

Dian Wang

🌐 dianwang.io | 🐦 @Dian_Wang_ | 🎓 Google Scholar
📺 Youtube | 📄 GitHub | ✉ wang.dian@northeastern.edu

RESEARCH INTERESTS

Robot Learning, Geometric Deep Learning, Robotic Manipulation and Grasping, Reinforcement Learning

EDUCATION

Northeastern University

Ph.D. in Computer Science. Advisors: Prof. Robert Platt, Prof. Robin Walters

M.S. in Computer Science; GPA: 4.00/4.00

Sichuan University

B.Eng. in Computer Science and Engineering; GPA: 3.56/4.00

Boston, MA, USA

Jan. 2020 – Present

Sept. 2017 – Dec. 2019

Chengdu, China

Sept. 2013 – June 2017

EXPERIENCE

Boston Dynamics AI Institute

Research Intern

Cambridge, MA, USA

May 2023 – Aug. 2023; May 2024 – Aug. 2024

PUBLICATIONS

CONFERENCE PAPERS

- C19 **D. Wang**, S. Hart, D. Surovik, T. Kelestemur, H. Huang, H. Zhao, M. Yeatman, J. Wang, R. Walters, and R. Platt. Equivariant diffusion policy. In *Conference on Robot Learning (CoRL)*, 2024. **Best Paper Award Finalist**. [Link](#)
- C18 B. Hu, X. Zhu*, **D. Wang***, Z. Dong*, H. Huang*, C. Wang*, R. Walters, and R. Platt. Orbitgrasp: Se(3)-equivariant grasp learning. In *Conference on Robot Learning (CoRL)*, 2024. [Link](#)
- C17 H. Huang, K. Schmeckpeper*, **D. Wang***, O. Biza, Y. Qian, H. Liu, M. Jia, R. Platt, and R. Walters. Imagination policy: Using generative point cloud models for learning manipulation policies. In *Conference on Robot Learning (CoRL)*, 2024. [Link](#)
- C16 H. Huang, O. L. Howell*, **D. Wang***, X. Zhu*, R. Platt[†], and R. Walters[†]. Fourier transporter: Bi-equivariant robotic manipulation in 3d. In *International Conference on Learning Representations (ICLR)*, 2024. [Link](#)
- C15 **D. Wang**, X. Zhu, J. Y. Park, R. Platt, and R. Walters. A general theory of correct, incorrect, and extrinsic equivariance. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2023. [Link](#)
- C14 H. H. Nguyen, D. Klee, A. Baisero, **D. Wang**, R. Platt, and C. Amato. Equivariant reinforcement learning under partial observability. In *Conference on Robot Learning (CoRL)*, 2023. [Link](#)
- C13 **D. Wang**, J. Y. Park, N. Sortur, L. L. Wong, R. Walters[†], and R. Platt[†]. The surprising effectiveness of equivariant models in domains with latent symmetry. In *International Conference on Learning Representations (ICLR)*, 2023. **Spotlight**. [Link](#)
- C12 M. Jia*, **D. Wang***, G. Su, D. Klee, X. Zhu, R. Walters, and R. Platt. Seil: Simulation-augmented equivariant imitation learning. In *International Conference on Robotics and Automation (ICRA)*, 2023. [Link](#)
- C11 H. Huang, **D. Wang**, X. Zhu, R. Walters, and R. Platt. Edge grasp network: A graph-based SE(3)-invariant approach to grasp detection. In *International Conference on Robotics and Automation (ICRA)*, 2023. [Link](#)
- C10 **D. Wang**, M. Jia, X. Zhu, R. Walters, and R. Platt. On-robot learning with equivariant models. In *Conference on Robot Learning (CoRL)*, 2022. [Link](#)
- C9 H. H. Nguyen, A. Baisero, **D. Wang**, C. Amato, and R. Platt. Leveraging fully observable policies for learning under partial observability. In *Conference on Robot Learning (CoRL)*, 2022. [Link](#)
- C8 **D. Wang***, C. Kohler*, X. Zhu, M. Jia, and R. Platt. Bulletarm: An open-source robotic manipulation benchmark and learning framework. In *The International Symposium on Robotics Research (ISRR)*, 2022. [Link](#)
- C7 H. Huang, **D. Wang**, R. Walters, and R. Platt. Equivariant transporter network. In *Robotics: Science and Systems (RSS)*, 2022. [Link](#)
- C6 X. Zhu, **D. Wang**, O. Biza, G. Su, R. Walters, and R. Platt. Sample efficient grasp learning using equivariant models. In *Robotics: Science and Systems (RSS)*, 2022. [Link](#)
- C5 **D. Wang**, R. Walters, and R. Platt. SO(2)-equivariant reinforcement learning. In *International Conference on Learning Representations (ICLR)*, 2022. **Spotlight**. [Link](#)

