.github.io](https://pointw.github.io)

## EDUCATION

<b>Northeastern University</b> , Boston, MA <i>Ph.D in Computer Science</i>		Jan. 2020-Present
<b>Northeastern University</b> , Boston, MA <i>M.S in Computer Science</i>	GPA: 4.0/4.0	Sept. 2017-Dec. 2019
<b>Sichuan University</b> , Chengdu, China <i>B.Eng in Computer Science &amp; Engineering</i>	GPA: 3.56/4.0	Sept. 2013-June 2017

## EXPERIENCE

<b>The Helping Hands Lab, Northeastern University</b> , Boston, MA Research Assistant	Jan. 2018-Present
<b>Equivariant reinforcement learning in robotic manipulation</b> <ul style="list-style-type: none"><li>Defined the symmetric properties of reinforcement learning in robotic manipulation.</li><li>Proposed neural network architectures for improving training efficiency in robotic manipulation tasks.</li></ul>	
<b>BulletArm reinforcement learning environments</b> <ul style="list-style-type: none"><li>Implemented an open-sourced robotic reinforcement learning environment library using PyBullet.</li><li>Built a real-world experimental platform using a UR5 arm.</li></ul>	
<b>Policy learning in SE(3) action spaces</b> <ul style="list-style-type: none"><li>Designed a reinforcement learning framework for robotic manipulation tasks.</li><li>Proposed an imitation learning algorithm for large action spaces.</li></ul>	
<b>Assistive robotic pick-and-place system</b> <ul style="list-style-type: none"><li>Built an assistive robotic system to assist people with disabilities in household manipulation tasks.</li><li>Conducted pick-and-place experiments in an open world environment.</li></ul>	
<b>Institute of Computing Technology, Chinese Academy of Sciences</b> , Beijing, China Research Intern	July 2016-Aug. 2016
<ul style="list-style-type: none"><li>Led team of 4 interns to implement a user dynamic detection app based on data from gravity sensor.</li></ul>	

## PUBLICATIONS

- [14] **Dian Wang**, Jung Yeon Park, Neel Sortur, Lawson L.S. Wong, Robin Walters, Robert Platt. "The Surprising Effectiveness of Equivariant Models in Domains with Latent Symmetry". *Under review*.
- [13] Mingxi Jia\*, **Dian Wang\***, Guanang Su, David Klee, Xupeng Zhu, Robin Walters, Robert Platt. "SEIL: Simulation-augmented Equivariant Imitation Learning". *Under review*. \*Equal contribution. [Link](#).
- [12] Haojie Huang, **Dian Wang**, Xupeng Zhu, Robin Walters, Robert Platt. "Edge Grasp Network: A Graph-Based SE(3)-invariant Approach to Grasp Detection". *Under review*.
- [11] **Dian Wang**, Mingxi Jia, Xupeng Zhu, Robin Walters, Robert Platt. "On-Robot Learning With Equivariant Models". *Conference on Robot Learning (CoRL)*, 2022. Acceptance Rate: 39%. [Link](#).
- [10] Hai Huu Nguyen, Andrea Baisero, **Dian Wang**, Christopher Amato, Robert Platt. "Leveraging Fully Observable Policies for Learning under Partial Observability". *Conference on Robot Learning (CoRL)*, 2022. Acceptance Rate: 39%. [Link](#).
- [9] **Dian Wang\***, Colin Kohler\*, Xupeng Zhu, Mingxi Jia, Robert Platt. "BulletArm: An Open-Source Robotic Manipulation Benchmark and Learning Framework". *The International Symposium on Robotics Research (ISRR)*, 2022. \*Equal contribution. Acceptance Rate 49%. [Link](#).
- [8] Haojie Huang, **Dian Wang**, Robin Walters, Robert Platt. "Equivariant Transporter Network". *Robotics: Science and Systems (RSS)*, 2022. Acceptance Rate 32%. [Link](#).
- [7] Xupeng Zhu, **Dian Wang**, Ondrej Biza, Guanang Su, Robin Walters, Robert Platt. "Sample Efficient Grasp Learning Using Equivariant Models". *Robotics: Science and Systems (RSS)*, 2022. Acceptance Rate 32%. [Link](#).

