

Final Project - Paper List

- For each student, please pick one paper from the following list, and prepare an oral presentation about that one.
- The slides should be written in English, and an English speech is encouraged.
- Each paper can only be selected by one person: <https://tvu28tpr0e.feishu.cn/sheets/H3BYsIVfvhJTT0tTq0YcafBunle>

Transfer Reinforcement Learning

1. Online Prototype Alignment for Few-shot Policy Transfer, ICML 2023
2. Investigating the Role of Model-Based Learning in Exploration and Transfer, ICML 2023
3. Robust Knowledge Transfer in Tiered RL, NeurIPS 2023
4. Self-Supervised Reinforcement Learning that Transfers using Random Features, NeurIPS 2023
5. Deep Reinforcement Learning with Plasticity Injection, NeurIPS 2023
6. Optimistic Linear Support and Successor Features as a Basis for Optimal Policy Transfer, ICML 2022
7. AnyMorph: Learning Transferable Policies By Inferring Agent Morphology, ICML 2022
8. Structure-Aware Transformer Policy for Inhomogeneous Multi-Task Reinforcement Learning, ICLR 2022
9. Autonomous Learning of Object-Centric Abstractions for High-Level Planning, ICLR 2022
10. Off-Dynamics Reinforcement Learning: Training for Transfer with Domain Classifiers, ICLR 2021
11. EASI: Evolutionary Adversarial Simulator Identification for Sim-to-Real Transfer, NeurIPS 2024

Lifelong Reinforcement Learning

1. SocioDojo: Building Lifelong Analytical Agents with Real-world Text and Time Series, ICLR 2024
2. A Definition of Continual Reinforcement Learning, NeurIPS 2023
3. Lifelong Reinforcement Learning with Modulating Masks, TMLR 2023
4. Provably Efficient Lifelong Reinforcement Learning with Linear Representation, ICLR 2023
5. Building a Subspace of Policies for Scalable Continual Learning, ICLR 2023
6. Proving Theorems using Incremental Learning and Hindsight Experience Replay, ICML 2022
7. Generalisation in Lifelong Reinforcement Learning through Logical Composition, ICLR 2022
8. Modular Lifelong Reinforcement Learning via Neural Composition, ICLR 2022
9. Model-based Lifelong Reinforcement Learning with Bayesian Exploration, NeurIPS 2022
10. Lifelong Hyper-Policy Optimization with Multiple Importance Sampling Regularization, AAAI 2022

Meta Reinforcement Learning

1. MAMBA: an Effective World Model Approach for Meta-Reinforcement Learning, ICLR 2024
2. Meta Inverse Constrained Reinforcement Learning: Convergence Guarantee and Generalization Analysis, ICLR 2024
3. Context-Aware Meta-Learning, ICLR 2024
4. AMAGO: Scalable In-Context Reinforcement Learning for Adaptive Agents, ICLR 2024
5. Offline Meta Reinforcement Learning with In-Distribution Online Adaptation, ICML 2023
6. Doubly Robust Augmented Transfer for Meta-Reinforcement Learning, NeurIPS 2023
7. Transformers are Meta-Reinforcement Learners, ICML 2022
8. Offline Meta-Reinforcement Learning with Online Self-Supervision, ICML 2022
9. Robust Task Representations for Offline Meta-Reinforcement Learning via Contrastive Learning, ICML 2022

10. DOMINO: Decomposed Mutual Information Optimization for Generalized Context in Meta-Reinforcement Learning, NeurIPS 2022
11. Context shift reduction for offline meta-reinforcement learning , NeurIPS 2023
12. Metadiffuser: Diffusion model as conditional planner for offline meta-rl, ICML 2023
13. Meta-DT: Offline meta-RL as conditional sequence modeling with world model disentanglement NeurIPS 2024

Large Language Model/Pretraining

1. Pre-Training Goal-based Models for Sample-Efficient Reinforcement Learning, ICLR 2024
2. SMART: Self-supervised Multi-task pretraining with control Transformers, ICLR 2023
3. Towards Universal Visual Reward and Representation via Value-Implicit Pre-Training, ICLR 2023
4. Guiding Pretraining in Reinforcement Learning with Large Language Models, ICML 2023
5. Reinforcement Learning with Action-Free Pre-Training from Videos, ICML 2022
6. The Unsurprising Effectiveness of Pre-Trained Vision Models for Control, ICML 2022
7. Prompting Decision Transformer for Few-Shot Policy Generalization, ICML 2022
8. DreamerPro: Reconstruction-Free Model-Based Reinforcement Learning with Prototypical Representations, ICML 2022
9. Pre-Trained Image Encoder for Generalizable Visual Reinforcement Learning, NeurIPS 2022
10. Offline Reinforcement Learning as One Big Sequence Modeling Problem, NeurIPS 2021
11. Deepseek-r1: Incentivizing reasoning capability in llms via reinforcement learning
12. DAPO: An Open-Source LLM Reinforcement Learning System at Scale
13. Direct preference optimization: Your language model is secretly a reward model, NeurIPS 2023

Generative Modeling/Imitation Learning

1. RLIF: Interactive Imitation Learning as Reinforcement Learning, ICLR 2024
2. Latent Diffusion Models: Is the Generative AI Revolution Happening in Latent Space?, NeurIPS 2023
3. Offline Imitation Learning with Variational Counterfactual Reasoning, NeurIPS 2023
4. Coherent Soft Imitation Learning, NeurIPS 2023
5. On Pre-Training for Visuo-Motor Control: Revisiting a Learning-from-Scratch Baseline, ICML 2023
6. Imitating Human Behaviour with Diffusion Models, ICLR 2023. Diffusion Policies as an Expressive Policy Class for Offline Reinforcement Learning, ICLR 2023
7. Is Conditional Generative Modeling all you need for Decision Making?, ICLR 2023
8. Visual Imitation Learning with Patch Rewards, ICLR 2023
9. Adversarial Imitation Learning with Preferences, ICLR 2023
10. PN-GAIL: Leveraging Non-optimal Information from Imperfect Demonstrations ICLR 2025
11. Ess-InfoGAIL: Semi-supervised Imitation Learning from Imbalanced Demonstrations NeurIPS 2023

Multi-Agent Reinforcement Learning

1. Efficient Episodic Memory Utilization of Cooperative Multi-Agent Reinforcement Learning, ICLR 2024
2. Learning Multi-Agent Communication from Graph Modeling Perspective, ICLR 2024
3. Efficient Multi-agent Reinforcement Learning by Planning, ICLR 2024
4. Learning Multi-Agent Communication with Contrastive Learning, ICLR 2024

5. More Centralized Training, Still Decentralized Execution: Multi-Agent Conditional Policy Factorization, ICLR 2023
6. Discovering Generalizable Multi-agent Coordination Skills from Multi-task Offline Data, ICLR 2023
7. MASER: Multi-Agent Reinforcement Learning with Subgoals Generated from Experience Replay Buffer, ICML 2022
8. Revisiting Some Common Practices in Cooperative Multi-Agent Reinforcement Learning, ICML 2022
9. LDSA: Learning Dynamic Subtask Assignment in Cooperative Multi-Agent Reinforcement Learning, NeurIPS 2022
10. Multi-Agent Reinforcement Learning is A Sequence Modeling Problem, NeurIPS 2022
11. Attention-guided contrastive role representations for multi-agent reinforcement learning, ICLR 2024