Dian Wang

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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 — *Sept. 2017 – Dec. 2019*

Sichuan University — Chengdu, China
B.Eng. in Computer Science and Engineering — *Sept. 2013 – June 2017*

Publications

Conference Papers

C24 D. Klee*, B. Hu*, A. Cole, H. Tian, **D. Wang**, R. Platt†, and R. Walters†. RAVEN: End-to-end equivariant robot learning with RGB cameras. In *International Conference on Learning Representations (ICLR)*, 2026

C23 **D. Wang**, B. Hu, S. Song, R. Walters†, and R. Platt†. A practical guide for incorporating symmetry in diffusion policy. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2025. Link

C22 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. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2025. **Spotlight**. Link

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

J6 **D. Wang**, D. S. Stephen Hart, H. H. Tarik Kelestemur, H. Zhao, M. Yeatman, X. Zhu, B. Hu, M. Jia, J. Wang, R. Walters, and R. Platt. Equivariant diffusion policy for sample-efficient robotic manipulation. *The International Journal of Robotics Research (IJRR)*, 2026. (Accepted)

J5 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. *IEEE Robotics and Automation Letters (RAL)*, 2025. Link

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

Preprints

P4 Y. Zhu, Z. Ye, B. Hu, H. Zhao, Y. Qi, **D. Wang**†, and R. Platt†. Residual rotation correction using tactile equivariance. Link

P3 H. Zhao, Y. Qi, B. Hu, Y. Zhu, Z. Chen, H. Tian, X. Zhu, O. Howell, H. Huang, R. Walters, **D. Wang**†, and R. Platt†. Generalizable hierarchical skill learning via object-centric representation. 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

Jisang Park	M.S. at Stanford		*Sept. 2025 - Present*
Yizhe Zhu	M.S. at Northeastern		*Oct. 2024 - Present*
Haibo Zhao	M.S. at Northeastern		*Nov. 2023 - Present*
Rachel Lim	M.S. at Northeastern		*Oct. 2024 - May 2025*
Mingxi Jia	M.S. at Northeastern	→ Ph.D. Student at Brown	*Dec. 2021 - May 2023*
Guanang Su	M.S. at Northeastern	→ Ph.D. Student at Univ. of Minnesota	*Dec. 2021 - May 2023*
Neel Sortur	Undergrad. at Northeastern	→ M.S. Student at Northeastern	*May 2021 - Oct. 2022*
Zhengyi Ou	M.S. at Northeastern	→ Software Engineer at Medtronic	*Sept. 2020 - Dec. 2021*
Yida Niu	M.S. at Northeastern	→ 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

Organizer, Stanford Robotics Seminar

Associate Editor, ICRA 2026

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*