Dian Wang

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Education

Northeastern University — Boston, MA, USA
Ph.D. in Computer Science — *Jan. 2020 – Present*
M.S. in Computer Science; ***GPA: 4.00/4.00*** — *Sept. 2017 – Dec. 2019*

Sichuan University — Chengdu, China
B.Eng. in Computer Science and Engineering; ***GPA: 3.56/4.00*** — *Sept. 2013 – June 2017*

Experience

The Helping Hands Lab, Northeastern University — Boston, MA, USA
Research Assistant — *Jan. 2018 – Present*

Equivariant reinforcement learning in robotic manipulation
- Defined the symmetric properties of reinforcement learning in robotic manipulation.
- Proposed neural network architectures for improving training efficiency in robotic manipulation tasks.

BulletArm reinforcement learning environments
- Implemented an open-sourced robotic reinforcement learning environment library using PyBullet.
- Built a real-world experimental platform using a UR5 arm.

Policy learning in SE(3) action spaces
- Designed a reinforcement learning framework for robotic manipulation tasks.
- Proposed an imitation learning algorithm for large action spaces.

Assistive robotic pick-and-place system
- Built an assistive robotic system to assist people with disabilities in household manipulation tasks.
- Conducted pick-and-place experiments in an open world environment.

Institute of Computing Technology, Chinese Academy of Sciences — Beijing, China
Research Intern — *July. 2016 – Aug. 2026*
- Led team of 4 interns to implement a user dynamic detection app based on data from gravity sensor.

Publications

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Presentations

Equivariant Learning for Robotic Manipulation — Boston, MA, USA
Boston Robotics Speaker Series, presented by Universal Robots — *Mar. 2023*

On-Robot Learning with Equivariant Models — Auckland, New Zealand
Conference on Robot Learning (CoRL) 2022 — *Dec. 2022*

Graph-Based SE(3)-invariant Approach to Grasp Detection — Auckland, New Zealand
CoRL 2022 Workshop on Sim-to-Real Robot Learning — *Dec. 2022*

SEIL: Simulation-augmented Equivariant Imitation Learning — Auckland, New Zealand
CoRL 2022 Workshop on Sim-to-Real Robot Learning — *Dec. 2022*

Equivariant Reinforcement Learning for Robotic Manipulation — Providence, RI, USA
The Multi-disciplinary Conference on Reinforcement Learning and Decision Making 2022 — *June 2022*

Equivariant Q Learning in Spatial Action Spaces — New York City, NY, USA
RSS 2022 Workshop on Scaling Robot Learning — *June 2022*

SO(2)-Equivariant Reinforcement Learning for Robotic Manipulation — Philadelphia, PA, USA
ICRA 2022 Workshop on Scaling Robot Learning — *May 2022*

SO(2)-Equivariant Reinforcement Learning — Online
International Conference on Learning Representations (ICLR) 2022 — *Apr. 2022*

Equivariant Q Learning in Spatial Action Spaces — Online
Conference on Robot Learning (CoRL) 2021 — *Nov. 2021*

Policy Learning in SE(3) Action Spaces — Online
Conference on Robot Learning (CoRL) 2020 — *Nov. 2020*

Imitation Learning with Pixel-Wise Action Parametrization — Boston, MA, USA
M.S. Thesis Defense, Khoury College of Computer Sciences, Northeastern University — *Dec. 2019*

Towards Assistive Robotic Pick and Place in Open World Environments — Hanoi, Vietnam
The International Symposium on Robotics Research (ISRR) 2019 — *Dec. 2019*

Teaching

Guest Lecture on Leveraging SE(2) Symmetries in Robot Learning
Robotics Science and Systems (Northeastern CS5335), Prof. Robert Platt — *Mar. 2022*

Mentoring

Mingxi Jia	M.S. Student at Northeastern University	*Dec. 2021 - Present*
Guanang Su	M.S. Student at Northeastern University	*Dec. 2021 - Present*
Neel Sortur	Undergraduate Student at Northeastern University	*May 2021 - Oct. 2022*
Zhengyi Ou	M.S. Student at Northeastern University	*Sept. 2020 - Dec. 2021*
Yida Niu	M.S. Student at Northeastern University	*Sept. 2020 - Aug. 2021*

Professional Service

Lead Organizer, RSS 2023 Workshop on Symmetries in Robot Learning
Reviewer: ICRA 2023, CoRL 2022, RAL 2022, T-RO 2022, ICRA 2022, IROS 2021, ICRA 2019

Honers & Awards

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

Skills

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