
Lab seminar



RILS LAB

Robot Intelligence Learning & System

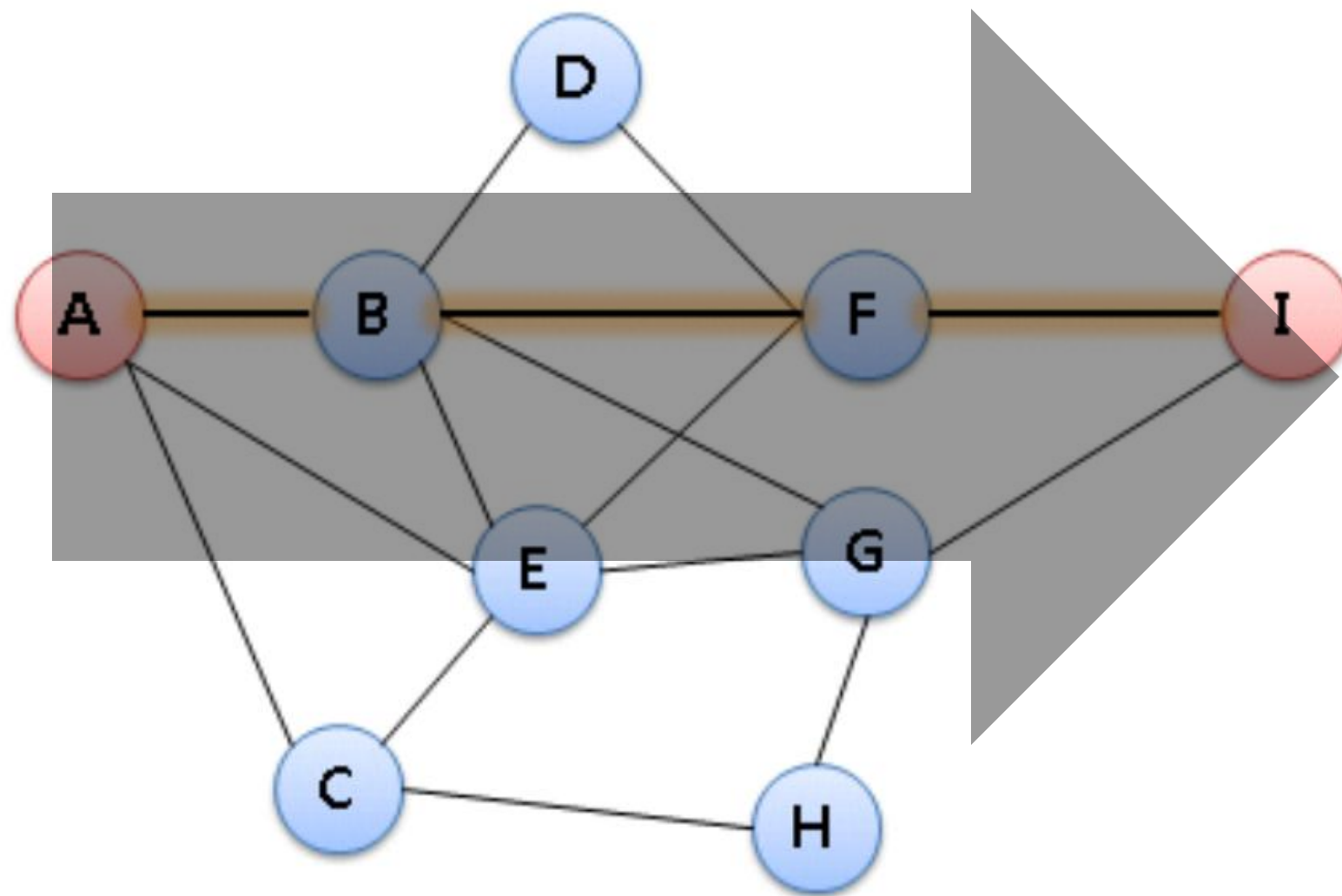
01

1000 Layer Networks for Self-Supervised RL: Scaling Depth Can Enable New Goal-Reaching

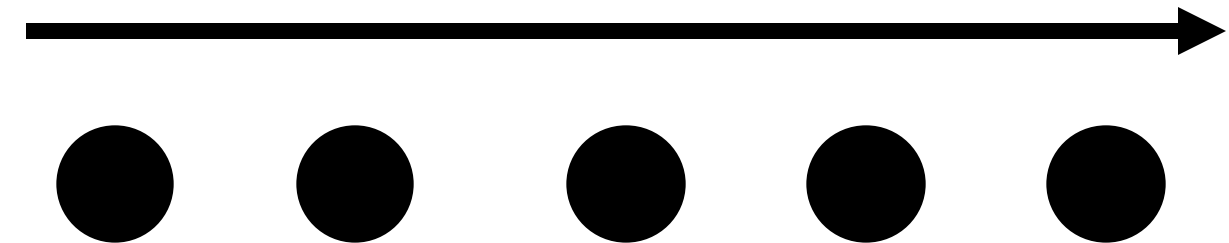
Kevin Wang, Ishaan Javali, Michał Bortkiewicz,
Tomasz Trzciński, Benjamin Eysenbach

