Taewoong Kim

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Research Interests

Embodied AI, Multimodal learning, Few-shot/zero-shot learning, Reinforcement learning

Education

Yonsei University *Mar. 2023 – Aug. 2024*
M.S. in Artificial Intelligence (Advisor: Prof. Jonghyun Choi)

- Overall GPA: 4.04/4.3
- Relevant Coursework : Multimodal Deep Learning, Machine Learning and Programming

Yonsei University *Mar. 2016 – Aug. 2023*
B.S. in Mechanical Engineering

- Major GPA: 4.16/4.3, Overall GPA: 3.83/4.3
- Relevant Coursework : Dynamics, Mechatronics, Mechanical System Control, Intelligent Control

Research Papers

A paper about zero-shot affordance grounding using GenAI Under Review
B. Kim, ***T. Kim***, *J. Nam*, *J. Min*, *J. Kim*, *J. Kim*, *H. Kim*, *H. Jeon*, *J. Choi*

Multi-Modal Grounded Planning and Efficient Replanning For Learning Embodied Agents with A Few Examples AAAI 2025 (to appear)
T. Kim, *B. Kim*, *J. Choi*

ReALFRED: An Embodied Instruction Following Benchmark in Photo-Realistic Environments ECCV 2024
T. Kim*, *C. Min**, *B. Kim*, *J. Kim*, *W. Jeong*, *J. Choi*

ECLAIR: Event-Cognizant Language Interaction Embodied Robots Workshop on LA4IRA IEEE RO-MAN 2023
J. Kim, *B. Kim*, *C. Min*, *Y. Kim*, ***T. Kim***, *J. Choi*

Research Experience

SNU Machine Perception and Reasoning Lab **Seoul National University**
Research Assistant (Advisor: Prof. Jonghyun Choi) *Sep. 2024 – Current*

- **Zero-shot affordance grounding**
  - Implemented image generation models to achieve zero-shot affordance grounding
  - Developed a framework that treats occlusions as interaction signals to identify affordance regions

Yonsei Vision & Learning Lab **Yonsei University**
Graduate Research Assistant (Advisor: Prof. Jonghyun Choi) *Mar. 2023 – Aug. 2024*

- **Large language models (LLMs) as few-shot planners for embodied agents**
  - Developed a multimodal planner with LLM for enhanced grounded planning capabilities
  - Designed an efficient replanning system that corrects partially misleading subgoals
- **Bridging the reality gap**
  - Proposed a photo-realistic benchmark with 3D-captured indoor scenes with interactive objects

Work Experience

Samsung Electronics **Suwon, Korea**
Full-Time Engineer, Robot Business Team *Sep. 2022 - Jan. 2023*

- Designed and developed mechanical components for exoskeleton robot

Samsung Electronics **Suwon, Korea**
Intern, Mobile Experience Divison *July. 2021 - Aug. 2021*

- Conducted personal project about foldable mobile devices

Honors and Awards

Outstanding Paper Award (Golden Prize), IPIU 2025 — *Feb. 2025*
Innovative Graduate Thesis Award, Yonsei University — *Feb. 2025*
Outstanding Paper Award (Silver Prize), IPIU 2024 — *Feb. 2024*
1st Place Award, CVPRW 2023 Embodied AI Workshop Challenge — *June 2023*
Academic High Honors Award, Yonsei University — *Fall 2019, Fall 2020*
Academic Honors Award, Yonsei University — *Spring 2019*
Academic Scholarship, Gwacheon City — *Spring 2020 - Fall 2020*
Volunteer Scholarship, Yonsei University — *Spring 2019 - Fall 2019*
Veritas (Academic) Scholarship, Yonsei University — *Fall 2019, Spring 2019, 2020, 2021, 2022*

Leadership Experience

School of Mechanical Engineering at Yonsei University — *Dec. 2018 - Dec. 2019*
56th Student President
- Organized, led, and made decisions for the department and student council

Military Service for Republic of Korea — *Apr. 2017 - Jan. 2019*
Sergeant
- Served as machine gun shooter at The 17th Infantry Division, Republic of Korea Army

Teaching Experience

Teaching Assistant, Seoul National University — *Fall 2024*
TA for graduate AI seminar
- Managed and addressed students' requests

Volunteer Experience

Korean University Mentors Union — *Sept. 2020 - Feb. 2021*
Mentor
- Conducted major-specific information sessions and addressed high school students' questions

Academic Services

Reviewer: RO-MAN'24

Skills

Languages	Korean (Native), English (Fluent)
Programming	Python, C, MATLAB
CAD/CAE	NX, Ansys, PTC Creo
General	GitHub, LaTeX, PyTorch