

JAEKYEOM KIM

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RESEARCH INTERESTS

Building capable AI agents for decision-making in challenging, real-world tasks, with language and multimodal models and reinforcement learning.

WORK EXPERIENCE

LG Management Development Institute Co., Ltd

AI Research Scientist

Postdoctoral Researcher

Aug. 2023 - Present

Aug. 2025 - Present

Aug. 2023 - Jul. 2025

- Working on language and multimodal agents for decision making in challenging, real-world tasks
- Manager: Prof. Honglak Lee

ESTsoft, Seoul (Alternative Military Service)

Senior Software Engineer

Apr. 2013 - May 2016

- Developed the dual-engine web browser based on Chromium, a large-scale open source project that powers Google Chrome and more

Google, Seoul

Software Engineering Intern

Jun. 2012 - Sep. 2012

- Worked on processing raw text data to generate formalized entries and reconciling them with existing entries, as part of the Knowledge Graph project

EDUCATION

Seoul National University

Integrated MS/PhD in Computer Science and Engineering

Vision & Learning Lab (Advisors: Prof. Gunhee Kim and Prof. Hyun Oh Song)

Dissertation: [Generalizable Agents with Improved Abstractions and Transfer](#)

Committee: Profs. Sungjoo Yoo, Gunhee Kim, Hyun Oh Song, Joonseok Lee, and Kimin Lee

Mar. 2018 - Aug. 2023

Korea Advanced Institute of Science and Technology

Bachelor of Science in Computer Science

Graduated *summa cum laude*

Feb. 2010 - Jun. 2017

GPA (Overall): 4.06/4.30

GPA (Major): 4.21/4.30

PUBLICATIONS

(*equal contribution)

1. Beyond Blind Following: Evaluating Robustness of LLM Agents under Imperfect Guidance

Yao Fu, Ran Qiu, Xinhe Wang, Jacob Sansom, Sathvika Ayyappa Prabhu, Huijie Tang, **Jaekyeom Kim**, Sungryull Sohn, Honglak Lee

Accepted for Workshop on AI Agents: Capabilities and Safety at COLM 2025

2. Scaling Web Agent Training through Automatic Data Generation and Fine-grained Evaluation

Lajanugen Logeswaran, **Jaekyeom Kim**, Sungryull Sohn, Creighton Glasscock, Honglak Lee

Accepted for publication at **COLM 2025**

3. Process Reward Models That Think
Muhammad Khalifa, Rishabh Agarwal, Lajanugen Logeswaran, **Jaekyeom Kim**, Hao Peng, Moontae Lee, Honglak Lee, Lu Wang
[Preprint](#) (Also accepted for Workshop on Test-time Scaling and Reasoning Models at COLM 2025)
4. MLRC-Bench: Can Language Agents Solve Machine Learning Research Challenges?
Yunxiang Zhang, Muhammad Khalifa, Shitanshu Bhushan, Grant D Murphy, Lajanugen Logeswaran, **Jaekyeom Kim**, Moontae Lee, Honglak Lee, Lu Wang
[Preprint](#)
5. Do Not Trust Licenses You See: Dataset Compliance Requires Massive-Scale AI-Powered Lifecycle Tracing
Jaekyeom Kim*, Sungryull Sohn*, Gerrard Jeongwon Jo, Jihoon Choi, Kyunghoon Bae, Hwayoung Lee, Yongmin Park, Honglak Lee
[Preprint](#)
6. Interactive and Expressive Code-Augmented Planning with Large Language Models
Anthony Z. Liu, Xinhe Wang, Jacob Sansom, Yao Fu, Jongwook Choi, Sungryull Sohn, **Jaekyeom Kim**, Honglak Lee
[Preprint](#), Accepted for publication at **ACL 2025**
7. AutoGuide: Automated Generation and Selection of Context-Aware Guidelines for Large Language Model Agents
Yao Fu*, Dong-Ki Kim*, **Jaekyeom Kim**, Sungryull Sohn, Lajanugen Logeswaran, Kyunghoon Bae, Honglak Lee
NeurIPS 2024 ([Proceeding](#))
8. Auto-Intent: Automated Intent Discovery and Self-Exploration for Large Language Model Web Agents
Jaekyeom Kim, Dong-Ki Kim, Lajanugen Logeswaran, Sungryull Sohn, Honglak Lee
EMNLP 2024 Findings ([Proceeding](#))
9. Small Language Models Need Strong Verifiers to Self-Correct Reasoning
Yunxiang Zhang, Muhammad Khalifa, Lajanugen Logeswaran, **Jaekyeom Kim**, Moontae Lee, Honglak Lee, Lu Wang
ACL 2024 Findings ([Proceeding](#))
10. Constrained GPI for Zero-Shot Transfer in Reinforcement Learning
Jaekyeom Kim, Seohong Park, Gunhee Kim
NeurIPS 2022 ([Proceeding](#))
11. Lipschitz-constrained Unsupervised Skill Discovery
Seohong Park, Jongwook Choi*, **Jaekyeom Kim***, Honglak Lee, Gunhee Kim
ICLR 2022 ([Proceeding](#))
12. Time Discretization-Invariant Safe Action Repetition for Policy Gradient Methods
Seohong Park, **Jaekyeom Kim**, Gunhee Kim
NeurIPS 2021 ([Proceeding](#))

