Automated transfer in reinforcement learning

Propositions

Accompanying the dissertation “Automated Transfer in Reinforcement Learning” by Haitham Bou Ammar.

1. Sparse coding is a promising direction for automated inter-task mapping learners (Chapter 5).

2. Systems appearing highly different in one description are actually similar when represented in a richer feature space (Chapter 5).

3. Restricted Boltzmann machines are potentially robust encoders for inter-task mappings (Chapter 6).

4. Measuring similarities between Markov decision processes using deep learning techniques, allow for the creation of fully automated transfer agents (Chapter 7).

5. As opposed to heuristic based machine learning, mathematically grounded machine learning operates within a broader scope of domains.

6. It is essential to understand human intelligence in order to create *real* artificially intelligent agents.

7. Reinforcement learning might have been overoptimistically defined as a solution for optimal control problems with no prior knowledge.

8. Deep learning methods are setting new benchmarks in machine learning.

9. In a sense our reality is not real; it is a disguise of a deeper, and more profound description of nature.

10. The relation between science and religion should be synergistic rather than oppositional.