EungGu Yun

윤 응구

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Education

Korea Advanced Institute of Science and Technology (KAIST)

Daejeon, Korea

Graduate School of AI

2021. 03 – 2023. 02

M.S. in Artificial Intelligence

- Supervisor: Prof. **Juho Lee**
- Lab: Statistical Inference and Machine Learning Lab (SIML)
- Thesis: *Traversing Between Modes in Function Space for Fast Ensembling*
- Research interests: Loss landscape, Neural processes
- GPA: 4.08 / 4.3

SungKyunKwan University (SKKU)

Seoul, Korea

Department of Computer Science and Engineering, College of Computing

2017. 03 – 2020. 08

B.S. in Computer Science and Engineering

- Total GPA: 4.33 / 4.5
- Major GPA: 4.47 / 4.5

Experience

SAIGE

Seoul, Korea

Research Team

2023. 03 – Now

Research Engineer

- Researched Image Anomaly Detection(IAD) systems for industrial inspection.
- Engineered training optimization for deep learning models.

Artificial Intelligence Institute of Seoul National University (AIIS)

Seoul, Korea

Deep Representation Learning Research Group (DRL)

2020. 07 – 2020. 09

Research Intern

- Supervisor: Prof. **Wonjong Rhee**
- Researched techniques for enhancing model interpretability through the analysis of activation on-off patterns.
- Reproduced CNN visualization methods, such as Grad-CAM and (C)LRP.

Electronics and Telecommunications Research Institute (ETRI)

Daejeon, Korea

Artificial Intelligence Research Laboratory

2020. 01 – 2020. 02

Research Intern

- Supervisor: **Yoo-mi Park**
- Conducted testing and debugging on the ETRI Deep Learning HPC Platform Dashboard.
- Implemented AlexNet and ResNet architectures using DL-MDL as example deep learning models.

Skills

Programming	Python, JavaScript, C, C++, LaTeX
Deep Learning	PyTorch (+ PyTorch/XLA), JAX (+ Flax, Optax), TensorFlow (+ Keras)
System	Linux, Docker, Google Cloud Platform (+ TPU)
Languages	Korean (native), English (intermediate)

Publications

Preprint

On-Off Pattern Encoding and Path-Count Encoding as Deep Neural Network Representations arXiv
Euna Jung, Jaekeol Choi, **EungGu Yun**, Wonjong Rhee *2020*

Conference

Probabilistic Imputation for Time-series Classification with Missing Data ICML
SeungHyun Kim*, Hyunsu Kim*, **EungGu Yun***, Hwangrae Lee, Jaehun Lee, Juho Lee (*: Equal contribution) *2023*

Traversing Between Modes in Function Space for Fast Ensembling ICML
EungGu Yun*, Hyungi Lee*, Giung Nam*, Juho Lee (*: Equal contribution) *2023*

Martingale Posterior Neural Processes ICLR (*Spotlight*)
Hyungi Lee, **EungGu Yun**, Giung Nam, Edwin Fong, Juho Lee *2023*

Scale Mixtures of Neural Network Gaussian Processes ICLR
Hyungi Lee, **EungGu Yun**, Hongseok Yang, Juho Lee *2022*

Workshop

Large-scale Graph Representation Learning of Dynamic Brain Connectome with Transformers TGL @ NeurIPS
Byung-Hoon Kim, Jungwon Choi, **EungGu Yun**, Kyungsang Kim, Xiang Li, Juho Lee *2023*

A Generative Self-Supervised Framework using Functional Connectivity in fMRI Data TGL @ NeurIPS
Jungwon Choi, Seongho Keum, **EungGu Yun**, Byung-Hoon Kim, Juho Lee *2023*

Early Exiting for Accelerated Inference in Diffusion Models SPIGM @ ICML
Taehong Moon, Moonseok Choi, **EungGu Yun**, Jongmin Yoon, Gayoung Lee, Juho Lee *2023*

Journal

Recent advances of radiative transfer emulator in WRF model KOMES
Hwan-Jin Song, Soonyoung Roh, Park Sa Kim, Juho Lee, Giung Nam, **EungGu Yun**, Jongmin Yoon *2022*

Benefits of stochastic weight averaging in developing neural network radiation scheme for numerical weather prediction JAMES
Hwan-Jin Song, Soonyoung Roh, Juho Lee, Giung Nam, **EungGu Yun**, Jongmin Yoon, Park Sa Kim *2022*

Awards & Honors

The National Scholarship for Science and Engineering *2019 Spring – 2020 Spring*
Korea Student Aid Foundation (KOSAF)
- Supports undergraduates with strong academic performance in science and engineering.

SungKyun Software Scholarship *2017 Spring – 2018 Fall*
SungKyunKwan University (SKKU)
- Supports students with an outstanding GPA.

Dean's List Award *2017 Spring – 2019 Fall*
College of Computing, SungKyunKwan University (SKKU)
- In recognition of high scholastic achievement. (6 times)

Projects

Bayesian inference for time-series data with missing values *2022. 08 – 2023. 02*

Samsung Research

- Developing a Bayesian deep learning method that can quantify uncertainty within missing values.
- Propose multivariate time-series classification model using a regularization method called ObsDropout.
- Validate proposed method on PhysioNet 2012, MIMIC-III, and UCI human activity datasets.

Developing artificial intelligence based emulator for physics processes in numerical models *2021. 05 - 2022. 07*

National Institute of Meteorological Sciences (NIMS)

- Research on the developing alternative techniques of physical processes in the numerical weather prediction (NWP) model based on AI to reduce computational costs and to improve the accuracy of NWP.