NeuralIPS / 2025

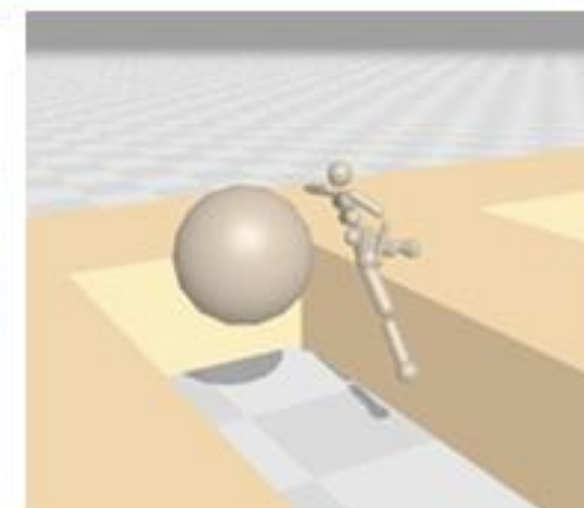
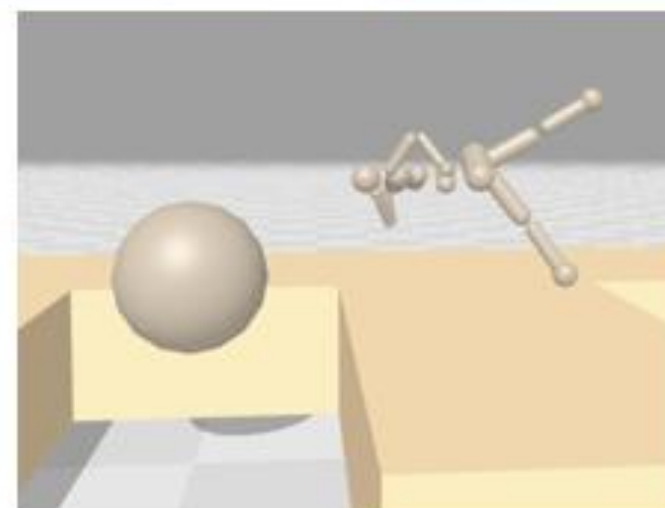
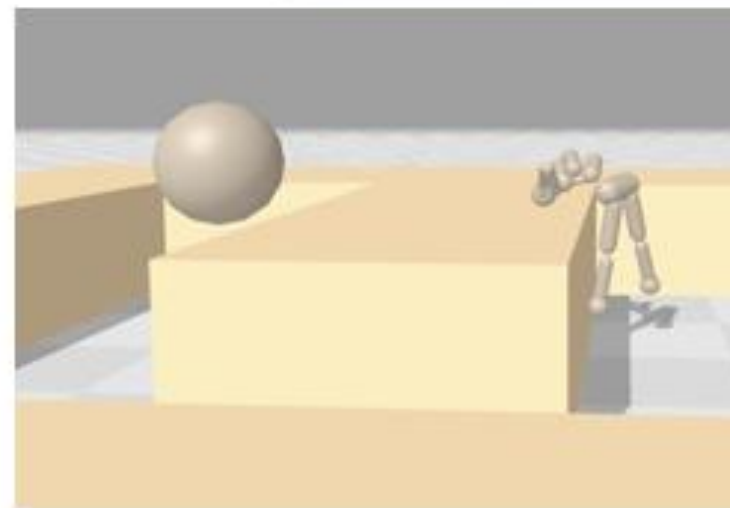
