Seungyub Han

seungyubhan@snu.ac.kr • github.com/hansungy • hansungy.github.io • linkedin.com/in/hansungy

Education

Seoul National University 2016 - current
Ph. D. student Electical and Computer Engineering *Seoul, Korea*
Advisor: Prof. Jungwoo Lee
Partial leave of absence to working at Hodoo AI: 2019 - 2022 (4 years)

Seoul National University 2016
B.S. Electical and Computer Engineering *Seoul, Korea*
Leave of absence for military service: Feb. 2012 - Feb. 2014 (2 years)

Research Interest

Reinforcement Learning, Robot Learning, Continual Learning, Non-convex Optimization

Work Experience

Hodoo AI 2019 – 2022
Research Engineer (a spin-off startup founded by my advisor, Jungwoo Lee) *Seoul, Korea*

Wanderlust Inc. 2016
Research Intern *Seoul, Korea*

Publications

Conference | *(*: equal contribution)*

[1] Taehyun Cho, **Seungyub Han**, Heesoo Lee, Kyungjae Lee, and Jungwoo Lee. "Pitfall of Optimism: Distributional Reinforcement Learning by Randomizing Risk Criterion". **Advances in Neural Information Processing Systems (NeurIPS)**. 2023.

[2] Dohyeok Lee, **Seungyub Han**, Taehyun Cho, and Jungwoo Lee. "SPQR: Controlling Q-ensemble Independence with Spiked Random Model for Reinforcement Learning". **Advances in Neural Information Processing Systems (NeurIPS)**. 2023.

[3] **Seungyub Han**, Yeongmo Kim, Taehyun Cho, and Jungwoo Lee. "On the Convergence of Continual Learning with Adaptive Methods". **Proceedings of the Thirty-Ninth Conference on Uncertainty in Artificial Intelligence (UAI)**. 2023.

[4] **Seungyub Han**, Yeongmo Kim, Seokhyeon Ha, Jungwoo Lee, and Seunghong Choi. "Learning to Learn Unlearned Feature for Brain Tumor Segmentation". **Medical Imaging meets NeurIPS Workshop**. 2018.

Journal | *(*: equal contribution)*

[1] Jungeun Lee, **Seungyub Han**, and Jungwoo Lee. "D2NAS: Efficient Neural Architecture Search with Performance Improvement and Model Size Reduction for Diverse Tasks". IEEE Access (2024).

Preprint | *(*: equal contribution)*

[1] Hyeungill Lee, **Seungyub Han**, and Jungwoo Lee. "Generative adversarial trainer: Defense to adversarial perturbations with GAN". arXiv preprint arXiv:1705.03387 (2017).

Projects

National Research Foundation of Korea | *Research of LLMs and RL for human-AI collaboration and interaction* 2024 –
- Research Assistant at SNU

Hanhwa Systems | *Research for role diversification of heterogeneous multi-agent systems* 2023 – 2024
- Research Assistant at SNU

Agency for Defense Development | *Center for Applied Research in Artificial Intelligence* 2022 – 2023
- Research Assistant at SNU

National Research Foundation of Korea | *Robot learning systems with learning by asking based on long-horizon RL* 2021 – 2023
- Research Assistant at SNU

Hodoo AI Medical Imaging | *Continual learning framework for MR brain metastasis diagnostics* 2019 – 2021
- Research Engineer at Hodoo AI

Ministry of Science | *Deep and reinforcement learning techniques for smart IoT networks* 2017 – 2018

- Research Assistant at SNU

Seoul National University | *Development of precise imaging diagnosis technology based on artificial intelligence for brain tumor* 2017 – 2018
- Research Assistant at SNU

Agency for Defense Development | *Paralysis technique of digital communication under cyber electronic warfare* 2016 – 2018
- Research Assistant at SNU

Wanderlust Inc. | *Photo recommendation system by instance segmentation and matrix factorization* 2016
- Research Intern at Wanderlust Inc.

Invited Talks

Learning to learn unlearned feature for segmentation | *NAVER* May 2019

Implementation of physical layer communication system by deep learning | *Pusan National University* Jan. 2019

Implementation of physical layer channel by autoencoder | *Pusan National University* Jan. 2019

Guest Lectures

Introduction to Reinforcement Learning | *Samsung Electronics* Nov 2019

Deep learning based face recognition system | *Samsung Electronics* Feb. 2018

Academic Activities

AI conferences NeurIPS (2022 –), ICML (2023 –), ICLR (2024 –)

Conferences | *IEEE International Conference on Communications (ICC)* 2019