

# Byeonghwi Kim

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🔗 [bhkim94.github.io](https://github.com/bhkim94)

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🔗 [bhkim94](https://github.com/bhkim94)

## Research Interest

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Embodied AI, Robotics, Autonomous Agents, Multimodality

## Experience

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**Allen Institute for AI (AI2)** [🔗](#), Research Intern @ PRIOR Team

Seattle, WA, USA

- Mentor: [Dr. Roozbeh Mottaghi](#) [🔗](#)

Sept. 2021 - Mar. 2022

## Education

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**Ph.D. Seoul National University** | Electrical and Computer Engineering

Sept. 2024 - Present

- Advisor: [Jonghyun Choi](#) [🔗](#)

**Ph.D. Yonsei University** | Artificial Intelligence

Sept. 2022 - Aug. 2024

**Course** • Advisor: [Jonghyun Choi](#) [🔗](#)

**M.S. Gwangju Institute of Science and Technology (GIST)** | Artificial Intelligence

Mar. 2020 - Aug. 2022

- *GIST President Fellowship*

- Advisor: [Jonghyun Choi](#) [🔗](#)

**B.S. Kwangwoon University** | Computer Engineering

Mar. 2013 - Feb. 2020

- *Graduated with First-Class Honors* (GPA: 4.42/4.50, Rank: 1/74)

- Advisor: [Cheolsoo Park](#) [🔗](#)

## Publications

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**Multi-Modal Grounded Planning and Efficient Replanning for Learning Embodied Agents with A Few Examples** [🔗](#)

Taewoong Kim, **Byeonghwi Kim**, Jonghyun Choi

AAAI 2025 (to appear)

**Pre-emptive Action Revision by Environmental Feedback for Embodied Instruction Following Agents** [🔗](#)

Jinyeon Kim\*, Cheolhong Min\*, **Byeonghwi Kim**, Jonghyun Choi

CoRL 2024

**ReALFRED: An Embodied Instruction Following Benchmark in Photo-Realistic Environments** [🔗](#)

Taewoong Kim\*, Cheolhong Min\*, **Byeonghwi Kim**, Jinyeon Kim, Wonje Jung, Jonghyun Choi

ECCV 2024

**Online Continual Learning for Interactive Instruction Following Agents** [🔗](#)

**Byeonghwi Kim**\*, Minhyuk Seo\*, Jonghyun Choi

ICLR 2024

**Context-Aware Planning and Environment-Aware Memory for Instruction Following Embodied Agents** [🔗](#)

**Byeonghwi Kim**, Jinyeon Kim, Yuyeong Kim, Cheolhong Min, Jonghyun Choi

ICCV 2023

**Multi-Level Compositional Reasoning for Interactive Instruction Following** [🔗](#)

Suvaansh Bhambri\*, **Byeonghwi Kim**\*, Jonghyun Choi

AAAI 2023 (Oral)

**Factorizing Perception and Policy for Interactive Instruction Following** [🔗](#)

Kunal Pratap Singh\*, Suvaansh Bhambri\*, **Byeonghwi Kim**\*, Roozbeh Mottaghi, Jonghyun Choi

ICCV 2021

**Agent with the Big Picture: Perceiving Surroundings for Interactive Instruction Following** [🔗](#)

**Byeonghwi Kim**, Suvaansh Bhambri, Kunal Pratap Singh, Roozbeh Mottaghi, Jonghyun Choi

Embodied AI Workshop @ CVPR 2021

## Academic Service

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### Reviewer / Program Committee Member

- *Machine Learning*: ICLR (2024-2025), ICML (2024-2025), NeurIPS (2023-2024), AISTATS (2025), AAAI (2024-2025)
- *Computer Vision*: IEEE T-PAMI, CVPR (2023-2025), ECCV (2024), WACV (2023-2025)
- *Robotics*: ICRA (2022, 2025), RO-MAN (2024)

## Honors and Awards

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- Silver Prize:** Graduate School Innovation Outstanding Paper Awards (Yonsei University) Jul. 2024  
 • *Context-Aware Planning and Environment-Aware Memory for Instruction Following Embodied Agents* [↗](#)
- Silver Prize:** Outstanding Paper Awards (IPIU 2024, South Korea) Feb. 2024  
 • *Multi-Modal Grounded Planning and Efficient Replanning for Learning Embodied Agents with A Few Examples* [↗](#)
- Bronze Prize:** Outstanding Paper Awards (IPIU 2024, South Korea) Feb. 2024  
 • *Online Continual Learning for Interactive Instruction Following Agents* [↗](#)
- Bronze Prize:** Graduate School Innovation Outstanding Paper Awards (Yonsei University) Jul. 2023  
 • *Multi-Level Compositional Reasoning for Interactive Instruction Following* [↗](#)
- 1<sup>st</sup> Place:** Generalist Language Grounding Agents Challenge (CVPRW'23) Jun. 2023  
 • *ECLAIR: Event-Cognizant Language Interaction Robots* [↗](#)
- 2<sup>nd</sup> Place:** ALFRED Challenge (CVPRW'21) Jun. 2021  
 • *Agent with the Big Picture: Perceiving Surroundings for Interactive Instruction Following* [↗](#)
- 2<sup>nd</sup> Place:** ALFRED Challenge (ECCVW'20) Aug. 2020  
 • *Improving Mask Prediction for Long Horizon Instruction Following* [↗](#)

## Teaching Experience

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### Teaching Assistant @ Seoul National University

- *Introduction to Algorithms* Spring 2025
- *Deep Learning* Fall 2024
- *Introduction to Random Variables and Random Processes* Spring 2024

### Teaching Assistant @ Yonsei University

- *Deep Learning - Theory and Practice* Fall 2022, Spring 2023, Fall 2023

### Teaching Assistant @ Gwangju Institute of Science and Technology

- *Machine Learning and Deep Learning* Spring 2021

### Teaching Assistant @ Korea Telecom (KT)

- *KT-SNU AI Training Course - Computer Vision* Jul. 2024

### Teaching Assistant @ LG Electronics

- *AI Advanced Course for CTO (Object Detection, Continual Learning)* Jul. 2023

### Teaching Assistant @ Samsung Electronics

- *AI Expert Program (Continual Learning)* Jul. 2022, Jul. 2023, Sept. 2024
- *AI Expert Program (Object Detection)* Jul. 2023

### Teaching Assistant @ Samsung Advanced Technology Training Institute

- *AI Academy for Application - Vision (Object Detection, Continual Learning)*

Aug. 2022, Dec. 2022, Jul. 2023

## Presentation

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- Poster presentation (Embodied AI) @ AI SEOUL 2024 Feb. 2024
- Invited talk (Embodied AI) @ LG AI Research Jun. 2023
- Invited talk (Embodied AI) @ Electronic & Information Research Information Center May 2023

## Patents

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**Method of Continual Learning on Embodied Agent Model Capable of Receiving Language Instructions and Performing Tasks, Method of Testing the Embodied Agent Model, Learning Device and Testing Device Using the Same**

Jonghyun Choi, **Byeonghwi Kim**, Minhyuk Seo

KR 10-2746049

**Method for Performing Tasks According to CAPEAM Model Including Context-Aware Planning Module and Environment-Aware Memory Module and AI Agent Using the Same**

Jonghyun Choi, **Byeonghwi Kim**, Jinyeon Kim, Cheolhong Min, Yuyeong Kim

KR 10-2675973

## References

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References will be provided upon request.