Dian Wang

🌐 dianwang.io | 🐦 @Dian_Wang_ | 🎓 Google Scholar
▶ Youtube | GitHub | @ dianwang@stanford.edu

Research Interests

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

Employment

Stanford University	Stanford, CA, USA
Postdoctoral Researcher. Advisors: Prof. Shuran Song, Prof. Jeannette Bohg	*July 2025 − Present*
Boston Dynamics AI Institute	Cambridge, MA, USA
Research Intern	*May 2023 − Aug. 2023; May 2024 − Aug. 2024*

Education

Northeastern University	Boston, MA, USA
Ph.D. in Computer Science. Advisors: Prof. Robert Platt, Prof. Robin Walters	*Jan. 2020 − June 2025*
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*

Publications

Conference Papers

C21 H. Zhao*, **D. Wang***✉, Y. Zhu, X. Zhu, O. Howell, L. Zhao, Y. Qian, R. Walters, and R. Platt. Hierarchical equivariant policy via frame transfer. In *International Conference on Machine Learning (ICML)*, 2025. Link

C20 H. Huang, H. Liu, **D. Wang**, R. Walters†, and R. Platt†. 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. **Outstanding 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

J4 M. Jia, H. Huang, Z. Zhang, C. Wang, L. Zhao, D. Wang, J. X. Liu, R. Walters, R. Platt, and S. Tellex. Learning efficient and robust language-conditioned manipulation using textual-visual relevancy and equivariant language mapping. *IEEE Robotics and Automation Letters (RAL)*, 2025. Link

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. Torname, A. Sinclaire, 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

P5 **D. Wang**, B. Hu, S. Song, R. Walters, and R. Platt. A practical guide for incorporating symmetry in diffusion policy. Link

P4 B. Hu, **D. Wang**, D. Klee, H. Tian, X. Zhu, H. Huang, R. Platt, and R. Walters. 3d equivariant visuomotor policy learning via spherical projection. Link

P3 B. Hu*, H. Tian*, **D. Wang**, H. Huang, X. Zhu, R. Walters, and R. Platt. Push-grasp policy learning using equivariant models and grasp score optimization. Link

P2 X. Zhu, D. Klee*, **D. Wang***, B. Hu, H. Huang, A. Tangri, R. Walters, and R. Platt. Coarse-to-fine 3d keyframe transporter. Link

P1 A. Tangri, O. Biza, **D. Wang**, D. Klee, O. L. Howell, and R. Platt. Equivariant offline reinforcement learning. Link

Honors and Awards

Outstanding PhD Student Award in Research	Northeastern University	*Apr. 2025*
Outstanding 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 Scaling Robot Learning Workshop	*May 2022*
Khoury College Graduate Research Fellowship	Northeastern University	*Aug. 2019*

Teaching

Teaching Assistant

Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Chris Amato — *Fall 2024*

Guest Lecture on Equivariant Policy Learning for Robotic Manipulation

Algorithmic Robotics (Rice University Comp550), Prof. Lydia Kavraki — *Nov. 2024*

Guest Lecture on Equivariant Reinforcement Learning for Robotic Manipulation

Reinforcement Learning and Sequential Decision Making (Northeastern CS5180), Prof. Lawson Wong — *Apr. 2024*

Guest Lecture on Equivariant Learning for Robotic Manipulation

Geometric Deep Learning (Northeastern CS7180), Prof. Robin Walters — *Apr. 2023*

Guest Lecture on Leveraging SE(2) Symmetries in Robot Learning

Robotics Science and Systems (Northeastern CS5335), Prof. Robert Platt — *Mar. 2022*

Mentoring

Rachel Lim	M.S. at Northeastern		*Oct. 2024 - Present*
Yizhe Zhu	M.S. at Northeastern		*Oct. 2024 - Present*
Haibo Zhao	M.S. at Northeastern		*Nov. 2023 - Present*
Mingxi Jia	M.S. at Northeastern	Now Ph.D. Student at Brown	*Dec. 2021 - May 2023*
Guanang Su	M.S. at Northeastern	Now Ph.D. Student at Univ. of Minnesota	*Dec. 2021 - May 2023*
Neel Sortur	Undergrad. at Northeastern	Now M.S. Student at Northeastern	*May 2021 - Oct. 2022*
Zhengyi Ou	M.S. at Northeastern	Now Software Engineer at Medtronic	*Sept. 2020 - Dec. 2021*
Yida Niu	M.S. at Northeastern	Now Ph.D. Student at Peking University	*Sept. 2020 - Aug. 2021*

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. IJRR 2024. ICML 2024. ICLR 2023-2025. NeurIPS 2023, 2025. ICRA 2019, 2022-2024. CoRL 2022-2025. IROS 2021, 2023, 2025. RAL 2022-2024. T-RO 2022.

Media Coverage

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

OUTREACH

AI in Action - Everyday Robotics, presentation and demo at Northeastern University — *Apr. 2024*

TALKS AND ORAL PRESENTATIONS

Equivariant Policy Learning for Robotic Manipulation

McGill University	*Nov. 2024*
WPI	*Nov. 2024*
UT Austin	*Nov. 2024*
Texas A&M University	*Nov. 2024*
TU Munich	*Nov. 2024*
Next-Gen Robot Learning Symposium at TU Darmstadt	*Nov. 2024*
Stanford University	*Oct. 2024*
University of California, San Diego	*Oct. 2024*
Boston University	*Oct. 2024*
GRASP SFI Seminar, University of Pennsylvania	*Sept. 2024*
University of Washington	*Sept. 2024*
Carnegie Mellon University	*June 2024*
Brown University	*June 2024; Apr. 2023*
Boston Robotics Speaker Series, presented by Universal Robots	*Mar. 2023*

Equivariant Diffusion Policy — Munich, Germany
Conference on Robot Learning (CoRL) 2024 — *Nov. 2024*

Pushing the Limits of Equivariant Neural Networks (with Robin Walters) — Cambridge, MA, USA
NeurReps Global Speaker Series at MIT — *Oct. 2024*

Equivariant Models for Long-Horizon Manipulation — Cambridge, MA, USA
Boston Dynamics AI Institute — *Mar. 2024*

The Surprising Effectiveness of Equivariant Models in Domains with Latent Symmetry — Kigali, Rwanda
International Conference on Learning Representations (ICLR) 2023 — *May 2023*

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*

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