Taeyoung **Yun**

Black-box Optimization · Generative Models

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Personal Profile

My research interest lies in solving complex and high-dimensional black-box optimization problems through the lens of conditional generative modeling. I'm currently interested in Diffusion Models, Generative Flow Networks, and their applications to real-world tasks, e.g, biological sequence design, material discovery, and mechanical design. I'm also interested in various decision making problems such as bandits, Reinforcement Learning and Multi-Agent RL.

Education

KAIST (Korea Advanced Institute of Science and Technology)   *Daejeon, Korea*
Ph.D in Industrial and Systems Engineering   *March 2024 - Current*
- Supervised by Jinkyoo Park

KAIST   *Daejeon, Korea*
M.S in Graduate School of AI   *September 2022 - February 2024*
- Supervised by Jinkyoo Park

KAIST   *Daejeon, Korea*
B.S in Industrial and Systems Engineering & Computer Science (Double Major)   *March 2018 - August 2022*

Experiences

Hong Kong University of Science and Technology (HKUST)   *Hong kong*
Visiting Intern   *September 2024 - Current*
- Internship at HKUST hosted by Ling Pan.

Kakao Recommendation Team   *Seoul, Korea*
Research Intern   *March 2021 - August 2021*
- Develop contextual bandit algorithms for a personal recommendation.
- Analyze the gap between simulation and real-world deployment.

Projects

Incentive Design for Managing Taxi Fleet   *Daejeon, Korea*
Collaborate with ETRI   *March 2023 - March 2024*

Traffic Light Optimization   *Seoul, Korea*
Collaborate with KT   *March 2022 - March 2023*

Publications

Guided Trajectory Generation with Diffusion Models for Offline Model-based Optimization   *Arxiv*

Taeyoung Yun, Sujin Yun, Jaewoo Lee and Jinkyoo Park   *2024*
- paper
- code

An Offline Meta Black-box Optimization Framework for Adaptive Design of Urban Traffic Light Management Systems   *KDD*

Taeyoung Yun*, Kanghoon Lee*, Sujin Yun, Ilmyung Kim, Won-Woo Jung, Min-Cheol Kwon, Kyujin Choi, Yoohyeon Lee, and Jinkyoo Park (*: Equal Contribution)   *2024*
- paper
- code

Learning to Scale Logits for Temperature-conditional GFlowNets *ICML*

Minsu Kim*, Juhwan Ko*, **Taeyoung Yun***, Dinghuai Zhang, Ling Pan, Woochang Kim, Jinkyoo Park, and *2024*
Yoshua Bengio (*: Equal Contribution)

- paper
- code

GTA: Generative Trajetory Augmentation with Guidance for Offline Reinforcement *ICLR GenAI4DM Workshop*
Learning *(Spotlight)*

Jaewoo Lee*, Sujin Yun*, **Taeyoung Yun**, and Jinkyoo Park (*: Equal Contribution) *2024*

- paper
- code

Local Search GFlowNets *ICLR (Spotlight)*

Minsu Kim, **Taeyoung Yun**, Emmanuel Bengio, Dinghuai Zhang, Yoshua Bengio, Sungsoo Ahn, and *2024*
Jinkyoo Park

- paper
- code

Honors & Awards

Dean's List (Top 2%)
KAIST *2021*

NH Big Data Competition (Excellence Award)
DACON *2021*

Teaching Experiences

Teaching Assistant
IE437: Data-Driven Decision Making and Control *2023, 2024*

Teaching Assistant
MAS480: Introduction to Scientific Machine Learning *2022*

Academic Services

NIPS Reviewer *2024*