



Joongkyu Lee

 [linkedin.com/in/joongkyu-lee-939aa91a7](https://www.linkedin.com/in/joongkyu-lee-939aa91a7)  jkleee0717@snu.ac.kr

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

- [2] **Demystifying Linear MDPs and Novel Dynamics Aggregation Framework**
J. Lee and M. Oh
Proceedings of the 12th International Conference on Learning Representations (ICLR), 2024.
- [1] **Learning Uncertainty-Aware Temporally-Extended Actions**
J.Lee, S. Park, Y. Tang, and M. Oh
Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI), 2024.

PREPRINTS

- [1] **Nearly Minimax Optimal Regret for Multinomial Logistic Bandit**
J. Lee and M. Oh
Preprint. Under review. Uploaded to arXiv.

EXPERIENCE

| | |
|---|-----------------------|
| Samsung Electronics <i>SQL, Python</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

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|---|----------------------------|
| Development of Analysis Model to Explore Test Process Equipment Combination and Improve Flexible Test Performance | Mar. - Sep. 2022 |
| • Director: Prof. Min-hwan Oh | |
| • Funded by <i>SK hynix</i> | |
| Development of an AI-Based Virtual Fighter Jet Training System | Feb. 2024 - Present |
| • Director: Prof. Min-hwan Oh | |
| • Funded by <i>Korea Aerospace Industries (KAI), LTD</i> | |

INVITED TALKS & CONFERENCE PRESENTATION

- “Contextual Linear Bandits” and “Deep Reinforcement Learning”
• SK Telecom Market Top AI Course
July. - Aug. 2023
- “Hierarchical Model-Based Reinforcement Learning with Linear Function Approximation”
• 2023 Korea Artificial Intelligence Association (KAIA), **Best Paper Award**
• Earlier Version of “Demystifying Linear MDPs and Novel Dynamics Aggregation Framework”
July. 2023

“Learning Uncertainty-Aware Temporally-Extended Actions”

- 2023 Korea Data Mining Society June. 2023
- 2022 INFORMS Annual meeting, Indianapolis Oct. 2022
- 2022 Korea Artificial Intelligence Association (KAIA) Aug. 2022

AWARDS & SCHOLARSHIPS

- Best Paper Award**, Korea Artificial Intelligence Association July. 2023
- National Excellence Scholarship**, Korea Student Aid Foundation Spring. 2010 - Fall. 2013

TEACHING EXPERIENCE

- Seoul National University**, Seoul, South Korea
- Machine Learning & Deep Learning Spring. 2022
- Data Science & Reinforcement Learning Fall. 2021