- C4 **D. Wang**, R. Walters, X. Zhu, and R. Platt. Equivariant Q learning in spatial action spaces. In *Conference on Robot Learning (CoRL)*, 2021. [Link](#)
- C3 O. Biza, **D. Wang**, R. Platt, J.-W. van de Meent, and L. L. Wong. Action priors for large action spaces in robotics. In *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2021. [Link](#)
- C2 **D. Wang**, C. Kohler, and R. Platt. Policy learning in SE(3) action spaces. In *Conference on Robot Learning (CoRL)*, 2020. [Link](#)
- C1 **D. Wang**, C. Kohler, A. ten Pas, A. Wilkinson, M. Liu, H. Yanco, and R. Platt. Towards assistive robotic pick and place in open world environments. In *The International Symposium on Robotics Research (ISRR)*, 2019. [Link](#)

JOURNAL PAPERS

- J3 H. Huang, **D. Wang**, A. Tangri, R. Walters, and R. Platt. Leveraging pick and place symmetries. *The International Journal of Robotics Research (IJRR)*, 2024. [Link](#)
- J2 X. Zhu, **D. Wang**, G. Su, O. Biza, R. Walters, and R. Platt. On robot grasp learning using equivariant models. *Autonomous Robots*, 2023. [Link](#)
- J1 A. Wilkinson, M. Gonzales, P. Hoey, D. Kontak, **D. Wang**, N. Tornare, A. Sinclair, Z. Han, J. Allspaw, R. Platt, and H. Yanco. Design guidelines for human-robot interaction with assistive robot manipulation systems. *Paladyn, Journal of Behavioral Robotics*, 2021. [Link](#)

PREPRINTS

- P3 H. Huang, H. Liu, **D. Wang**, R. Walters[†], and R. Platt[†]. Match policy: A simple pipeline from point cloud registration to manipulation policies. Under review. [Link](#)
- P2 A. Tangri, O. Biza, **D. Wang**, D. Klee, O. L. Howell, and R. Platt. Equivariant offline reinforcement learning. Under review. [Link](#)
- P1 M. Jia, H. Huang, C. W. Zhewen Zhang, L. Zhao, **D. Wang**, J. X. Liu, R. Walters, R. Platt, and S. Tellex. Open-vocabulary pick and place via patch-level semantic maps. Under review. [Link](#)

HONORS AND AWARDS

Best Paper Award Finalist	Conference on Robot Learning (CoRL) 2024	Nov. 2024
2023 JPMorgan Chase Ph.D. Fellowship	JPMorgan Chase	June 2023
Best Paper Award Finalist	ICRA 2022 Workshop on Scaling Robot Learning	May 2022
Khoury College Graduate Research Fellowship	Northeastern University	Aug. 2019

TEACHING

Teaching Assistant		
<i>Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Christopher Amato</i>		Fall 2024
Guest Lecture on Equivariant Reinforcement Learning for Robotic Manipulation		
<i>Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Lawson Wong</i>		Apr. 2024
Guest Lecture on Equivariant Learning for Robotic Manipulation		
<i>Geometric Deep Learning (Northeastern CS7180), Prof. Robin Walters</i>		Apr. 2023
Guest Lecture on Leveraging SE(2) Symmetries in Robot Learning		
<i>Robotics Science and Systems (Northeastern CS5335), Prof. Robert Platt</i>		Mar. 2022

