

Deep Reinforcement Learning for Self-Driving Using DDQN

Bella Abdelouahab

Abstract : The purpose of this research is to use Double Deep Q-Network Agents to evaluate the task of a self-driving car. For this purpose several approach of Q-learning will be studied, The

DDQN agent perform an action in the environment (car) and acquire the new distance from the the walls using vehicle's sensors which are placed onboard. The goal of the policy is to drive as fast as possible while avoiding crashes. An environment will be designed using the pygame simulator. The findings demonstrate that using a DQN agent to self-driving a car in this environment may be an effective strategy.

Keywords: Self-Driving · Reinforcement Learning · Double Deep Q-learning Network · Artificial Neural Network · Pyglet Simulator.