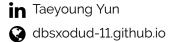
TAEYOUNG YUN

Ph.D student @ KAIST





RESEARCH INTEREST -

My research interest lies in solving complex and high-dimensional black-box optimization problems through the lens of conditional generative modeling. I'm interested in Diffusion Models, Generative Flow Networks (GFlowNets), and their applications to real-world tasks, e.g, biological sequence design, material discovery, and mechanical design.

Recently, I found out that many crucial problems in ML can be reduced as a posterior inference problem. To this end, I'm currently interested in developing algorithms for amortizing intractable multi-modal posterior inference that can impact real-world applications.

EDUCATION

03/2024 - Current Ph.D Student in Industrial and Systems Engineering

KAIST

Supervised by Jinkyoo Park

08/2022 - 02/2024 MS in Graduate School of AI

KAIST

Supervised by Jinkyoo Park

03/2018 - 08/2022 BS in Industrial and Systems Engineering & Computer Science

KAIST

Double major

INTERNSHIPS

09/2024 - Current Visiting Intern in HKUST

Remote

Hosted by Ling Pan

Fine-tuning LLM with GFlowNets to generate diverse and effective prompts for text-to-image diffusion models.

03/2021 - 08/2021 Research Intern in Kakao Recommendation Team

Seoul, Korea

Develop contextual bandit algorithms for a personal recommendation. Analyze the gap between simulation and real-world deployment.

INDUSTRIAL PROJECTS -

03/2023 - 03/2024 Incentive Design for Managing Taxi Fleet

Daejeon, Korea

Collaborate with ETRI

Develop an RL-based incentive design algorithm for rebalancing taxi fleets to resolve the taxi imbalance problem.

03/2022 - 03/2023 Traffic Light Optimization

Seoul, Korea

Collaborate with KT

Develop a Bayesian optimization algorithm for managing multiple traffic lights in the real world to reduce congestion.

HONORS & AWARDS

2021 Dean's List KAIST

Honor for Top 2% Students

2021 Excellence Award (2nd Place) Seoul, Korea

Big Data Competition Hosted by NH

PUBLICATIONS

*: Equal Contribution

Arxiv, 2024 Guided Trajectory Generation with Diffusion Models for Offline Model-based Optimiza-

tion

Taeyoung Yun, Sujin Yun, Jaewoo Lee and Jinkyoo Park

Paper / Code

KDD, 2024 An Offline Meta Black-box Optimization Framework for Adaptive Design of Urban Traffic

Light Management Systems

Taeyoung Yun*, Kanghoon Lee*, Sujin Yun, Ilmyung Kim, Won-Woo Jung, Min-Cheol Kwon,

Kyujin Choi, Yoohyeon Lee, and Jinkyoo Park

Paper / Code

ICML, 2024 Learning to Scale Logits for Temperature-conditional GFlowNets

Minsu Kim*, Juhwan Ko*, Taeyoung Yun*, Dinghuai Zhang, Ling Pan, Woochang Kim,

Jinkyoo Park, and Yoshua Bengio

Paper / Code

ICLRW, 2024 GTA: Generative Trajetory Augmentation with Guidance for Offline Reinforcement Learn-

(Spotlight) in

Jaewoo Lee*, Sujin Yun*, **Taeyoung Yun**, and Jinkyoo Park

Paper / Code

ICLR, 2024 Local Search GFlowNets

(Spotlight) Minsu Kim, **Taeyoung Yun**, Emmanuel Bengio, Dinghuai Zhang, Yoshua Bengio, Sungsoo

Ahn, and Jinkyoo Park

Paper / Code

TEACHING EXPERIENCES -

2023,2024 Teaching Assistant KAIST

IE437: Data-Driven Decision Making and Control

2022 Teaching Assistant KAIST

MAS480: Introduction to Scientific Machine Learning

ACADEMIC SERVICES -

2024 NIPS Reviewer