

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 AI Research, Ann Arbor

Aug. 2023 - Present

Researcher

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

ESTsoft, Seoul (Alternative Military Service)

Apr. 2013 - May 2016

Senior Software Engineer

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

Google, Seoul

Jun. 2012 - Sep. 2012

Software Engineering Intern

- 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

Mar. 2018 - Aug. 2023

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

Korea Advanced Institute of Science and Technology

Feb. 2010 - Jun. 2017

Bachelor of Science in Computer Science

GPA (Overall): 4.06/4.30

Graduated *summa cum laude*

GPA (Major): 4.21/4.30

PUBLICATIONS

(*equal contribution)

1. Process Reward Models That Think

Muhammad Khalifa, Rishabh Agarwal, Lajanugen Logeswaran, **Jaekyeom Kim**, Hao Peng, Moontae Lee, Honglak Lee, Lu Wang

[Preprint](#)

2. 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](#)

3. 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](#)
4. 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](#)
5. 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](#))
6. 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](#))
7. 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](#))
8. Constrained GPI for Zero-Shot Transfer in Reinforcement Learning
Jaekyeom Kim, Seohong Park, Gunhee Kim
NeurIPS 2022 ([Proceeding](#))
9. Lipschitz-constrained Unsupervised Skill Discovery
Seohong Park, Jongwook Choi*, **Jaekyeom Kim***, Honglak Lee, Gunhee Kim
ICLR 2022 ([Proceeding](#))
10. Time Discretization-Invariant Safe Action Repetition for Policy Gradient Methods
Seohong Park, **Jaekyeom Kim**, Gunhee Kim
NeurIPS 2021 ([Proceeding](#))
11. Unsupervised Skill Discovery with Bottleneck Option Learning
Jaekyeom Kim*, Seohong Park*, Gunhee Kim
ICML 2021 ([Proceeding](#))
12. Drop-Bottleneck: Learning Discrete Compressed Representation for Noise-Robust Exploration
Jaekyeom Kim, Minjung Kim, Dongyeon Woo, Gunhee Kim
ICLR 2021 ([Proceeding](#))
13. Model-Agnostic Boundary-Adversarial Sampling for Test-Time Generalization in Few-Shot Learning
Jaekyeom Kim, Hyoungseok Kim, Gunhee Kim
ECCV 2020 (Oral: 104/5025 \approx 2%) ([Proceeding](#))

14. EMI: Exploration with Mutual Information

Hyoungseok 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

Aug. 2023

Dept. of Computer Science and Engineering, Seoul National University

Star Student Researcher Award

Feb. 2023

Brain Korea (BK21) FOUR Intelligence Computing, Seoul National University

Youlchon AI Star Fellowship

Jul. 2022

Youlchon Foundation

Naver PhD Fellowship

Dec. 2021

Naver

Google PhD Fellowship

Sep. 2021

Google

- Area: Machine Learning

Samsung Humantech Paper Award

Feb. 2021

Samsung Electronics

- Silver Prize in Signal Processing, award for research work

Qualcomm Innovation Fellowship Korea

Dec. 2020

Qualcomm AI Research

- Award for research work

On-Dream Outstanding Scholar Award

Dec. 2020

Hyundai Motor Chung Mong-Koo Foundation

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

- Merit-based scholarship awarded to 5 recipients

ACADEMIC SERVICE AND ACTIVITIES

Conference Reviewer

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