Yeseul Cho

Curriculum Vitae

Seoul, Republic of Korea — cyseul@kaist.ac.kr

RESEARCH INTERESTS

My research interests lie in the foundations of deep learning, with a focus on understanding what makes modern neural networks efficient and effective in practice. I am particularly interested in how training data and learned parameters shape model behavior, and how they can be better utilized to improve downstream performance. Recently, I have been working on dataset pruning and model merging. More broadly, I am also interested in the optimization dynamics of language models, especially how pre-training and post-training shape model behavior and downstream adaptability.

EDUCATION

M.S. in Artificial Intelligence 2024.09 – Present
KAIST, Kim Jaechul Graduate School of AI GPA: 3.95/4.3
Advisor: Prof. Chulhee Yun (Optimization & Machine Learning Lab)

B.S. in Biomedical Engineering 2020.03 – 2024.08
Korea University GPA: 3.92/4.5
Minor in Artificial Intelligence

Exchange Student, Department of Computer Science 2023.09 – 2024.02
University of Tübingen

PUBLICATIONS

1. **Yeseul Cho***, Baekrok Shin*, Changmin Kang, Chulhee Yun. "Lightweight Dataset Pruning without Full Training via Example Difficulty and Prediction Uncertainty." *International Conference on Machine Learning (ICML)*, 2025. arXiv:2502.06905.
2. Changmin Kang, Jihun Yun, Baekrok Shin, **Yeseul Cho**, Chulhee Yun. "Uniform Spectral Growth and Convergence of Muon in LoRA-Style Matrix Factorization." *arXiv preprint*, 2026. arXiv:2602.06385.

WORKING PROJECTS

1. **Yeseul Cho**, Baekrok Shin, Changmin Kang, Chulhee Yun. (work in progress)
   Research topic: Dataset Pruning Under Limited Label Budgets
2. **Yeseul Cho**, Hanseul Cho, Chulhee Yun. (work in progress)
   Research topic: Multi-Task Model (Task Vector) Merging

(INVITED) TALKS

Top Conference Session (KSC 2025), Yeosu, Republic of Korea.
Title: Lightweight Dataset Pruning without Full Training via Example Difficulty and Prediction Uncertainty

EXPERIENCE

UTL Lab, Korea University 2024.03 – 2024.06
Advisor: Prof. Donghyun Kim
Research Intern
Investigated prompt-driven style generation in vision-language models, enforcing orthogonal constraints on learnable embeddings for domain generalization.

NeuroXT, in collaboration with BREIN Lab, Korea University 2023.03 – 2023.08
Research Intern

Contributed to the development of Next-B, an MRI-based predictive model for pathological outcomes in patients with Alzheimer's disease.

Severance Hospital 2022.08 – 2023.02
Student Researcher
Built predictive models for neurodevelopmental outcomes in preterm infants using brain MRI radiomics and segmentation-based volumetric features.
Collaborated with radiologists, medical physicists, and computer scientists. Participated as a coauthor in peer-review journal.

ACADEMIC AWARDS/HONORS/SCHOLARSHIPS

Graduation Honor, Summer 2024
Academic Scholarship, 2nd Semester 2023
Semester High Honors, 2nd Semester 2023
Academic Scholarship, 2nd Semester 2023
Semester High Honors, 1st Semester 2022
Semester Honors, 2nd Semester 2021
Semester Honors, 1st Semester 2021
Semester Honors, 1st Semester 2020

SERVICES

Conference Reviewer: NeurIPS 2026
GPU Server Administrator, OptiML Lab 2025.03 - 2026.02

RELEVANT COURSEWORK

Deep Learning Theory · Machine Learning Theory · Probabilistic and Random Process · Information Theory · Optimization for AI · Convex Optimization

SKILLS

PROGRAMS

- **Languages**: Python, Matlab
- **Applications**: LaTeX

LANGUAGES

- **English**: Upper Intermediate
  IELTS 6.5/9.0 (2023)
- **Korean**: Native