

# Jung Yeon Park

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## Education

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|---|-------------------------------------|
| <b>Northeastern University</b><br><i>Ph.D. in Computer Science</i><br>(Advisor: Lawson Wong, Robin Walters) | <b>Boston, MA</b><br>2019–present   |
| <b>Northeastern University</b><br><i>M.S. in Computer Science</i>   | <b>Boston, MA</b><br>2022           |
| <b>KAIST</b><br><i>M.S. in Industrial Systems Engineering</i><br>(Advisor: James R. Morrison)               | <b>Daejeon, South Korea</b><br>2016 |
| <b>KAIST</b><br><i>B.S. in Industrial Systems Engineering</i>   | <b>Daejeon, South Korea</b><br>2014 |

## Research/Work Experience

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| <b>JP Morgan Chase AI Research</b><br><i>Summer Research Associate</i><br>Researched approximate equivariance in reinforcement learning for application to financial time series   | <b>New York, NY</b><br>Jun 2024–Aug 2024  |
| <b>The AI Institute</b><br><i>Research Intern</i><br>Investigated the importance of pretraining in foundation models for point clouds for downstream manipulation.   | <b>Cambridge, MA</b><br>Jan 2024–May 2024 |
| <b>Northeastern University, Khoury College of Computer Sciences</b><br><i>Graduate Assistant</i><br>Research areas: Reinforcement learning, Equivariant neural networks, Imitation learning  | <b>Boston, MA</b><br>2019–present         |
| <b>Samsung Electronics, DS Division</b><br><i>Software Engineer</i><br>Developed production APIs and client libraries for big data analysis. Managed and scaled up big data ML platform to become largest in semiconductor division. Implemented new ETL pipeline. | <b>Hwaseong, South Korea</b><br>2016–2019 |
| <b>KAIST, Department of Industrial Systems Engineering</b><br><i>Graduate Research Assistant</i><br>Thesis: Evaluation of Equipment Models of Clustered Photolithography Tools for Semiconductor Fab Simulation  | <b>Daejeon, South Korea</b><br>2016–2014  |
| <b>KAIST, Department of Industrial Systems Engineering</b><br><i>Undergraduate Research Assistant</i><br>Thesis: Financial Modeling and Simulation of the Case of Diamond Fund   | <b>Daejeon, South Korea</b><br>2013       |

## Publications

\* Equal Contribution

### Publications

**Jung Yeon Park**, Sujay Bhatt, Sihan Zeng, Lawson L.S. Wong, Alec Koppel, Sumitra Ganesh, and Robin Walters. Approximate equivariance in reinforcement learning. In *Preprint*, 2024.

Linfeng Zhao, Owen Lewis Howell, Xupeng Zhu, **Jung Yeon Park**, Zhewen Zhang, Robin Walters, and

Lawson L.S. Wong. Equivariant action sampling for reinforcement learning and planning. In *The 16th International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, 2024.

Colin Kohler, Nathan Vaska, Ramya Muthukrishnan, Whangbong Choi, **Jung Yeon Park**, Justin Goodwin, Rajmonda Caceres, and Robin Walters. Symmetric models for radar response modeling. In *NeurIPS 2023 Workshop on Symmetry and Geometry in Neural Representations*, 2023.

**Jung Yeon Park**, Lawson L.S. Wong, and Robin Walters. Modeling dynamics over meshes with gauge equivariant nonlinear message passing. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

Dian Wang, Xupeng Zhu, **Jung Yeon Park**, Robert Platt, and Robin Walters. A general theory of correct, incorrect, and extrinsic equivariance. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

Dian Wang, **Jung Yeon Park**, Neel Sortur, Lawson L.S. Wong, Robin Walters, and Robert Platt. The surprising effectiveness of equivariant models in domains with latent symmetry. In *International Conference on Learning Representations (ICLR)*, 2023. (**notable-top-25%**).

**Jung Yeon Park** and Lawson L.S. Wong. Robust imitation learning of a few demonstrations with a backwards model. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

**Jung Yeon Park\***, Ondrej Biza\*, Linfeng Zhao, Jan Willem van de Meent, and Robin Walters. Learning symmetric representations for equivariant world model. In *International Conference on Machine Learning (ICML)*, 2022.

**Jung Yeon Park\***, Niklas Smedemark-Margulies\*, Max Daniels, Rose Yu, Jan-Willem van de Meent, and Paul Hand. Generator surgery for compressed sensing. In *NeurIPS 2020 Workshop on Deep Learning and Inverse Problems*, 2020.

**Jung Yeon Park**, Kenneth Carr, Stephan Zheng, Yisong Yue, and Rose Yu. Multiresolution tensor learning for efficient and interpretable spatial analysis. In *International Conference on Machine Learning (ICML)*, pages 7499–7509. PMLR, 2020.

Hyeong-Ook Kim, Se-Hyeon Park, **Jung Yeon Park**, and James R. Morrison. On the consequences of un-modeled dynamics to the optimality of schedules in clustered photolithography tools. In *2019 Winter Simulation Conference (WSC)*, pages 2224–2235. IEEE, 2019.

**Jung Yeon Park**, Kyungsu Park, and James R Morrison. Models of clustered photolithography tools for fab-level simulation: From affine to flow line. *IEEE Transactions on Semiconductor Manufacturing*, 30(4):547–558, 2017.

**Jung Yeon Park**, Kyungsu Park, and James R Morrison. Exit recursion models of clustered photolithography tools for fab level simulation. *IEEE Transactions on Semiconductor Manufacturing*, 30(1):39–51, 2016.

## Patents.....

James R. Morrison, **Jung Yeon Park**, Kyungsu Park, and Sang Yoon Bae. An exit recursion model of an apparatus of clustered photolithography for achieving fab(wafer fabrication facilities)-level simulation, and a method for simulating using it. South Korea Patent Office, 1018856190000, July 2018.

James R. Morrison, **Jung Yeon Park**, Kyungsu Park, and Sang Yoon Bae. A model for an apparatus of clustered photolithography for achieving fab(wafer fabrication facilities)-level simulation, and a method for simulating using it. South Korea Patent Office, 1018668570000, June 2018.

## Awards and Honors

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- **Scholar Award**, NeurIPS Conference 2023
- **Achievement Prize**, Samsung Electronics 2017
- **Government Scholarship** for full tuition and stipend for M.S. 2014-2016
- **Excellence Prize** (tied for 1st), KAIST IE Frontier, for undergraduate thesis 2013

## Service

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### Talks

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- Symposium on Graphics Processing Graduate School** MIT  
*Equivariant Neural Networks* July 2024
- Microsoft Research Reinforcement Learning Group** Virtual  
*Latent symmetries and equivariant neural networks* May 2024

### Organizing

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- Co-organizer of [Boston Symmetry Day](#) Spring 2023, Fall 2023, Fall 2024

### Teaching Assistantship

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- CS5335 Robotic Science and Systems**: Northeastern University Spring 2022
- CS5180 Reinforcement Learning**: Northeastern University Fall 2021
- CS4100 Artificial Intelligence**: Northeastern University Spring 2021
- CS7180 Special Topics in Artificial Intelligence**: Northeastern University Fall 2020

### Reviewer

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IEEE RA-L (2022), AISTATS (2023~), ICML (2023~), NeurIPS (2023~), ICLR (2024~)