Taehyun Hwang

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Contact Information

Graduate School of Data Science
Seoul National University
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Research Interests

Sequential Decision Making, Statistical Machine Learning, Optimization for Machine Learning

Education

Seoul National University Mar. 2020 - **Present**
Ph.D Candidate in Data Science
Advisor: Min-hwan Oh

Sungkyunkwan University Sept. 2016 - Aug. 2018
M.S in Mathematics
Advisor: Yongdo Lim / Co-advisor: Rhee Man Kil
Thesis: Combination of Gaussian Kernel Function Networks for Traffic Flow Prediction

Kyungpook National University Mar. 2010 - Aug. 2016
B.S in Mathematics (Graduated with the highest honor)
Minor: Business Administration

Experience

- **The Research Institute of Basic Science, Sungkyunkwan University**
  Research Assistant Sept. 2018 - Feb. 2020

Publications (* denotes equal contribution)

[4] **Combinatorial Neural Bandits.**
Taehyun Hwang*, Kyuwook Chai*, and Min-hwan Oh
*International Conference on Machine Learning (**ICML**), 2023*
• Outstanding Paper Award, Korean Artificial Intelligence Association 2022 Summer Conference

[3] **Model-based Reinforcement Learning with Multinomial Logistic Function Approximation.**
Taehyun Hwang and Min-hwan Oh
*Proceedings of the 37th AAAI Conference on Aritificial Intelligence (**AAAI**), 2023.*
• Oral presentation in main technical session

[2] **Deep Learning Aided Evaluation for Electromechanical Properties of Complexly Structured Polymer Nanocomposites.**
Kyungmin Baek, **Taehyun Hwang**, Wonseok Lee, Hayoung Chung, and Maenghyo Cho
Composites Science and Technology, 109661, 2022.

[1] **Estimation of Jamming Parameters based on Gaussian Kernel Function Networks.**
Taehyun Hwang, Rhee Man Kil, Hyun Ku Lee, Jung Ho Kim, Jae Heon Ko, Jeil Jo, and Junghoon Lee
Journal of the Korea Institute of Military Science and Technology 23 (1), 1-10, 2020.

Industrial Projects

- Development of Analysis Model to Explore Test Process Equipment Combination and Improve Flexible Test Performance.
  Director: Prof. Min-hwan Oh Mar. - Sep. 2022
  Funded by *SK hynix*
- A Study on the Algorithms for Estimating the Parameters of Autonomous Jamming Technique.
  Director: Prof. Rhee Man Kil Apr. - Dec. 2018
  Funded by *Agency for Defense Development* and *LIG Nex1*

- An Industrial Problem Solving Project Using Mathematical Data Analysis.
  Director: Prof. Yongdo Lim May. - Sept. 2017
  Funded by *National Institute for Mathematical Sciences*

Talks

"*Neural Contextual Bandits from Single Action to Combinatorial Actions*"
- SK Telecom Market Top AI Course, SK Telecom Tower July 2023

"*Model-based Reinforcement Learning with Multinomial Logistic Function Approximation*"
- KDMS 2023 Summer Conference, Gangneung-Wonju National University June 2023
- AAAI 2023, Washington D.C. Feb. 2023
- KAIA & NAVER 2022 Fall Conference, NAVER 1784 (Seungnam) Nov. 2022
- INFORMS 2022 Annual meeting, Indianapolis Oct. 2022

"*Combinatorial Neural Bandits*"
- KDMS 2022 Summer Conference, Busan Aug. 2022
- KAIA 2022 Summer Conference, Jeju Aug. 2022
- INFORMS 2021 Annual meeting, Anaheim (Virtual) Oct. 2021

"*A Gaussian Kernel Function Network for Traffic Flow Prediction*"
- KMS 2019 Annual meeting, Hongik University Oct. 2019

"*Mathematics and Machine learning*"
- Special lecture for undergraduate students, Kongju National University Sept. 2019

Scholarships and Awards

- **YOULCHON AI Star Scholarship**, Youlchon Foundation Aug. 2023
- **Outstanding Paper Award**, Korean Artificial Intelligence Association July 2023
- **AAAI Student Scholarship**, AAAI Feb. 2023
- **Outstanding Paper Award**, Korean Artificial Intelligence Association Aug. 2022

Teaching Experience

- **Teaching Assistant** at Seoul National University
  Data Science & Reinforcement Learning, Foundation of Data Science, Math for Data Science
- **Teaching Assistant** at Sungkyunkwan University
  Calculus I/II, *Linear Algebra, Discrete Mathematics, Topics in Algebra (Lie Algebra)*

Academic Services

- **Conference Reviewer**
  ICML 2023
  NeurIPS 2022, 2023
  ICLR 2024