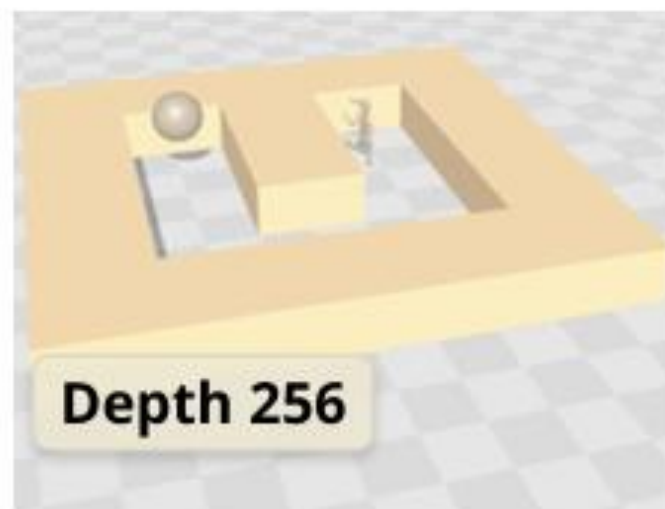
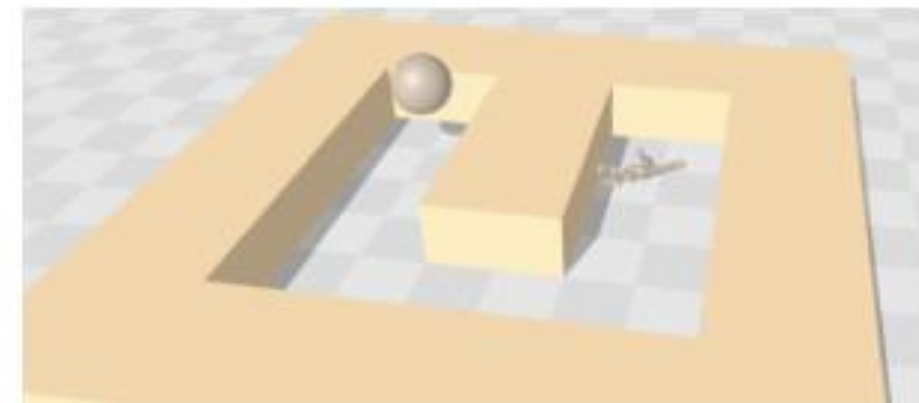
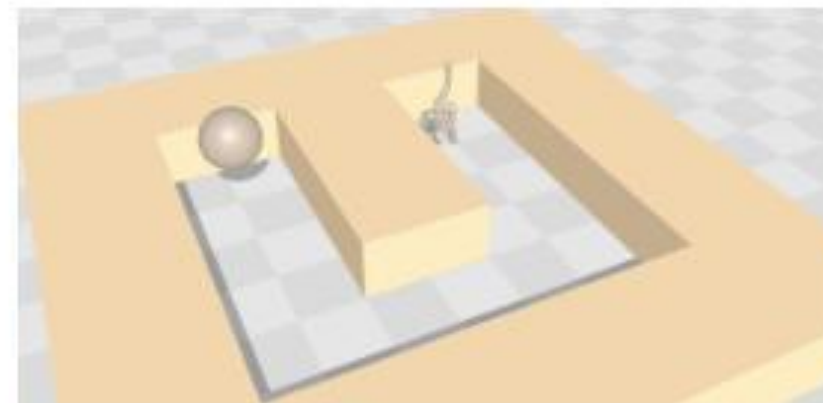
논문 배경 : 강화학습에도 스케일링 효과가 적용되는가



