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**
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

[4] **Nearly Minimax Optimal Regret for Multinomial Logistic Bandit**
J. Lee and M. Oh
*Proceedings of the 38th Neural Information Processing Systems 36 (**NeurIPS**), 2024.*

[3] **Randomized Exploration for Reinforcement Learning with Multinomial Logistic Function Approximation**
W. Cho, T. Hwang, J. Lee and M. Oh
*Proceedings of the 38th Neural Information Processing Systems 36 (**NeurIPS**), 2024.*

[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.*

EXPERIENCE

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

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

"Contextual Linear Bandits" and "Deep Reinforcement Learning"
- SK Telecom Market Top AI Course <div align="right">July. - Aug. 2023</div>

"Hierarchical Model-Based Reinforcement Learning with Linear Function Approximation"
- 2023 Korea Artificial Intelligence Association (KAIA), **Best Paper Award** <div align="right">July. 2023</div>
- Earlier Version of *"Demystifying Linear MDPs and Novel Dynamics Aggregation Framework"*

"Learning Uncertainty-Aware Temporally-Extended Actions"
- 2023 Korea Data Mining Society <div align="right">June. 2023</div>
- 2022 INFORMS Annual meeting, Indianapolis <div align="right">Oct. 2022</div>
- 2022 Korea Artificial Intelligence Association (KAIA) <div align="right">Aug. 2022</div>

Awards & Scholarships

Best Paper Award, Korea Artificial Intelligence Association <div align="right">July. 2023</div>
National Excellence Scholarship, Korea Student Aid Foundation <div align="right">Spring. 2010 - Fall. 2013</div>

Teaching Experience

Seoul National University, Seoul, South Korea
- Machine Learning & Deep Learning <div align="right">Spring. 2022</div>
- Data Science & Reinforcement Learning <div align="right">Fall. 2021</div>