Paper summary: Deep autoencoder neural networks in reinforcement learning

May 28, 2022

1 Idea in few sentances

2 Explanation of the central concept

3 Methodology

4 Initial rambly notes

4.1 Abstract

It is important that the feature spaces resenmbe existing similarities and spatial relations between observations, thus enabling useful policy learning. Several methods to improve the topology of the feature space are proposed.

4.2 Introduction

Nothing new.

4.3 Method

They re-encode all observations after every encoder update because the feature space and its semantics are changed. This also makes the approximation of the Q-function invalid. But this way, through re-encoding, this is ok.

4.4 Variations and optimizations

1. sparse networks.
2. reusing old q-values.
3. re-train the autoencoder when there's a lot of new observations (say their number is the same as that of the older ones)

4.5 Other stuff