Seungyub Han

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Education

Seoul National University *Mar. 2016 –*
Ph. D. Student in Electrical and Computer Engineering

- Partial leave of absence to working at Hodoo AI: 2019 - 2023 (5 years)

Seoul National University *Mar. 2010 – Feb. 2016*
B.S. in Electrical and Computer Engineering

- 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

Research Engineer *Seoul, Korea*
Hodoo AI *2019 - 2023*

- Spin-off startup founded by my advisor, Jungwoo Lee
- Developed Hodoo AI Medical Imaging (HAIMED) service: continual learning framework for MR brain metastasis diagnostics
- Collaborated with Seoul National University Hospital

Research Intern *Seoul, Korea*
Wanderlust Inc. *Mar. 2016 - Aug. 2016*

- Developed photo recommendation system by instance segmentation and matrix factorization

Publications

Conference Papers *(*: equal contribution)*

[1] Taehyun Cho, **Seungyub Han**, Seokhun Ju, Dohyeong Kim, Kyungjae Lee, and Jungwoo Lee
Bellman Unbiasedness: Toward Provably Efficient Distributional Reinforcement Learning with General Value Function Approximation
International Conference on Machine Learning (ICML) 2025.

[2] Taehyun Cho*, Seokhun Ju*, **Seungyub Han**, Dohyeong Kim, Kyungjae Lee, and Jungwoo Lee
Policy-labeled Preference Learning: Is Preference Enough for RLHF?
International Conference on Machine Learning (ICML) 2025 **(Spotlight)**.

[3] Doheyong Kim, Taehyun Cho, **Seungyub Han**, Hojun Chung, Kyungjae Lee, and Songhwai Oh
Spectral-Risk Safe Reinforcement Learning with Convergence Guarantees
Neural Information Processing Systems (NeurIPS) 2024.

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

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

[6] **Seungyub Han**, Yeongmo Kim, Taehyun Cho, and Jungwoo Lee
On the Convergence of Continual Learning with Adaptive Methods
Uncertainty in Artificial Intelligence (UAI) 2023.

[7] Taehyun Cho, **Seungyub Han**, Heesoo Lee, Kyungjae Lee, and Jungwoo Lee
Perturbed Quantile Regression for Distributional Reinforcement Learning
Deep Reinforcement Learning Workshop NeurIPS 2022.

[8] **Seungyub Han**, Yeongmo Kim, Taehyun Cho, and Jungwoo Lee
Adaptive Methods for Nonconvex Continual Learning
OPT 2022: Optimization for Machine Learning (NeurIPS Workshop) 2022.

[9] **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 Papers *(*: equal contribution)*

[1] Jaehak Cho, Jae Myung Kim, **Seungyub Han**, and Jungwoo Lee
Deterministic Uncertainty Estimation for Multi-Modal Regression With Deep Neural Networks
IEEE Access 2025.

[2] 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.

Preprints *(*: 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.

Invited Talks

Naver May 2019
Learning to learn unlearned feature for segmentation

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

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

Guest Lectures

Samsung Electronics Nov. 2019
Introduction to Reinforcement Learning

Samsung Electronics Feb. 2018
Deep Learning based Face Recognition System

Academic Activities

Reviewer

- NeurIPS (2022 -), ICML (2023 -), ICLR (2024 -)
- NeurIPS Optimization for Machine Learning Workshop (2024 -)