Guidance reward :
데이터 위에 존재하는 개념



논문의 시도 : Contrastive가 가지는 내제적 구조화를 활용



02

Exploratory Diffusion Model for Unsupervised Reinforcement Learning

Chengyang Ying, Huayu Chen, Zhongkai Hao, Xinning Zhou
Hang Su, Jun Zhu

ICLR / 2026

학습 환경: URL (Unsupervised-RL)

Pretrain without reward → Fine-tuning with reward



리모컨 가져와
물병 닦아
현관문 열어줘

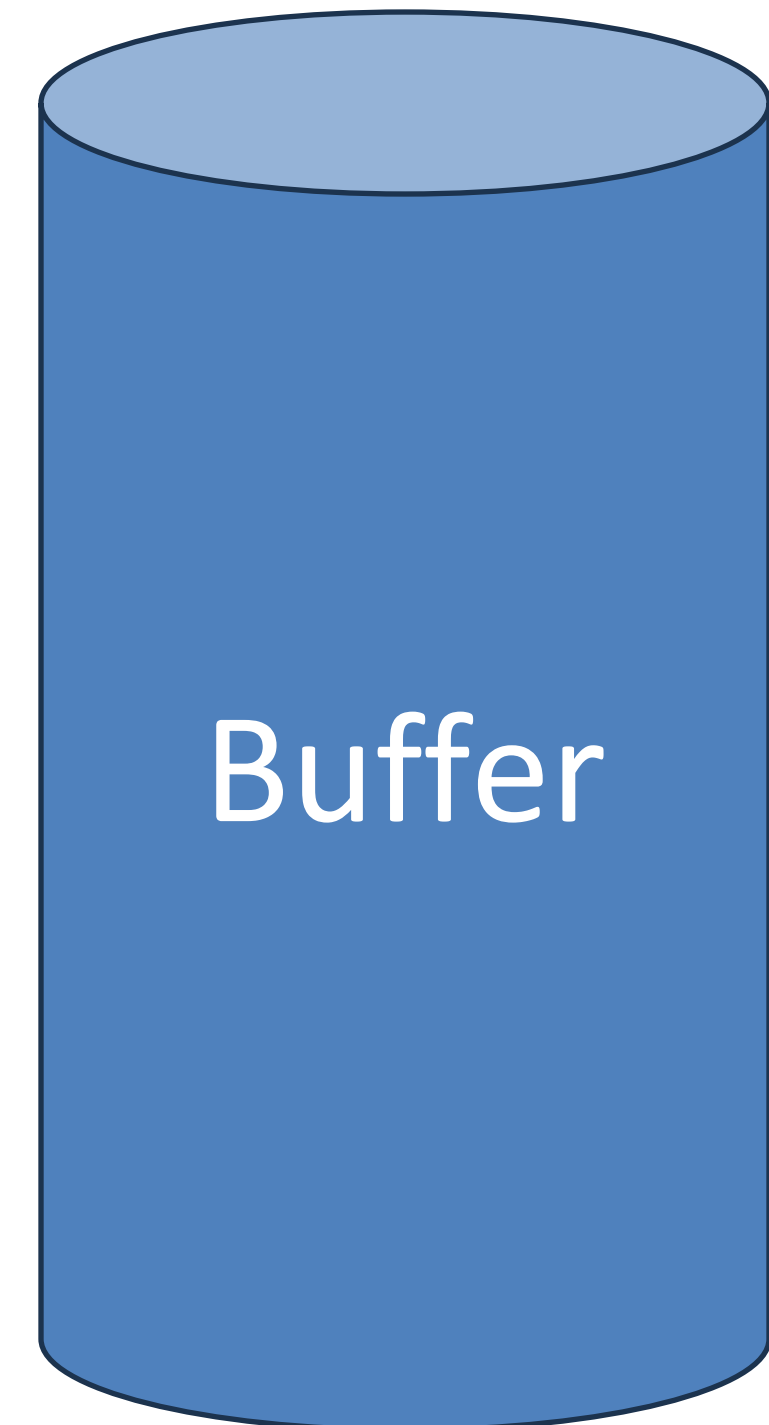
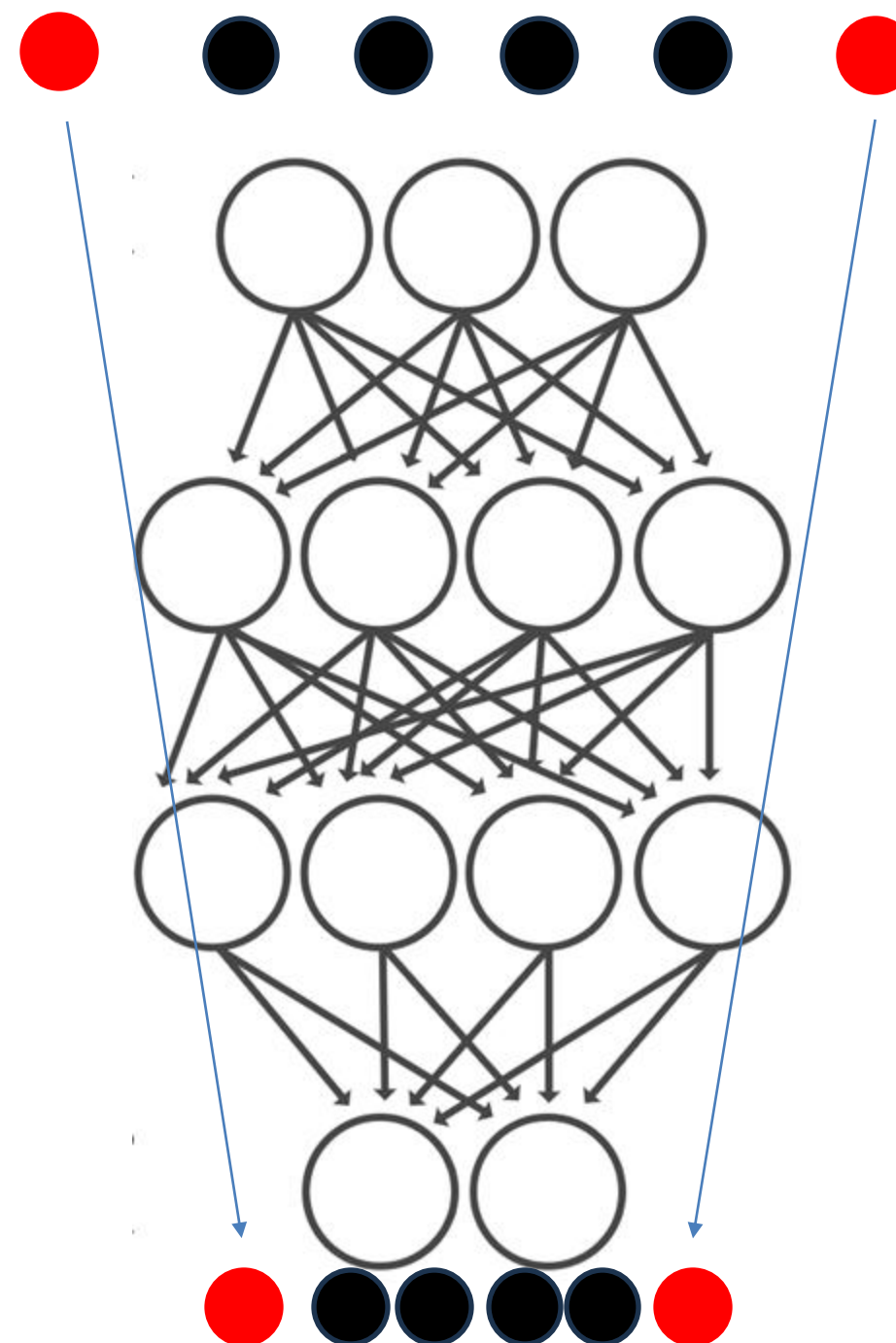
논문 배경:

Pre-train 단계에서 어떻게 데이터 수집을 할까?



