

Joongkyu Lee

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RESEARCH INTERESTS

Sequential Decision Making, Reinforcement Learning, Bandit Algorithms, Statistical Machine Learning, Optimization

EDUCATION

Seoul National University , Seoul, South Korea	Mar. 2023 - Present
<i>Ph.D Candidate in Data Science, Advisor: Min-hwan Oh</i>	
Seoul National University , Seoul, South Korea	Feb. 2023
<i>M.S. in Data Science, Advisor: Min-hwan Oh</i>	
Yonsei University , Seoul, South Korea	Feb. 2016
<i>B.S. in Industrial Engineering</i>	

PUBLICATIONS

- [6] **Improved Online Confidence Bounds for Multinomial Logistic Bandits**
 J. Lee and M. Oh
International Conference on Machine Learning (ICML), 2025
- [5] **Combinatorial Reinforcement Learning with Preference Feedback**
 J. Lee and M. Oh
International Conference on Machine Learning (ICML), 2025
- [4] **Nearly Minimax Optimal Regret for Multinomial Logistic Bandit (Top 0.2%, 32/15671)**
 J. Lee and M. Oh
Neural Information Processing Systems (NeurIPS), 2024.
- [3] **Randomized Exploration for Reinforcement Learning with Multinomial Logistic Function Approximation**
 W. Cho, T. Hwang, J. Lee and M. Oh
Neural Information Processing Systems (NeurIPS), 2024.
- [2] **Demystifying Linear MDPs and Novel Dynamics Aggregation Framework**
 J. Lee and M. Oh
International Conference on Learning Representations (ICLR), 2024.
- [1] **Learning Uncertainty-Aware Temporally-Extended Actions**
 J. Lee, S. Park, Y. Tang, and M. Oh
AAAI Conference on Artificial Intelligence (AAAI), 2024.

EXPERIENCE

Samsung Electronics <i>SQL, Python, VBA</i>	Aug. 2018 - Dec. 2020
• Production Management Group at Samsung Electronics DS	
Military Service	Mar. 2016 - Mar.2018
• Republic of Korea Air Force	

INDUSTRY PROJECTS

Personalized Real-Time Food Recommendation System	Jan. 2025 - Present
• Director: Prof. Min-hwan Oh	
• Funded by <i>Samyang Roundsquare</i>	
Development of AI-Based Virtual Fighter Jet Training System	Feb. 2024 - Feb. 2025
• Director: Prof. Min-hwan Oh	
• Funded by <i>Korea Aerospace Industries (KAI), LTD</i>	

Development of Analysis Model to Explore Test Process Equipment Combination	Mar. - Sep. 2022
<ul style="list-style-type: none"> • Director: Prof. Min-hwan Oh • Funded by <i>SK hynix</i> 	

INVITED TALKS & CONFERENCE PRESENTATION

<i>“Combinatorial Reinforcement Learning with Preference Feedback”</i>	
<ul style="list-style-type: none"> • 2024 Korea Data Science Conference, Future Research Award 	Nov. 2024
<i>“Nearly Minimax Optimal Regret for Multinomial Logistic Bandit”</i>	
<ul style="list-style-type: none"> • 2024 INFORMS Annual meeting, Vancouver 	Oct. 2024
<i>“Contextual Linear Bandits” and “Deep Reinforcement Learning”</i>	
<ul style="list-style-type: none"> • SK Telecom Market Top AI Course 	Jul. - Aug. 2023
<i>“Hierarchical Model-Based Reinforcement Learning with Linear Function Approximation”</i>	
<ul style="list-style-type: none"> • 2023 Korea Artificial Intelligence Association (KAIA), Best Paper Award • Earlier Version of <i>“Demystifying Linear MDPs and Novel Dynamics Aggregation Framework”</i> 	Jul. 2023
<i>“Learning Uncertainty-Aware Temporally-Extended Actions”</i>	
<ul style="list-style-type: none"> • 2023 Korea Data Mining Society • 2022 INFORMS Annual meeting, Indianapolis • 2022 Korea Artificial Intelligence Association (KAIA) 	Jun. 2023 Oct. 2022 Aug. 2022

AWARDS & SCHOLARSHIPS

Future Research Award , K-Data Science Conference	Nov. 2023
Best Paper Award , Korea Artificial Intelligence Association	Jul. 2023
National Excellence Scholarship , Korea Student Aid Foundation	Mar. 2010 - Feb. 2014

TEACHING EXPERIENCE

Seoul National University , Seoul, South Korea	
<ul style="list-style-type: none"> • Machine Learning & Deep Learning • Data Science & Reinforcement Learning 	Spring. 2022 Fall. 2021