Sung-Yub Kim

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Education

KAIST, Ph.D. in Graduate School of AI — Feb 2019 – Feb 2024

- **Advisor:** Eunho Yang (Machine Learning & Intelligence Lab.)
- **Thesis:** Post-hoc analysis techniques and their utilization of pre-trained Neural Networks.

SNU, M.S. in Industrial Engineering — Mar 2017 – Feb 2019

- **Advisor:** Sung-Pil Hong (Management Science & Optimization Lab.)
- **Thesis:** Train rescheduling via power regret matching algorithm.

SNU, B.S. in Industrial Engineering & Mathematical Science (Double Major) — Mar 2013 – Feb 2017

Experience

Research Scientist, NAVER Cloud – Seongnam, Korea — Apr 2026 – present

- Post-Training team @ HyperScale AI.
- Stabilized RLVR training of Mixture-of-Experts (MoE) models.
- Mitigated repetitive generation in LLMs via mechanistic interpretability analysis.

Staff Engineer, Samsung Electronics – Suwon, Korea — Feb 2024 – Mar 2026

- Post-hoc training team @ Language Intelligence PJT., Core Algorithm Lab, AI Center.
- Improved the Instruction-Following capacity of LLM (≥ 70B) with DPO & Synthetic Data Generation.
- Improved the reasoning capacity of LLM (≥ 235B) with RLVR & Dataset Pruning.
- Achieved 49% on CVDP Spec2RTL benchmark via RL fine-tuning of GPT-Oss (120B), surpassing Claude 3.7 Sonnet (48%) and DeepSeek-R1 (44%).
- Optimized training (FSDPs, NeMo) & inference (vLLM, SGLang) frameworks for LLMs in HPC (≥ 256 GPUs).

Publications

LANTERN: Accelerating Visual Autoregressive Models with Relaxed Speculative Decoding
Doohyuk Jang, Sihwan Park, June Yong Yang, Yeonsung Jung, Jihun Yun, Souvik Kundu, *Sung-Yub Kim*, Eunho Yang
openreview.net/pdf?id=98d7DLMGdt (ICLR 2025)

A Simple Remedy for Dataset Bias via Self-Influence: A Mislabeled Sample Perspective
Yeonsung Jung, Jaeyun Song, June Yong Yang, Jin-Hwa Kim, *Sung-Yub Kim*, Eunho Yang
openreview.net/pdf?id=ZVrrPNqHFw (NeurIPS 2024)

TTD: Text-Tag Self-Distillation Enhancing Image-Text Alignment in CLIP to Alleviate Single Tag Bias
Sanghyun Jo, Soohyun Ryu, *Sung-Yub Kim*, Eunho Yang, Kyungsu Kim
arxiv.org/pdf/2404.00384 (ECCV 2024)

GEX: A flexible method for approximating influence via Geometric Ensemble
Sung-Yub Kim, Kyungsu Kim, Eunho Yang
openreview.net/pdf?id=tz4ECtAu8e (NeurIPS 2023)

RGE: A Repulsive Graph Rectification for Node Classification via Influence
Jaeyun Song, *Sung-Yub Kim*, Eunho Yang
openreview.net/pdf?id=OcKwZhPwHA (ICML 2023)

Scale-invariant Bayesian Neural Networks with Connectivity Tangent Kernel
Sung-Yub Kim, Sihwan Park, Kyungsu Kim, Eunho Yang
openreview.net/pdf?id=OcKwZhPwHA (ICLR 2023, Spotlighted)

Generalized Tsallis Entropy Reinforcement Learning and Its Application to Soft Mobile Robots
Kyungjae Lee, *Sung-Yub Kim*, Sungbin Lim, Sungjoon Choi, Mineui Hong, Jae In Kim, Yong-Lae Park, Songhwai Oh (RSS 2020)

Projects

A machine learning and statistical inference framework for explainable artificial intelligence Jan 2022 – Dec 2024

- Institute of Information & Communications Technology Planning & Evaluation (IITP).
- Topic: Bayesian Neural Networks, Influence Function

Autonomous Intelligent Digital Companion Framework and Application Jan 2019 – Dec 2021

- Institute of Information & Communications Technology Planning & Evaluation (IITP).
- Topic: Continual Learning, Meta Learning

Technical Skills

Coding: Python, R, LaTeX

ML Frameworks: PyTorch, Megatron-LM, verl, vLLM, SGLang

Distributed Computing: NVIDIA Certificates:

- Model Parallelism: Building and Deploying Large Neural Networks
- Fundamentals of Accelerated Computing with CUDA Python

Research Areas: Bayesian Neural Networks, Influence Functions, Continual Learning, Meta Learning

Languages: Korean, English