리모컨 가져와
물병 닦아
현관문 열어줘

논문의 시도: Diffusion to buffer



03

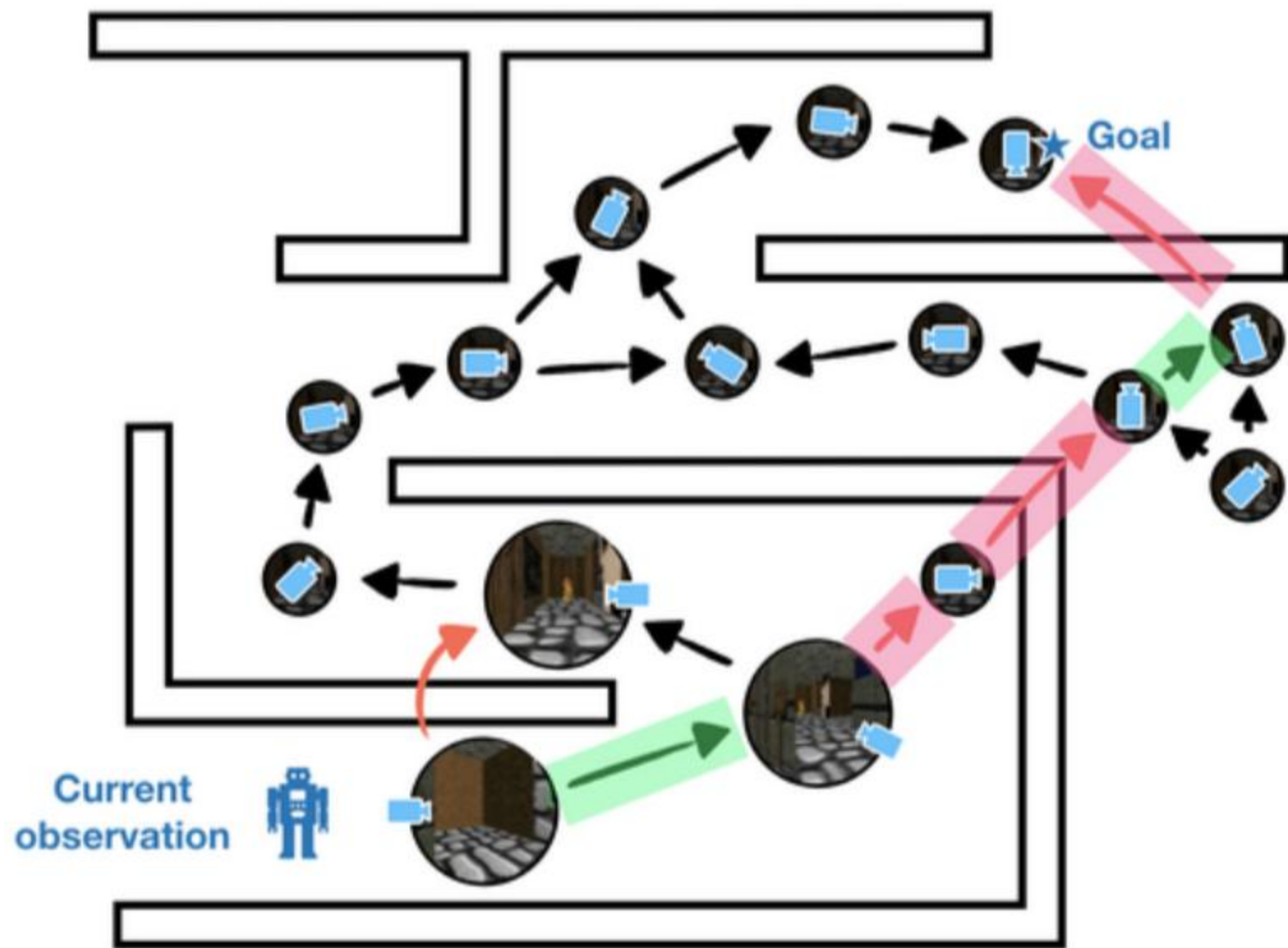
TD-JEPA: Latent-predictive Representations for Zero-Shot Reinforcement Learning

Marco Bagatella, Matteo Pirotta, AhmedTouati, AlessandroLazaric, AndreaTirinzoni 등