- [6] **Dian Wang**, Robin Walters, Robert Platt. “SO(2)-Equivariant Reinforcement Learning”. *International Conference on Learning Representations (ICLR)*, 2022. **Spotlight**. Spotlight Rate 5%. [Link](#).
- [5] **Dian Wang**, Robin Walters, Xupeng Zhu, Robert Platt. “Equivariant Q Learning in Spatial Action Spaces”. *Conference on Robot Learning (CoRL)*, 2021. Acceptance Rate: 34%. [Link](#).
- [4] Alexander Wilkinson, Michael Gonzales, Patrick Hoey, David Kontak, **Dian Wang**, Noah Tormane, Sam Laderoute, Zhao Han, Jordan Allspaw, Robert Platt, Holly Yanco. “Design Guidelines for Human-Robot Interaction with Assistive Robot Manipulation Systems”. *Paladyn, Journal of Behavioral Robotics*, 2021. [Link](#).
- [3] Ondrej Biza, **Dian Wang**, Robert Platt, Jan-Willem van de Meent, Lawson LS Wong. “Action Priors for Large Action Spaces in Robotics”. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2021. Acceptance Rate: 25%. [Link](#).
- [2] **Dian Wang**, Colin Kohler, Robert Platt. “Policy learning in SE(3) action spaces”. *Conference on Robot Learning (CoRL)*, 2020. Acceptance Rate: 34.7%. [Link](#).
- [1] **Dian Wang**, Colin Kohler, Andreas ten Pas, Alexander Wilkinson, Maozhi Liu, Holly Yanco, Robert Platt. “Towards Assistive Robotic Pick and Place in Open World Environments”. *The International Symposium on Robotics Research (ISRR)*, 2019. [Link](#).

## PRESENTATIONS

<b>Equivariant Q Learning in Spatial Action Spaces</b> Robotics: Science and Systems (RSS) 2022 Second Workshop on Scaling Robot Learning	New York City, NY	June 2022
<b>SO(2)-Equivariant Reinforcement Learning for Robotic Manipulation</b> International Conference on Robotics and Automation (ICRA) 2022 Workshop on Scaling Robot Learning	Philadelphia, PA	May 2022
<b>SO(2)-Equivariant Reinforcement Learning</b> International Conference on Learning Representations (ICLR), 2022	Online	Apr. 2022
<b>Equivariant Q Learning in Spatial Action Spaces</b> Conference on Robot Learning (CoRL), 2021	Online	Nov. 2021
<b>Policy Learning in SE(3) Action Spaces</b> Conference on Robot Learning (CoRL), 2020	Online	Nov. 2020
<b>Imitation Learning with Pixel-Wise Robotic End Effector Action Parametrization</b> M.S. Thesis Defense, Khoury College of Computer Sciences, Northeastern University	Boston, MA	Dec. 2019
<b>Towards Assistive Robotic Pick and Place in Open World Environments</b> The International Symposium on Robotics Research (ISRR), 2019	Hanoi, Vietnam	Oct. 2019

## PROFESSIONAL SERVICE

**Reviewer:** ICRA2023, CoRL 2022, RAL 2022, T-RO 2022, ICRA 2022, IROS 2021, ICRA 2019

## HONERS AND AWARDS

<b>Best Paper Award Finalist</b>	ICRA 2022 Workshop on Scaling Robot Learning	May 2022
<b>Khoury College Graduate Research Fellowship</b>	Northeastern University	Aug. 2019
<b>First Place of Outstanding Bachelor’s Thesis</b>	Sichuan University	June 2017

## TECHNICAL KNOWLEDGE

<b>Programming Languages:</b>	Python, Java, C++
<b>Tools:</b>	PyCharm, IntelliJ IDEA, Git, LaTeX, Final Cut Pro
<b>Robotics:</b>	UR5, Baxter, Robotic Operating System (ROS), PyBullet, OpenRave
<b>Machine Learning:</b>	PyTorch, NumPy