Seul Lee

CONTACT Information KAIST, Seoul, South Korea *E-mail:* seul.lee@kaist.ac.kr *Homepage:* seullee05.github.io

RESEARCH INTERESTS

My research interest is mainly in developing generative models for graphs. I especially focus on molecule generation that can bridge the gap between real-world drug discovery and automatic drug discovery. I am currently interested in the following topics:

- Drug discovery
- Generative models, especially diffusion models
- Graph representation learning

EDUCATION

KAIST, Daejeon, South Korea

M.S., Graduate School of AI

Mar. 2021 - Aug. 2022

- Advisor: Prof. Sung Ju Hwang
- Area of study: Machine learning
- Anticipate proceeding to a Ph.D. degree under the supervision of Prof. Sung Ju Hwang.

B.S., Department of Aerospace Engineering
B.S., Department of Biological Sciences

Mar. 2015 - Aug. 2019

Mar. 2015 - Aug. 2019

RESEARCH EXPERIENCE

AITRICS, Seoul, South Korea

• Research topic: Docking-optimized molecule generation using reinforcement learning

Conference Publications

Score-based Generative Modeling of Graphs via the System of Stochastic Differential Equations

Jaehyeong Jo*, **Seul Lee***, and Sung Ju Hwang (*: equal contribution), International Conference on Machine Learning (ICML), **2022**.

Edge Representation Learning with Hypergraphs

Jaehyeong Jo*, Jinheon Baek*, **Seul Lee***, Dongki Kim, Minki Kang, and Sung Ju Hwang (*: equal contribution),

Conference on Neural Information Processing Systems (NeurIPS), 2021.

Hit and Lead Discovery with Explorative RL and Fragment-based Molecule Generation

Soojung Yang, Doyeong Hwang, **Seul Lee**, Seongok Ryu, and Sung Ju Hwang,

Conference on Neural Information Processing Systems (NeurIPS), 2021.

JOURNAL PUBLICATIONS

Robotic Scanning Technology for Laser Pulse-Echo Inspection

Seul Lee, Jong-min Hyun, Hasan Ahmed, and Jung-ryul Lee,

Electronics Letters, 2020.

PREPRINTS

Exploring Chemical Space with Score-based Out-of-distribution Generation

Seul Lee, Jaehyeong Jo, and Sung Ju Hwang,

arXiv:2206.07632, 2022.

Honors and Awards • Boeing Undergraduate Scholarship

Feb. 2018 - Aug. 2019

• KAIST Presidential Fellowship (KPF)

Mar. 2017 - Aug. 2019

• National Science and Engineering Scholarship

Mar. 2015 - Feb. 2019

SKILLS

• Fluent in English

• Fluent in Python and PyTorch

References

• Prof. Sung Ju Hwang, Professor, KAIST

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