

# JAEKYEOM KIM

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## RESEARCH INTERESTS

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Deep reinforcement learning: improving learned agents/behaviors' reusability on and robustness to new tasks or data, including (a) discovery of reusable and interpretable skills, (b) few- or zero-shot transfer, and (c) distilling task-relevant information.

## EDUCATION

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<b>Seoul National University</b>	<i>Mar. 2018 - Present</i>
Integrated MS/PhD in Computer Science and Engineering (Expected graduation: 2023)	
Vision & Learning Lab (Advisor: Prof. Gunhee Kim and Prof. Hyun Oh Song)	
<b>Korea Advanced Institute of Science and Technology</b>	<i>Feb. 2010 - Jun. 2017</i>
Bachelor of Science in Computer Science	GPA (Overall): 4.06/4.30
Graduated <i>summa cum laude</i>	GPA (Major): 4.21/4.30

## PUBLICATIONS

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(\*equal contribution)

Constrained GPI for Zero-Shot Transfer in Reinforcement Learning

**Jaekyeom Kim**, Seohong Park, Gunhee Kim

· **NeurIPS 2022** (to appear)

Lipschitz-constrained Unsupervised Skill Discovery

Seohong Park, Jongwook Choi\*, **Jaekyeom Kim\***, Honglak Lee, Gunhee Kim

· **ICLR 2022**

Time Discretization-Invariant Safe Action Repetition for Policy Gradient Methods

Seohong Park, **Jaekyeom Kim**, Gunhee Kim

· **NeurIPS 2021**

Unsupervised Skill Discovery with Bottleneck Option Learning

**Jaekyeom Kim\***, Seohong Park\*, Gunhee Kim

· **ICML 2021**

Drop-Bottleneck: Learning Discrete Compressed Representation for Noise-Robust Exploration

**Jaekyeom Kim**, Minjung Kim, Dongyeon Woo, Gunhee Kim

· **ICLR 2021**

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%)

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%)**

## HONORS & AWARDS

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**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

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

- Merit-based scholarship awarded to 5 recipients

## ACADEMIC ACTIVITIES

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### Conference Reviewer

- ICML (2021, 2022), NeurIPS (2021, 2022), ICLR (2022, 2023)

### Teaching Assistant at Seoul National University

- 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

## WORK EXPERIENCE

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### 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