

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://docs.qq.com/sheet/DR3lRbnlnYlVIZmFm?tab=BB08J2>
- You can also append a new paper to the paper list above according to your own interests.

Transfer Reinforcement Learning

1. REPAINT: Knowledge Transfer in Deep Reinforcement Learning, *ICML* 2021
2. A New Representation of Successor Features for Transfer across Dissimilar Environments, *ICML* 2021
3. Optimistic Linear Support and Successor Features as a Basis for Optimal Policy Transfer, *ICML* 2022
4. AnyMorph: Learning Transferable Policies By Inferring Agent Morphology, *ICML* 2022
5. Structure-Aware Transformer Policy for Inhomogeneous Multi-Task Reinforcement Learning, *ICLR* 2022
6. Autonomous Learning of Object-Centric Abstractions for High-Level Planning, *ICLR* 2022
7. Provably Efficient Multi-Task Reinforcement Learning with Model Transfer, *NeurIPS* 2021
8. Risk-Aware Transfer in Reinforcement Learning using Successor Features, *NeurIPS* 2021
9. Constrained GPI for Zero-Shot Transfer in Reinforcement Learning, *NeurIPS* 2022
10. Hub-Pathway: Transfer Learning from A Hub of Pre-trained Models, *NeurIPS* 2022

Lifelong Reinforcement Learning

1. Continuous Coordination As a Realistic Scenario for Lifelong Learning, *ICML* 2021
2. Proving Theorems using Incremental Learning and Hindsight Experience Replay, *ICML* 2022
3. Reset-Free Lifelong Learning with Skill-Space Planning, *ICLR* 2021
4. Generalisation in Lifelong Reinforcement Learning through Logical Composition, *ICLR* 2022
5. Modular Lifelong Reinforcement Learning via Neural Composition, *ICLR* 2022
6. Provably Efficient Lifelong Reinforcement Learning with Linear Representation, *ICLR* 2023
7. Building a Subspace of Policies for Scalable Continual Learning, *ICLR* 2023
8. Model-based Lifelong Reinforcement Learning with Bayesian Exploration, *NeurIPS* 2022
9. Lipschitz Lifelong Reinforcement Learning, *AAAI* 2021
10. Lifelong Hyper-Policy Optimization with Multiple Importance Sampling Regularization, *AAAI* 2022

Meta Reinforcement Learning

1. Exploration in Approximate Hyper-State Space for Meta Reinforcement Learning, *ICML* 2021
2. Decoupling Exploration and Exploitation for Meta-Reinforcement Learning without Sacrifices, *ICML* 2021
3. MetaCURE: Meta Reinforcement Learning with Empowerment-Driven Exploration, *ICML* 2021
4. Offline Meta-Reinforcement Learning with Advantage Weighting, *ICML* 2021
5. Transformers are Meta-Reinforcement Learners, *ICML* 2022
6. Offline Meta-Reinforcement Learning with Online Self-Supervision, *ICML* 2022
7. Robust Task Representations for Offline Meta-Reinforcement Learning via Contrastive Learning, *ICML* 2022
8. DOMINO: Decomposed Mutual Information Optimization for Generalized Context in Meta-Reinforcement Learning, *NeurIPS* 2022
9. Rapid Task-Solving in Novel Environments, *ICLR* 2021
10. Towards Effective Context for Meta-Reinforcement Learning: an Approach based on Contrastive Learning, *AAAI* 2021

Big Model/Pretraining

1. Reinforcement Learning with Action-Free Pre-Training from Videos, *ICML* 2022
2. The Unsurprising Effectiveness of Pre-Trained Vision Models for Control, *ICML* 2022
3. Prompting Decision Transformer for Few-Shot Policy Generalization, *ICML* 2022
4. DreamerPro: Reconstruction-Free Model-Based Reinforcement Learning with Prototypical Representations, *ICML* 2022
5. SMART: Self-supervised Multi-task pretraining with control Transformers, *ICLR* 2023
6. Towards Universal Visual Reward and Representation via Value-Implicit Pre-Training, *ICLR* 2023
7. Multi-Game Decision Transformers, *NeurIPS* 2022
8. Video PreTraining (VPT): Learning to Act by Watching Unlabeled Online Videos, *NeurIPS* 2022
9. Pre-Trained Image Encoder for Generalizable Visual Reinforcement Learning, *NeurIPS* 2022
10. You Can't Count on Luck: Why Decision Transformers Fail in Stochastic Environments, *NeurIPS* 2022

Generative Modeling/Imitation Learning

1. Planning with Diffusion for Flexible Behavior Synthesis, *ICML* 2022
2. Learning from Demonstration: Provably Efficient Adversarial Policy Imitation with Linear Function Approximation, *ICML* 2022
3. Imitating Human Behaviour with Diffusion Models, *ICLR* 2023
4. Diffusion Policies as an Expressive Policy Class for Offline Reinforcement Learning, *ICLR* 2023
5. Is Conditional Generative Modeling all you need for Decision Making?, *ICLR* 2023
6. Visual Imitation Learning with Patch Rewards, *ICLR* 2023
7. Adversarial Imitation Learning with Preferences, *ICLR* 2023
8. Planning for Sample Efficient Imitation Learning, *NeurIPS* 2022
9. Robust Imitation of a Few Demonstrations with a Backwards Model, *NeurIPS* 2022
10. Learn what matters: cross-domain imitation learning with task-relevant embeddings, *NeurIPS* 2022

Multi-Agent Reinforcement Learning

1. MASER: Multi-Agent Reinforcement Learning with Subgoals Generated from Experience Replay Buffer, *ICML* 2022
2. Revisiting Some Common Practices in Cooperative Multi-Agent Reinforcement Learning, *ICML* 2022
3. Policy Diagnosis via Measuring Role Diversity in Cooperative Multi-agent RL, *ICML* 2022
4. Greedy based Value Representation for Optimal Coordination in Multi-agent Reinforcement Learning, *ICML* 2022
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. Multi-Agent Reinforcement Learning is A Sequence Modeling Problem, *NeurIPS* 2022
8. Heterogeneous Skill Learning for Multi-agent Tasks, *NeurIPS* 2022
9. Rethinking Individual Global Max in Cooperative Multi-Agent Reinforcement Learning, *NeurIPS* 2022
10. LDSA: Learning Dynamic Subtask Assignment in Cooperative Multi-Agent Reinforcement Learning, *NeurIPS* 2022