

Yongjae Shin

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RESEARCH INTERESTS

My research aims to make reinforcement learning sample-efficient and reliable for real-world decision making. I study how agents can leverage offline data and generative policies such as flow matching and continually improve them online, with a recent focus on fine-tuning vision-language-action (VLA) models for robot manipulation.

EDUCATION

- Ph.D.**, Korea Advanced Institute of Science and Technology (KAIST) 2024 – Present
[Smart Information Systems Research Lab \(SISReL\)](#)
Advisor: Prof. [Youngchul Sung](#)
- M.S.**, Korea Advanced Institute of Science and Technology (KAIST) 2022 – 2024
[Smart Information Systems Research Lab \(SISReL\)](#)
Advisor: Prof. [Youngchul Sung](#)
- B.S.** in Electrical Engineering, Korea University 2018 – 2022

WORK EXPERIENCE

- Research Intern**, [LG AI Research](#) Mar 2024 – Dec 2024
Publications: OPT, PARS (ICML 2025); RL-Studio (AAAI 2026 Demonstration).

PUBLICATIONS

* equal contribution, † corresponding author

- [9] **Yongjae Shin**, Seongmin Kim, Jongseong Chae, Jongeui Park, Jeongwoo Park, Youngchul Sung. “Steer, Refine, and Select: Adapting Generative Policies for Robot Manipulation via Online RL.” *Preprint*.
- [8] Minho Park*, Kinam Kim*, Donghu Kim, Byungkun Lee, Dongyoon Hwang, **Yongjae Shin**, Junha Hyung, Hojoon Lee†, Jaegul Choo†. “DiscoDemo: Discovering Efficient and Diverse Robot Demonstrations for Imitation Learning.” *Preprint*. [\[project\]](#) [\[code\]](#) [\[dataset\]](#)
- [7] **Yongjae Shin**, Jongseong Chae, Seongmin Kim, Jongeui Park, Youngchul Sung. “Adaptive Action Chunking via Multi-Chunk Q Value Estimation.” *NeurIPS 2026 Workshop PTA*. [\[paper\]](#)
- [6] **Yongjae Shin**, Jongseong Chae, Jongeui Park, Youngchul Sung. “Flow Matching with Injected Noise for Offline-to-Online Reinforcement Learning.” *ICLR 2026*. [\[paper\]](#)
- [5] Jongseong Chae, Jongeui Park, **Yongjae Shin**, Gyeongmin Kim, Seungyul Han, Youngchul Sung. “Flow Actor-Critic for Offline Reinforcement Learning.” *ICLR 2026*. [\[paper\]](#)
- [4] Whiyoung Jung, Sunghoon Hong, Deunsol Yoon, Jeonghye Kim, **Yongjae Shin**, Suhyun Jung, Hyundam Yoo, Youngjin Kim, Chanwoo Moon, Woohyung Lim, Soonyoung Lee, Kanghoon Lee. “RL-Studio: A System for

Multi-Phase Reinforcement Learning Experimentation.” *AAAI 2026 Demonstration*. [\[paper\]](#)

Work done during an internship at LG AI Research.

- [3] **Yongjae Shin**, Jeonghye Kim, Whiyoung Jung, Sunghoon Hong, Deunsol Yoon, Youngsoo Jang, Geon-Hyeong Kim, Jongseong Chae, Youngchul Sung, Kanghoon Lee, Woohyung Lim. “Online Pre-Training for Offline-to-Online Reinforcement Learning.” *ICML 2025*. [\[paper\]](#)

Work done during an internship at LG AI Research.

- [2] Jeonghye Kim, **Yongjae Shin**, Whiyoung Jung, Sunghoon Hong, Deunsol Yoon, Youngchul Sung, Kanghoon Lee, Woohyung Lim. “Penalizing Infeasible Actions and Reward Scaling in Reinforcement Learning with Offline Data.” *ICML 2025*. **Spotlight** [\[paper\]](#)

Work done during an internship at LG AI Research.

- [1] Woojun Kim*, **Yongjae Shin***, Jongeui Park, Youngchul Sung. “Sample-efficient and Safe Deep Reinforcement Learning via Reset Deep Ensemble Agents.” *NeurIPS 2023*. [\[paper\]](#)

ACADEMIC ACTIVITIES

Conference Reviewer: ICML, NeurIPS, ICLR, AAAI, ICRA

TEACHING EXPERIENCE

Teaching Assistant, Probability and Introductory Random Processes, KAIST

Sep 2025 – Dec 2025

Teaching Assistant, Machine Learning Basics and Practices, KAIST

Mar 2025 – Jun 2025