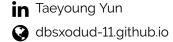
# **TAEYOUNG YUN**

Ph.D student @ KAIST



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## **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. I'm also interested in various decision making problems such as bandits, Reinforcement Learning and Multi-Agent RL.

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 M.S in Graduate School of AI

KAIST

Supervised by Jinkyoo Park

MS Thesis: Offline Meta Black-box Optimization Framework for Intelligent Traffic Light Management System

03/2018 - 08/2022 B.S in Industrial and Systems Engineering & Computer Science

KAIST

#### **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**

## 09/2024 - Current Traffic Network Layout Optimization

Daejeon, Korea

Collaborate with GS

Develop a Generative model-based design algorithm for optimizing traffic network layout on a given traffic pattern.

## 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

ICLR, 2025 Adaptive teachers for amortized samplers

Minsu Kim\*, Sanghyeok Choi\*, Taeyoung Yun, Emmanuel Bengio, Leo Feng, Jarrid Rector-

Brooks, Sungsoo Ahn, Jinkyoo Park, Nikolay Malkin, and Yoshua Bengio

Paper

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

tion

Taeyoung Yun, Sujin Yun, Jaewoo Lee and Jinkyoo Park

Paper / Code

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

(based on ICLRW) in

Jaewoo Lee\*, Sujin Yun\*, **Taeyoung Yun**, 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

(based on NIPSW) Minsu Kim\*, Juhwan Ko\*, Taeyoung Yun\*, Dinghuai Zhang, Ling Pan, Woochang Kim,

Jinkyoo Park, and Yoshua Bengio

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 -

2024 Teaching Assistant KAIST

IE481: Manufacturing & Artificial Intelligence

2023,2024 Teaching Assistant KAIST

IE437: Data-Driven Decision Making and Control

2022 Teaching Assistant KAIST

MAS480: Introduction to Scientific Machine Learning

#### **ACADEMIC SERVICES**

2025 **Reviewer** 

ICLR, AAMAS, AISTATS, ICML, TMLR