

Nuri Kim

CONTACT INFORMATION	Samsung Advanced Institute of Technology (SAIT) Webpage / Bio / Google Scholar Linkedin / Github / Twitter	Phone: +82-10-6540-7515 E-mail: anuri0906@gmail.com
CITIZENSHIP	Republic of Korea	
RESEARCH INTERESTS	Deep Reinforcement Learning, Computer Vision, Robotics.	
EDUCATION	Seoul National University , Seoul, South Korea • Ph.D. Thesis: Robust Semantic Visual Graphs for Navigation of Embodied Agents • Advisor: Prof. Songhwai Oh	Mar. 2016 - Feb. 2023
	Australian National University , Canberra, Australia • Overseas Study Program in Electrical Engineering	Jul. 2014 - Nov. 2014
	Korea University , Seoul, South Korea • B.S. in Electrical Engineering (<i>Cum Laude</i>)	Mar. 2012 - Feb. 2016 GPA: 4.2/4.5, Major: 4.4/4.5
RESEARCH EXPERIENCE	Computer Vision Lab, Samsung Advanced Institute of Technology (SAIT) • Staff researcher	Mar. 2023 - Present
	Robot Learning Laboratory, SNU (Advisor: Prof. Songhwai Oh) • Graduate researcher	Mar. 2016 - Feb. 2023
	HandS (Hardware and Software research club) • Member • Team leader	Mar. 2014 - Dec. 2015 Jan. 2015 - Dec. 2015
INTERNATIONAL JOURNAL	Nuri Kim , Donghoon Lee, and Songhwai Oh, “Learning Instance-Aware Object Detection Using Determinantal Point Processes”, <i>Computer Vision and Image Understanding (CVIU)</i> , vol. 201, Dec 2020.	
	Hyemin Ahn, Sungjoon Choi, Nuri Kim , Geonho Cha, and Songhwai Oh, “Interactive Text2Pickup Networks for Natural Language based Human-Robot Collaboration,” <i>IEEE Robotics and Automation Letters (RA-L)</i> , vol. 3, no. 4, pp. 3308-3315, Oct. 2018.	
INTERNATIONAL CONFERENCE	Nuri Kim , Obin Kwon, Hwiyeon Yoo, Yunho Choi, Jeongho Park, and Songhwai Oh, “Topological Semantic Graph Memory for Image-Goal Navigation,” in <i>Proc of the Conference on Robot Learning (CoRL)</i> , Dec. 2022. (Oral Presentation, Acceptance Rate: 6.5%)	
	Obin Kwon, Nuri Kim , Yunho Choi, Hwiyeon Yoo, Jeongho Park, and Songhwai Oh, “Visual Graph Memory with Unsupervised Representation for Visual Navigation,” in <i>Proc. of the International Conference on Computer Vision (ICCV)</i> , Oct. 2021.	
	Nuri Kim , Minjae Kang, and Songhwai Oh, “Semantic Descriptors into Representation for Robust Indoor Visual Place Recognition,” in <i>Proc. of the International Conference on Control, Automation and Systems (ICCAS)</i> , Oct. 2021.	

Nuri Kim, Yunho Choi, Minjae Kang, Songhwa Oh, “GOPE: Geometry-Aware Optimal Viewpoint Path Estimation Using a Monocular Camera,” in *Proc. of the International Conference on Control, Automation and Systems (ICCAS)*, Oct. 2020.

Hwiyeon Yoo, **Nuri Kim**, Jeongho Park, Songhwa Oh, “Path-Following Navigation Network Using Sparse Visual Memory,” in *Proc. of the International Conference on Control, Automation and Systems (ICCAS)*, Oct. 2020.

Yunho Choi, **Nuri Kim**, Jeongho Park, Songhwa Oh, “Viewpoint Estimation for Visual Target Navigation by Leveraging Keypoint Detection,” in *Proc. of the International Conference on Control, Automation and Systems (ICCAS)*, Oct. 2020.

Hyemin Ahn, Sungjoon Choi, **Nuri Kim**, Geonho Cha, and Songhwa Oh, “Interactive Text2Pickup Networks for Natural Language based Human-Robot Collaboration,” in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2018.

AWARDS AND HONORS

Awards and Scholarships

- Brain Korea 21 Plus Scholarship 2021, 2020, 2019
- Great Paper Award, Korean Institute of Information Scientists and Engineers 2017
- Lecture & Research Scholarship 2016
- Graduate with Great Honor, Korea University 2016
- National Scholarship For Science and Engineering 2014-2015
Funded by Korea Student Aid Foundation (KOSAF)
- Creative Challenger Scholarship, Korea University 2015

TEACHING EXPERIENCES

Invited Talk

- Semantic Visual Navigation for Embodied Agents: A Graph-Based Approach, KAIST Feb 2023
- Intelligent Robotics Course, Korea University June 2022

Teaching Assistant

- Graduation Project, Seoul National University Fall 2018
- Introduction to Intelligent Systems, Seoul National University Fall 2016

RESEARCH PROJECT EXPERIENCES

[Navi AI] Development of AI Technology for Guidance of a Mobile Robot to its Goal with Uncertain Maps in Indoor/Outdoor Environments 2019-Present

- Developed an indoor environment navigation robot that works even in unknown environments by leveraging semantic understanding when maps are unavailable.

[SW Star Lab] Robot Learning: Efficient, Safe, and Socially-Acceptable Machine Learning 2019-Present

- Developed a robot navigation technology capable of predicting crowd trajectories and performing social actions in various crowd cluster scenarios.

[Brain AI] Brain-Inspired AI with Human-Like Intelligence 2019-Present

- Developed a reliable object detector in occluded environments

[Giga 4D] Real-time 4D reconstruction of dynamic objects for ultra-realistic service 2017-2020

- Collected 3D point cloud data for dynamic object registration and alignment.

PROGRAMMING SKILLS

Programming language: Python, C/C++, Matlab, HTML/CSS, Javascript, Google app scripts

Software: Pytorch, Habitat, OpenCV, TensorFlow, LaTeX