Reinforcement Learning Task Identification

Intelligence is often referred to as the ability to adapt to change. We expect an intelligent agent tasked with a new objective to draw connections to prior knowledge, weighting which experiences might be most relevant to solve the new goal. However, such an approach requires a taxonomy over tasks and experiences. Can we identify tasks and compare different tasks in a meaningful way? And if yes, can we help agents to learn better by exposing them to (easier) related tasks? Maybe even find a subset of tasks that is a good start to learn anything?

In this thesis, we investigate different approaches to learn task embeddings that allow for insightful comparison of related tasks as well as automated curricula generation for new learners.

Requirements: Prior knowledge in deep learning and reinforcement learning.

Interested? Please contact us for more details!

Contact
  - Oliver Richter: orichter@ethz.ch, ETZ H93