DAEHO LEE

dael93@zedat.fu-berlin.de

EDUCATION

Oct. 2024 - Present	**Freie Universität Berlin** Bioinformatics *Advisor: Dr. Markus Mittnenzweig* *Master Student* GPA: 1.3 / 4.0 (1.0 best)	Berlin, Germany
Sep. 2021 - Feb. 2024	**Korea Advanced Institute of Science and Technology** Department of Bio and Brain Engineering *Advisor: Prof. Dr. Gwan-Su Yi* *M.S. in Bio and Brain Engineering* GPA: 3.98 / 4.3 (4.3 best)	Daejeon, Korea
Mar. 2018 - Aug. 2021	**Sogang University** Life Science and Artificial Intelligence *Advisor: Prof. Dr. Hosuk Sean Lee* *B.S. in Life Sciences and Artificial Intelligence* GPA: 3.65 / 4.3 (4.3 best)	Seoul, Korea

RESEARCH EXPERIENCES

- Research Student at Dr. Markus Mittnenzweig lab, Max Delbrück Center for Molecular Medicine (MDC), Berlin, Germany (Oct. 2025 - Present) / Developing an anchor-based optimal-transport framework for robust alignment of scRNA-seq and image-based spatial transcriptomics under boundary bleeding.
- Research Intern at Dr. Markus Mittnenzweig lab, Max Delbrück Center for Molecular Medicine (MDC), Berlin, Germany (Jun. 2025 - Sep. 2025) / Performance Comparison of Ambient RNA Removal Models for Single-Cell Data Integration in Mouse Embryo Development.
- Researcher at Prof. Dr. Jong-Eun Park lab, Graduate school of Medical Science and Engineering, KAIST, Korea (Dec. 2023 - Mar. 2024) / Conducted a structured review of bulk and single-cell drug response studies and designed a transfer-learning–based framework linking bulk expression, single-cell transcriptomes and drug–gene knowledge.
- Research Student at Prof. Dr. Gwan-Su Yi lab, Bio and Brain Engineering, KAIST, Korea (Sep. 2021 - Feb. 2024) / Construction of a drug mechanism database based on text mining of bioassay literature information using PubChem Bioassay Database.
- Research Student at Prof. Dr. Ji-hwan Kim lab, Artificial Intelligence, Sogang Univ., Korea (Jan. 2021 - Aug. 2021) / Development of a language model (BERT, BART) to improve Korean speech recognizer performance.
- Research Student at Prof. Dr. Myung wan Choi lab, Life Science, Seoul National Univ., Korea (Aug. 2020 - Jan. 2021) / Assisted two-photon imaging of myelinated axons in mouse brain and generated manually labelled datasets capturing axon positions and morphology across age groups.

- Research Student at Prof. Dr. Mi Chung Suh, Life Science, Sogang Univ., Korea (Jan. 2019 - Aug. 2020) / Re-analysed public seed RNA-seq data to prioritise KCS17 as a seed coat–enriched candidate and supported follow-up expression, localisation and lipid profiling experiments.

PUBLICATIONS

1. Jun young Park, Daeho Lee, Bang Yoon, Na yeon Lee, Ji-hwan Kim, "Performance Analysis of KoBART Model Using KorQuAD Dataset and KoBERT Tokenizer.", Proceedings of the Korean Information Science Society Conference, 1747-1749., (2021)

AWARDS AND HONORS

- Excellence Award in the undergraduate category, Korea Information Computer Congress, Korea (Jun. 2021)

PROJECTS

- Development and validation of AI-based drug repositioning, Ministry of Science and Technology, Korea (Sep. 2021 - Jan. 2022)
- Identification of drug candidate based on AI text mining, KAIST, Korea (Sep. 2022 - Feb. 2023)

TEACHING EXPERIENCE

- TA in Department of Bio and Brain Engineering, KAIST, Daejeon, Korea, Mar. 2023 - Aug. 2023 - Course: Bioengineering Lab 1: Microarray data analysis using Decision Tree
- TA in Department of Bio and Brain Engineering, KAIST, Daejeon, Korea, Sep. 2022 - Dec. 2022 - Course: Biomedical Statistics & Statistical Learning
- TA in Department of Bio and Brain Engineering, KAIST, Daejeon, Korea, Mar. 2022 - Aug. 2022 - Course: Bioengineering Lab 1: Microarray data analysis using Decision Tree

SOCIAL, CULTURAL OR SPORTING ACTIVITIES

- Department representative for science outreach events for high-school students, Sogang University
- Organising committee member, SGAEM (Sogang University Game & E-sports Club), responsible for tournament planning and on-site operations
- Squad leader during mandatory military service, Republic of Korea Army

SCHOLARSHIPS

- Government-funded Graduate Scholarship, KAIST, 2021–2024 (full tuition waiver)

SKILLS

- Single-cell and spatial omics analysis
- Optimal transport and probabilistic modeling
- Machine learning and statistical analysis
- NLP and text mining
- Programming: Python, R
- Data and ML: NumPy, pandas, scikit-learn, PyTorch
- Workflow and compute: Linux, Git, Conda, Jupyter, HPC, SLURM