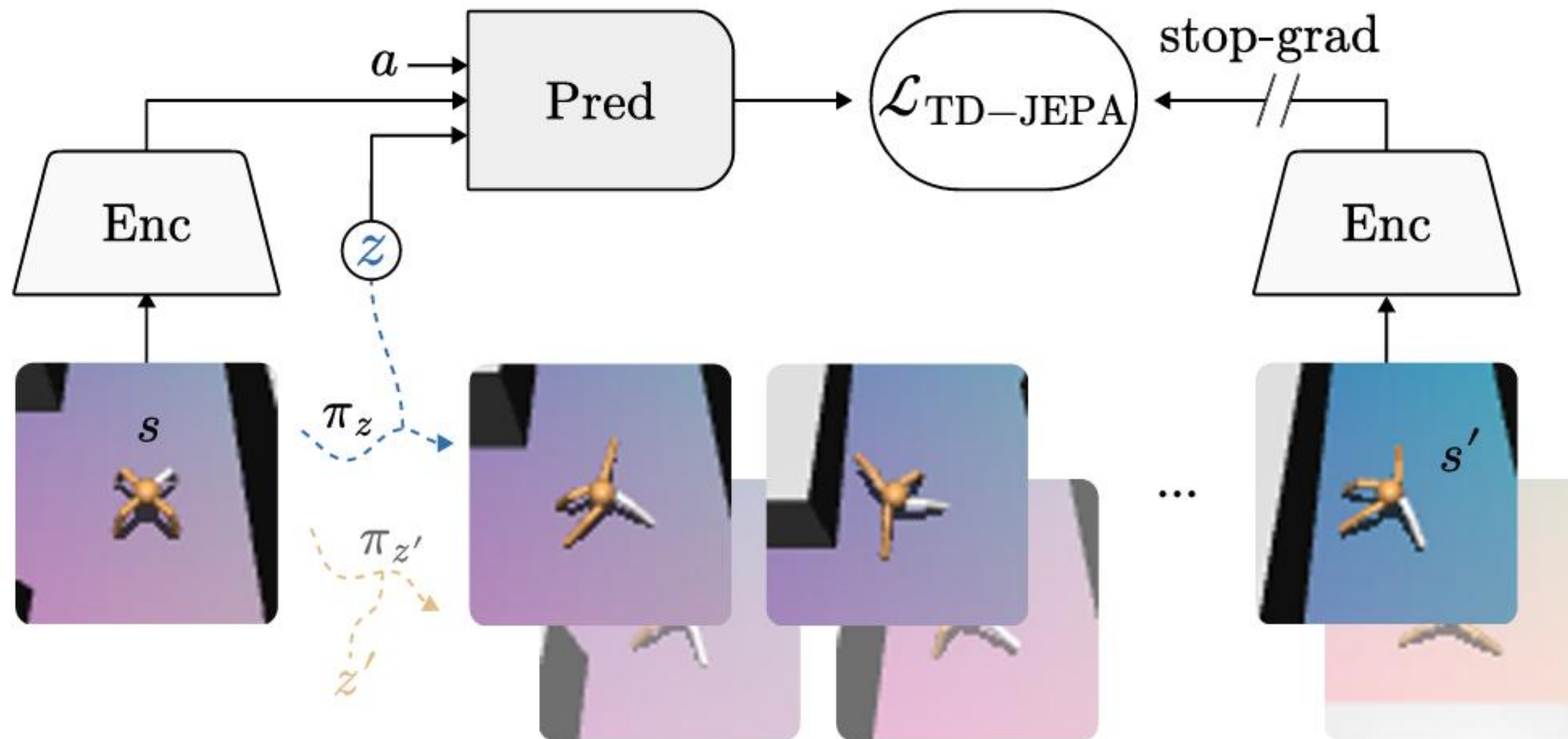
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논문 배경과 한계: JEPA(Joint Embedding Predictive Architecture)

"픽셀 공간에서 예측하지 말고, 추상화된 latent(임베딩) 공간에서 예측하라"



논문의 시도 in TD-JEPA: 목적에 따른 Encoder 분리



Thank you

Question & Discussion



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