

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

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. 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
Accepted for publication at **NeurIPS 2025 Datasets and Benchmarks Track**, [Preprint](#)
2. Scaling Web Agent Training through Automatic Data Generation and Fine-grained Evaluation
Lajanugen Logeswaran, **Jaekyeom Kim**, Sungryull Sohn, Creighton Glasscock, Honglak Lee
COLM 2025 ([Proceeding](#))

3. Process Reward Models That Think
Muhammad Khalifa, Rishabh Agarwal, Lajanugen Logeswaran, **Jaekyeom Kim**, Hao Peng, Moontae Lee, Honglak Lee, Lu Wang
Workshop on Test-time Scaling and Reasoning Models at COLM 2025, [Preprint](#)
4. 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
Workshop on AI Agents: Capabilities and Safety at COLM 2025
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
ACL 2025 ([Proceeding](#))
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), Test-time Scaling and Reasoning Models (COLM 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