Subi Lee

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Education

Gwangju Institute of Science and Technology   Mar 2021 - Present
School of Electrical Engineering and Computer Science
GPA: 3.81/4.5

University of California, Berkeley   Jun 2022 - Aug 2022
Exchange Student

Research Interest

Reinforcement Learning, Robotics Learning, Autonomous Agent

Work Experience

Wrtn Technologies | Community Manager   Jul 2023 - Feb 2024
CLVR (KAIST AI) | Prof. Joseph Lim | Undergraduate Intern   Dec 2024 - Jan 2025
AILAB (GIST) | Prof. Kyoobin Lee | Undergraduate Intern   Mar 2025 - Present

Research

[1] G Cho*, J Lee*, J Im, **S Lee**, J Lee, S Kim (Under Review) **AMPED: Adaptive Multi-objective Projection for Exploration and Diversification.** in **NeurIPS 2025**

- Contributed on baseline experiment and surveyed related work.

- we propose a new method, Adaptive Multi-objective Projection for balancing Exploration and skill Diversification (AMPED), which explicitly addresses both exploration and skill diversification. We begin by conducting extensive ablation studies to identify and define a set of objectives that effectively capture the aspects of exploration and skill diversity, respectively.

- During the skill pretraining phase, AMPED introduces a gradient surgery technique to balance the objectives of exploration and skill diversity, mitigating conflicts and reducing reliance on heuristic tuning. In the subsequent fine-tuning phase, AMPED incorporates a skill selector module that dynamically selects suitable skills for downstream tasks, based on task-specific performance signals.

[2] G Cho*, **S Lee***, J Lee. **Evaluating Simplicial Normalization in Multi-task Reinforcement Learning. 2024 Korea Software Conference**

- Contributed toy environment experiment and surveyed the preliminaries.
- While multitask learning provides improved generalization and sample efficiency compared to single-task learning, it often suffers from lower performance, which is a critical limitation. To address this issue, we replaced the ReLU activation function with the SimNorm activation function which has demonstrated effectiveness in single-task reinforcement learning.
- Our findings show that SimNorm appears to underperform compared to ReLU in the MTRL environments.

Extracurricular Activities

Stanford CS231n Study   Jul 2024 – Dec 2024

- Took a study based on **Stanford [CS231n: Deep Learning for Computer Vision]** Advised by Prof. Uehwan Kim.

- Completed **Presentation about FC Neural Network, Batch Normalization and Convolutional Neural Network.** It had supplementation about the implementation of principle concept of Deep Learning and in-depth analysis of relevant research papers and theoretical concepts.

Deep Learning Study   Sep 2024 – Dec 2024

- Took a study based on **AI Experience Lab** and **Deep Learning from scratch 1 and 2**.

Scholarships

National Science and Technology Scholarship — KOSAF   Mar 2021 – Feb 2025

Awards

Hello World Hackathon (1st Place) — GIST AIX School   May 2024
Awarded the first place in the hackathon hosted by GIST AIX School.

- positioned as backend engineer and presenter.

Skills

CourseWorks	Data Structure, Algorithm, Discrete Mathematics, Computer Architecture
-	Digital Design, Computer system and laboratory, MLDL, System Programming
Software Engineering	Python, C++, Git-based workflow, Shell
Data Analysis	Numpy, Scipy, matplotlib, Jupyter
English	ETS TOEFL 108
Note Taking	LATEX, Notion