13. Unsupervised Skill Discovery with Bottleneck Option Learning
Jaekyeom Kim*, Seohong Park*, Gunhee Kim
ICML 2021 ([Proceeding](#))
14. Drop-Bottleneck: Learning Discrete Compressed Representation for Noise-Robust Exploration
Jaekyeom Kim, Minjung Kim, Dongyeon Woo, Gunhee Kim
ICLR 2021 ([Proceeding](#))
15. Model-Agnostic Boundary-Adversarial Sampling for Test-Time Generalization in Few-Shot Learning
Jaekyeom Kim, Hyoungeok Kim, Gunhee Kim
ECCV 2020 (Oral: 104/5025 \approx 2%) ([Proceeding](#))
16. EMI: Exploration with Mutual Information
 Hyoungeok Kim*, **Jaekyeom Kim***, Yeonwoo Jeong, Sergey Levine, Hyun Oh Song
ICML 2019 (Long talk: 158/3424 \approx 4.6%) ([Proceeding](#))

HONORS & AWARDS

PhD Dissertation Award <i>Dept. of Computer Science and Engineering, Seoul National University</i>	<i>Aug. 2023</i>
Star Student Researcher Award <i>Brain Korea (BK21) FOUR Intelligence Computing, Seoul National University</i>	<i>Feb. 2023</i>
Youlchon AI Star Fellowship <i>Youlchon Foundation</i>	<i>Jul. 2022</i>
Naver PhD Fellowship <i>Naver</i>	<i>Dec. 2021</i>
Google PhD Fellowship <i>Google</i>	<i>Sep. 2021</i>
· Area: Machine Learning	
Samsung Humantech Paper Award <i>Samsung Electronics</i>	<i>Feb. 2021</i>
· Silver Prize in Signal Processing, award for research work	
Qualcomm Innovation Fellowship Korea <i>Qualcomm AI Research</i>	<i>Dec. 2020</i>
· Award for research work	
On-Dream Outstanding Scholar Award <i>Hyundai Motor Chung Mong-Koo Foundation</i>	<i>Dec. 2020</i>

On-Dream Future Talent Graduate Scholarship*Jul. 2020 - Jul. 2021**Hyundai Motor Chung Mong-Koo Foundation*

- Full-tuition and additional scholarships for graduate study

Kwanjeong Domestic Scholarship*Apr. 2018 - Mar. 2020**Kwanjeong Educational Foundation*

- Full-tuition and additional scholarships for 2 years

Summa Cum Laude Honor*Feb. 2018**Korea Advanced Institute of Science and Technology***National Presidential Science Scholarship***Feb. 2010 - Jun. 2017**Korea Student Aid Foundation*

- Full-tuition and additional scholarships for undergraduate study

KAIST Convergence AMP Scholarship*Oct. 2016**Korea Advanced Institute of Science and Technology*

- Merit-based scholarship awarded to 5 recipients

ACADEMIC SERVICE AND ACTIVITIES

Conference Reviewer

- ICML (2021, 2022, 2023, 2024, 2025)
- NeurIPS (2021, 2022, 2023, 2024, 2025)
- ICLR (2022, 2023, 2024, 2025)
- ACL Rolling Review (2024, 2025)
- Workshops: Behavioral ML (NeurIPS 2024), Re-Align (ICLR 2025), Assessing World Models (ICML 2025)

Teaching Assistant

- Probabilistic Graphical Models (M1522.001300), Spring, 2022
- Statistical Foundations for A.I. and Machine Learning (M2480.000500), Fall, 2021
- Theory and Lab of IoT, AI, and Big Data (M2177.004900), Spring, 2021
- Probabilistic Graphical Models (M1522.001300), Spring, 2020
- Introduction to Deep Learning (M2177.004300), Spring, 2019
- Engineering Mathematics 2 (033.015), Fall, 2018
- Introduction to Deep Learning (M2177.004300), Spring, 2018