

DEPARTMENT OF COMPUTER SCIENCE

SEMINAR

2025 SERIES

Low-Data Imitation Learning

DATE & TIME

15 MAY 2025 (Thu) 2:30 - 3:30 PM

VENUE

DLB637, 6/F, DAVID C. LAM BUILDING, SHAW CAMPUS



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ABSTRACT

Imitation learning (IL) has shown great potential in various applications, such as robot control. However, traditional IL methods are usually designed to learn only one specific type of behavior since demonstrations typically correspond to a single expert. In this work, we introduce the first generic framework for Quality Diversity Imitation Learning (QD-IL), which enables the agent to learn a broad range of skills from limited demonstrations. Our framework integrates the principles of quality diversity with adversarial imitation learning (AIL) methods, and can potentially improve any inverse reinforcement learning (IRL) method. Empirically, our framework significantly improves the QD performance of GAIL and VAIL on the challenging continuous control tasks derived from Mujoco environments. Moreover, our method even achieves 2x expert performance in the Humanoid environment.



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