Hyeonseo **Cho**

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Research Interests

I am deeply passionate and broadly interested in Deep Learning, currently focusing on:

- Intelligent Agents that can Continually Learn & Adapt (publication, project)
- Reinforcement Learning for Robotics (publication, experience1, experience2)
- Voice Processing (project)

Publications

Slow and Steady Wins the Race: Maintaining Plasticity with Hare and Tortoise Networks   *ICML '24*

HOJOON LEE, **HYEONSEO CHO**, HYUNSEUNG KIM, DONGHU KIM, DUGKI MIN, JAEGUL CHOO, CLARE LYLE

- To maintain network plasticity, introduce Hare and Tortoise networks, imitating the hippocampus and neocortex of the brain. [code]

Multiagent Reinforcement Learning Based on Fusion-Multiactor-Attention-Critic for
Multiple-Unmanned-Aerial-Vehicle Navigation Control   *Energies '22*

SANGWOO JEON, HOEUN LEE, VISHNU KUMAR KALIAPPAN, TUAN ANH NGUYEN, HYUNGEUN JO, **HYEONSEO CHO**, DUGKI MIN

- Developed multi-agent RL model for energy-efficient UAV cooperative navigation.

Education

Konkuk University   *Seoul, S.Korea*

B.S. IN COMPUTER SCIENCE AND ENGINEERING (GPA: 4.42, RANK: 1/309) [TRANSCRIPT]   *Mar. 2020 - Aug. 2024 (expected)*

Related Coursework

- Linear Algebra
- Calculus
- Numerical Analysis
- Probability and Statistics
- Mathematical Statistics
- Stochastic Processing
- Database
- Data Science
- Digital Image Processing
- Artificial Intelligence
- Machine Learning

Experiences

Robot Vision Lab Korea Institute of Science and Technology   *Seoul, S.Korea*

AI RESEARCH INTERN   *Jan. 2023 - Jun. 2023*

- Researched controlling robot manipulators with pixel-based RL.
- Developed simulation environment for Franka Robot using Isaac Sim.

DMSLAB Konkuk University   *Seoul, S.Korea*

UNDERGRADUATE INTERN   *Oct. 2021 - Dec. 2022*

- Researched using RL to control UAVs for delivery and navigate autonomous vehicles in unknown areas.
- Developed a framework for drones at Konkuk Aerospace Design·Airworthiness Institute, incorporating AirSim, PX4, and MAVLink.

Projects

Enhancing ASR in Multi-Speaker Settings with Target Speaker Filtering   *Mar. 2024 - May. 2024*

- Improved ASR accuracy in multi-speaker environments using filtering layers keyed to the target speaker's voice features. [pdf] [code]

Revisiting the role of Global Average Pooling in Deep Continual Reinforcement Learning   *Nov. 2023 - Dec. 2023*

- Investigated the positive impact of global average pooling on network adaptability in continual reinforcement learning. [pdf]

Scholarship & Awards

'22 - Curr. **National Science & Technology Scholarship**, Korea Government Full Scholarship.   *Ministry of Science & ICT of Korea*

'20 - '23 **Dean's List Award**, for Academic Excellence in Konkuk University CSE.   *Konkuk University*

'21 Spring **70% Scholarship**, for Academic Excellence in Konkuk University CSE.   *Konkuk University*

Extracurricular Activities

TEACHING ASSISTANT

'23 Fall	**Software Architecture**	*Konkuk University*
'21 Spring	**Probability and Statistics**	*Konkuk University*

LECTURES

DL	CS182, EECS 498-007, CS229
RL	David Silver, Seungsang Oh, CS285
Math	18.06, STAT110

Technical-Skills

Proficient	Python, Pytorch
Competent	git, C/C++, Isaac Sim, LaTeX, seaborn, wandb, tqdm, matplotlib, hydra-core
Novice	Jax, Docker, SQL, gazebo, AirSim, ROS, einops

Languages

English	Sufficient for academic activities: TOEIC score 935 (LC 480, RC 455) (2022.02.22)
Korean	Native