Sujin Yun

MS student @ KAIST

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RESEARCH INTEREST

- Diffusion models

- Reinforcement Learning

- Model-based Optimization

EDUCATION

Master of Science (M.S.)　　　　　　　　　　　　　　　　　　　　Daejeon, South Korea
Korea Advanced Institute of Science and Technology　　　　　　　*3/2023 – 2/2025 (expected)*

- Major: Data Science
- Advised by Prof. Jinkyoo Park
- Thesis: Novel generative data augmentation method for offline Reinforcement learning with conditional diffusion model

Bachelor of Science (B.S.)　　　　　　　　　　　　　　　　　　　　Seoul, South Korea
Yonsei University　　　　　　　　　　　　　　　　　　　　　　　　*3/2018 – 2/2023*

- Major: Industrial Engineering

PUBLICATIONS (*: EQUAL CONTRIBUTION)

[1] **GTA: Generative Trajectory Augmentation with Guidance for Offline Reinforcement Learning**
Jaewoo Lee*, **Sujin Yun***, Taeyoung Yun, Jinkyoo Park　　　　　　　　*NeurIPS 2024*
https://arxiv.org/abs/2405.16907

[2] **Guided Trajectory Generation with Diffusion Models for Offline Model-based Optimization**
Taeyoung Yun, **Sujin Yun**, Jaewoo Lee, Jinkyoo Park　　　　　　　　*NeurIPS 2024*
https://arxiv.org/abs/2407.01624

[3] **An Offline Meta Black-box Optimization Framework for Adaptive Design of Urban Traffic Light Management Systems**
Taeyoung Yun*, Kanghoon Lee*, Sujin Yun, Ilmyung Kim, Wonwoo Jung, Mincheol Kwon, Kyujin Choi, Yoohyeon Lee, Jinkyoo Park　　　　　　　　　　　　　　　　　　　*KDD 2024*
https://dl.acm.org/doi/abs/10.1145/3637528.3671606

TEACHING EXPERIENCE

Korea Advanced Institute of Science and Technology　　　　　　Daejeon, South Korea
- TA, IE437: Data-Driven Decision Making and Control　　　　　　　*3/2024 – 6/2024*

INDUSTRY PROJECT

Automated Control of Compressor Operations through offline RL　　Samsung Heavy Industry
- Develop an model to control compressor in shipyard　　　　　　　*4/2023 – 10/2023*
- Researched control algorithms with the objective to optimize power consumptions, using offline Reinforcement learning

Extracurricular Activities

YAI, Yonsei Artificial Intelligence club *1/2022 – 12/2022*
- Served as the president of the club, leading overall club activities and managing members.
- Organized and led seminars on graph learning, based on Stanford's CS224w course.
- Organized and led seminars on Natural Language Processing with Deep Learning, based on Stanford's CS224n course.

Ybigta, Yonsei Big data club *1/2021 – 12/2021*
- Led a project to develop a chatbot with emotion-based personas, using a Korean emotion classification dataset, and serve it via a messenger app
- Conducted a study group focusing on research papers about transformers in natural language processing
- Participate in a Docker study group, exploring containerization concepts and applications in real-world

Work Experience

Intern Researcher *1/2022 – 2/2022*
CJ Logistics Data Science Team *Seoul, South Korea*
- Developing a deep learning model for demand forecasting and vehicle number prediction algorithms based on logistics data.

Intern Data Scientist *3/2021 – 8/2021*
Voithru *Seoul, South Korea*
- Developing and maintaining KPI dashboard.
- Data analysis on youtube log data and user log data with SQL, python.

Awards

Second place on CJ logistics AI/Big data & System Future Technology Challenge *11/2021*