TALKS AND ORAL PRESENTATIONS

Equivariant Policy Learning for Robotic Manipulation		
<i>Next-Gen Robot Learning Symposium at TU Darmstadt</i>		Nov. 2024
<i>TU Munich</i>		Nov. 2024
<i>Stanford University</i>		Oct. 2024
<i>University of California, San Diego</i>		Oct. 2024
<i>Boston University</i>		Oct. 2024
<i>GRASP SFI Seminar, University of Pennsylvania</i>		Sept. 2024
<i>University of Washington</i>		Sept. 2024
<i>Carnegie Mellon University</i>		June 2024
<i>Brown University</i>		June 2024; Apr. 2023
<i>Boston Robotics Speaker Series, presented by Universal Robots</i>		Mar. 2023

Equivariant Diffusion Policy	Munich, Germany
<i>Conference on Robot Learning (CoRL) 2024</i>	<i>Nov. 2024</i>
Pushing the Limits of Equivariant Neural Networks (with Robin Walters)	Cambridge, MA, USA
<i>NeurReps Global Speaker Series at MIT</i>	<i>Oct. 2024</i>
Equivariant Models for Long-Horizon Manipulation	Cambridge, MA, USA
<i>Boston Dynamics AI Institute</i>	<i>Mar. 2024</i>
The Surprising Effectiveness of Equivariant Models in Domains with Latent Symmetry	Kigali, Rwanda
<i>International Conference on Learning Representations (ICLR) 2023</i>	<i>May 2023</i>
Equivariant Q Learning in Spatial Action Spaces	New York City, NY, USA
<i>RSS 2022 Workshop on Scaling Robot Learning</i>	<i>June 2022</i>
SO(2)-Equivariant Reinforcement Learning for Robotic Manipulation	Philadelphia, PA, USA
<i>ICRA 2022 Workshop on Scaling Robot Learning</i>	<i>May 2022</i>
Towards Assistive Robotic Pick and Place in Open World Environments	Hanoi, Vietnam
<i>The International Symposium on Robotics Research (ISRR) 2019</i>	<i>Dec. 2019</i>

MENTORING

Haibo Zhao	M.S. at Northeastern		<i>Nov. 2023 - Present</i>
Mingxi Jia	M.S. at Northeastern	Now Ph.D. Student at Brown	<i>Dec. 2021 - May 2023</i>
Guanang Su	M.S. at Northeastern	Now Ph.D. Student at Univ. of Minnesota	<i>Dec. 2021 - May 2023</i>
Neel Sortur	Undergrad. at Northeastern	Now M.S. Student at Northeastern	<i>May 2021 - Oct. 2022</i>
Zhengyi Ou	M.S. at Northeastern	Now Software Engineer at Medtronic	<i>Sept. 2020 - Dec. 2021</i>
Yida Niu	M.S. at Northeastern	Now Ph.D. Student at Peking University	<i>Sept. 2020 - Aug. 2021</i>

PROFESSIONAL SERVICE

Lead Organizer, RSS 2023 Workshop on Symmetries in Robot Learning
Organizer, RSS 2024 Workshop on Geometric and Algebraic Structure in Robot Learning
Reviewer: IJRR2024. ICML 2024. ICLR 2023-2025. NeurIPS 2023. ICRA 2019, 2022-2024. CoRL 2022-2024. IROS 2021, 2023. RAL 2022-2024. T-RO 2022.

MEDIA COVERAGE

Khoury Story: Dian on Researching Machine Learning and Robotics, Link	<i>June 2024</i>
Institute for Experiential Robotics Newsletter, Dian Wang - CoRL 2022 Presentation	<i>Jan. 2023</i>
Northeastern Global News, photo by Matthew MODOONO, Link	<i>Sept. 2020</i>
IEEE Spectrum Video Friday, Link	<i>Sept. 2019</i>

OUTREACH

AI in Action - Everyday Robotics, presentation and demo at Northeastern University	<i>Apr. 2024</i>
--	------------------