

# Joongkyu Lee

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## RESEARCH INTERESTS

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

## EDUCATION

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**Seoul National University**, Seoul, South Korea Mar. 2023 - **Present**  
*Ph.D Candidate in Data Science, Advisor: Min-hwan Oh*

**Seoul National University**, Seoul, South Korea Feb. 2023  
*M.S. in Data Science, Advisor: Min-hwan Oh*

**Yonsei University**, Seoul, South Korea Feb. 2016  
*B.S. in Industrial Engineering*

## PUBLICATIONS

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- [4] **Nearly Minimax Optimal Regret for Multinomial Logistic Bandit**  
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

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**Samsung Electronics** | *SQL, Python* 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 *SK hynix*

Development of an AI-Based Virtual Fighter Jet Training System Feb. 2024 - **Present**

- Director: Prof. Min-hwan Oh
- Funded by *Korea Aerospace Industries (KAI), LTD*

## INVITED TALKS & CONFERENCE PRESENTATION

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*“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
- 2022 INFORMS Annual meeting, Indianapolis
- 2022 Korea Artificial Intelligence Association (KAIA)

June. 2023

Oct. 2022

Aug. 2022

## AWARDS & SCHOLARSHIPS

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**Best Paper Award**, Korea Artificial Intelligence Association

July. 2023

**National Excellence Scholarship**, Korea Student Aid Foundation

Spring. 2010 - Fall. 2013

## TEACHING EXPERIENCE

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**Seoul National University**, Seoul, South Korea

- Machine Learning & Deep Learning
- Data Science & Reinforcement Learning

Spring. 2022

Fall. 2021