

# Dian Wang

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## RESEARCH INTERESTS

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

## EDUCATION

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### Northeastern University

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

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

Boston, MA, USA

Jan. 2020 – Present

Sept. 2017 – Dec. 2019

### Sichuan University

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

Chengdu, China

Sept. 2013 – June 2017

## EXPERIENCE

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### Boston Dynamics AI Institute

Research Intern

Cambridge, MA, USA

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

## PUBLICATIONS

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### CONFERENCE PAPERS

- C20 H. Huang, H. Liu, **D. Wang**, R. Walters<sup>†</sup>, and R. Platt<sup>†</sup>. Match policy: A simple pipeline from point cloud registration to manipulation policies. In *International Conference on Robotics and Automation (ICRA)*, 2025. [Link](#)
- 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<sup>†</sup>, and R. Walters<sup>†</sup>. 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<sup>†</sup>, and R. Platt<sup>†</sup>. 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](#)

#### WORKSHOP PAPERS

- W9 **D. Wang**, J. Y. Park, X. Zhu, N. Sortur, M. Jia, G. Su, L. Wong, R. Walters, and R. Platt. Correct, incorrect and extrinsic equivariance. In *ICML 2024 Workshop on Geometric-Grounded Representation Learning and Generative Modelling*, 2024
- W8 M. Jia, H. Huang, Z. Zhang, C. Wang, L. Zhao, **D. Wang**, J. X. Liu, R. Walters, R. Platt, and S. Tellex. Equivariant open-vocabulary pick and place via language kernels and patch-level semantic maps. In *RSS 2024 Workshop on Task Specification for General-Purpose Intelligent Robots*, 2024
- W7 **D. Wang**, J. Y. Park, N. Sortur, L. Wong, R. Walters, and R. Platt. The surprising effectiveness of equivariant models in domains with latent symmetry. In *NeurIPS 2023 Workshop on Symmetry and Geometry in Neural Representations*, 2023
- W6 **D. Wang\***, M. Jia\*, G. Su, D. Klee, X. Zhu, R. Walters, and R. Platt. Seil: Simulation-augmented equivariant imitation learning. In *CoRL 2022 Workshop on Sim-to-Real Robot Learning: Locomotion and Beyond*, 2022
- W5 H. Huang, **D. Wang**, X. Zhu, R. Walters, and R. Platt. Edge grasp network. In *CoRL 2022 Workshop on Sim-to-Real Robot Learning: Locomotion and Beyond*, 2022
- W4 **D. Wang**, X. Zhu, R. Walters, O. Biza, G. Su, and R. Platt. Equivariant  $Q$  learning in spatial action spaces. In *RSS 2022 Workshop on Scaling Robot Learning*, 2022
- W3 **D. Wang**, R. Walters, M. Jia, X. Zhu, and R. Platt. Equivariant reinforcement learning for robotic manipulation. In *ICRA 2022 Workshop on Scaling Robot Learning*, 2022
- W2 X. Zhu, **D. Wang**, O. Biza, G. Su, R. Walters, and R. Platt. Sample efficient grasp learning using equivariant models. In *ICRA 2022 Workshop on Scaling Robot Learning*, 2022
- W1 H. Huang, **D. Wang**, R. Walters, and R. Platt. Equivariant transporter network. In *ICRA 2022 Workshop on Scaling Robot Learning*, 2022. **Best Paper Award Finalist**

#### PREPRINTS

- P3 X. Zhu, D. Klee\*, **D. Wang\***, B. Hu, H. Huang, A. Tangri, R. Walters, and R. Platt. Coarse-to-fine 3d keyframe transporter. Under review. [Link](#)
- P2 A. Tangri, O. Biza, **D. Wang**, D. Klee, O. L. Howell, and R. Platt. Equivariant offline reinforcement learning. [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. [Link](#)

## HONORS AND AWARDS

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

## TEACHING

<b>Teaching Assistant</b>		
<i>Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Chris Amato</i>		<i>Fall 2024</i>
<b>Guest Lecture on Equivariant Policy Learning for Robotic Manipulation</b>		
<i>Algorithmic Robotics (Rice University Comp550), Prof. Lydia Kavraki</i>		<i>Nov. 2024</i>
<b>Guest Lecture on Equivariant Reinforcement Learning for Robotic Manipulation</b>		
<i>Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Lawson Wong</i>		<i>Apr. 2024</i>
<b>Guest Lecture on Equivariant Learning for Robotic Manipulation</b>		
<i>Geometric Deep Learning (Northeastern CS7180), Prof. Robin Walters</i>		<i>Apr. 2023</i>
<b>Guest Lecture on Leveraging SE(2) Symmetries in Robot Learning</b>		
<i>Robotics Science and Systems (Northeastern CS5335), Prof. Robert Platt</i>		<i>Mar. 2022</i>

## MENTORING

Rachel Lim	M.S. at Northeastern		<i>Oct. 2024 - Present</i>
Yizhe Zhu	M.S. at Northeastern		<i>Oct. 2024 - Present</i>
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**: RSS 2025, 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, <a href="#">Link</a>	<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, <a href="#">Link</a>	<i>Sept. 2020</i>
IEEE Spectrum Video Friday, <a href="#">Link</a>	<i>Sept. 2019</i>

## OUTREACH

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

<b>Equivariant Policy Learning for Robotic Manipulation</b>	
<i>McGill University</i>	<i>Nov. 2024</i>
<i>WPI</i>	<i>Nov. 2024</i>
<i>UT Austin</i>	<i>Nov. 2024</i>
<i>Texas A&amp;M University</i>	<i>Nov. 2024</i>
<i>TU Munich</i>	<i>Nov. 2024</i>
<i>Next-Gen Robot Learning Symposium at TU Darmstadt</i>	<i>Nov. 2024</i>
<i>Stanford University</i>	<i>Oct. 2024</i>

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