MINYOUNG HWANG

myhwang@mit.edu Google Scholar https://minyoung1005.github.io/

EDUCATION

Massachusetts Institute of Technology (MIT) Cambridge, MA
Ph.D. in AeroAstro & CSAIL 09/2024 - Current

Seoul National University (SNU) Seoul, Korea
M.S. in Electrical and Computer Engineering 09/2021 - 08/2023
- Thesis: "Meta-Explore: Exploratory Hierarchical Vision-and-Language Navigation Using Scene Object Spectrum Grounding"

B.S. in Electrical and Computer Engineering 03/2017 - 08/2021
- Thesis: "Video Inference for Human Motion with Texture Generation"

Daejeon Science High School for the Gifted Daejeon, Korea
Major: Mathematics 03/2014 – 02/2017

REPRESENTATIVE HONORS

***HRI** (Human-Robot Interaction) **Pioneers** 2026* 1/2026
Kwanjeong Education Foundation (KEF) Scholarship, KEF 2024 - 2029
Presidential Science Scholarship **(Field: Mathematics)**, Ministry of Science and ICT 2017 - 2020
NeurIPS 2023 Scholar Award 10/2023
Google Student Travel Grants (up to 3 students / year, top international conferences) 03/2023
Talent Award of Korea (Field: Mathematics), Ministry of Education 11/2015
*Training Lineup for **IMO (International Mathematical Olympiad)***, Top 18 students in Korea 05/2016

PUBLICATIONS

Masked Inverse Reinforcement Learning for Language Conditioned Reward Learning
Minyoung Hwang, Alex Forsey-Smerek, Andreea Bobu
In Submission, 2025

Sample-Efficient Robot Preference Learning with Confidence-Guided Exploration
Chan Woo Kim, Hyeonseong Kim, Minyoung Hwang, Sungjoon Choi, Kyungjae Lee
In Submission, 2025

MotIF: Motion Instruction Fine-tuning
Minyoung Hwang, Joey Hejna, Dorsa Sadigh, Yonatan Bisk
*IEEE Robotics and Automation Letters (**RA-L**), 2025*

Promptable Behaviors: Personalizing Multi-Objective Rewards from Human Preferences
Minyoung Hwang, Luca Weihs, Chanwoo Park, Kimin Lee, Ani Kembhavi, Kiana Ehsani
*The IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), June 2024*

Sequential Preference Ranking for Efficient Reinforcement Learning from Human Feedback
Minyoung Hwang, Gunmin Lee, Hogun Kee, Chan Woo Kim, Kyungjae Lee, Songhwai Oh
*Neural Information Processing Systems (**NeurIPS**), Dec. 2023*

Meta-Explore: Exploratory Hierarchical Vision-and-Language Navigation Using Scene Object Spectrum Grounding
Minyoung Hwang, Jaeyeon Jeong, Minsoo Kim, Yoonseon Oh, Songhwai Oh
*The IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), June 2023*

Improving Image-Goal Navigation with Visual Language Grounding via Image Captioning
Minyoung Hwang, Songhwai Oh
*Conference on Information and Control Systems (**CICS**), Oct. 2022*

Geometric Understanding of Reward Function in Multi-Agent Visual Exploration
Minyoung Hwang, Obin Kwon, Songhwai Oh
*International Conference on Control, Automation and Systems (**ICCAS**), Oct. 2021*

AI Insiders
Gun Ahn, Minyoung Hwang, et al.
Smart Books, 2025

Wanna be Engineer
34 members of STEM (Including Hwang, M.)
MegaStudy Books, 2021

Work Experience

Carnegie Mellon University (CMU) Pittsburgh, PA
Research Intern 01/2024 – 06/2024

- Connecting Language to Actions & the World (CLAW) Lab (Prof. Yonatan Bisk)
- How human preferences are communicated in natural language to a robotic agent

Allen Institute for Artificial Intelligence (AI2) Seattle, WA
Research Intern 07/2023 – 12/2023

- Perceptual Reasoning and Interaction Research (PRIOR)
- Promptable Behaviors: Personalizing Multi-Objective Rewards from Human Preferences, sub. to CVPR 2024

SNU Robot Learning Laboratory Seoul, Korea
Robotics Researcher (M.S. Student) 09/2021 – 06/2023

- SeqRank for Feedback-efficient RLHF, *accepted to NeurIPS 2023* (01/2023 - 05/2023)
- Meta-Explore for Vision-and-Language Navigation, *accepted to CVPR 2023* (08/2021 - 11/2022)
- Graph Merge for Robust Path Following (08/2021 - 02/2022)

Robotics Research Intern 02/2020 – 08/2021

- Geometric Understanding of Reward Function in Multi-Agent Visual Exploration, *accepted to ICCAS 2021* (02/2021 - 10/2021)
- Video Inference for Human Motion with Texture Generation, Bachelor Thesis (08/2020 - 12/2020)
- Visual Navigation in Gibson Env2 Environment (02/2020 - 07/2020)

San Jose State University (SJSU) Silicon Valley Innovation San Jose, CA
Startup Team CEO, Startup Training Program 01/2020

- Led startup team UP-CARE (Use your Phone Camera for Health and Environment).
- Developed fall detection and alert for elderly users.

STEM, SNU Engineering College Seoul, Korea
Robotics Engineer 03/2019 – 11/2019

- Robot Dynamics and Control, Motion Planning, Computer Vision
- Developed both software and hardware of robot cleaner using 3D printers, Arduino, and computer vision open source (Google Mediapipe); led the development of control algorithm considering robot dynamics.

Teaching Experience

***Teaching Assistant*, Introduction to Intelligent Systems (English Lecture)** 09/2021 – 06/2022
Head TA for 2022 Spring Lecture. SNU, Korea
Managed RC car racing projects and taught students how to use ROS and Gazebo

***Major Tutor*, Signals and Systems** 03/2021 – 08/2021
Tutoring for Seoul National University ECE major subject SNU, Korea

***Undergraduate Teaching Assistant*, Introduction to Circuit Theory and Laboratory** 03/2019 – 06/2019
Supported and guided students to conduct electric circuit experiments SNU, Korea

***Tutor*, Basic Calculus** 03/2018 – 12/2020
Taught Basic Calculus 1, 2, and Basic Calculus for Biological Science. SNU, Korea

AWARDS

Lecture·Research Support Scholarship, Full tuition for 2022 Spring, SNU	03/2022
Grand Prize, Silicon Valley Innovation and Startup Program, San Jose State University	01/2020
1st Prize, International Capstone Design Fair, Korea University Innovation Hub Center	11/2019
2nd Prize, SNU College of Engineering Creative Design Fair, SNU College of Engineering	09/2019
Gold Medal, University Students Contest of Mathematics, Korean Mathematical Society	11/2018