Causal Mechanism Disentanglement to improve Few-Shot Domain Adaptation after a Sparse Mechanism Shift for Next Frame Prediction

Assuming that a distribution shift is due to a Sparse Mechanism Shift\(^1\), we can minimize the expected number of parameters that need to update by disentangling parameters with regard to causal mechanisms. Updating only the corresponding parameters might then improve adaptation speed\(^2\).

This research is financed by the CALCULUS project - Commonsense and Anticipation enriched Learning of Continuous representations European Research Council Advanced Grant H2020-ERC-2017-ADG 788506

References

- Causal Factor Disentanglement using interventions (CITRIS\(^2\))
- Causal Discovery to ensure parent-only dependence
- Sparse Parameter Update to prevent catastrophic forgetting