

Project Proposal: Navigating in a Maze Using Actor Critic Methods

Field: Reinforcement Learning

Description:

Actor-critic algorithms for reinforcement learning are achieving renewed popularity due to their good convergence properties in situations where other approaches often fail (e.g., when function approximation is involved). In these algorithms, the agent is composed of two components, an actor and a critic. The critic evaluates the policy carried by the agent, while the actor improves the agent's policy based on the critic's evaluations. This algorithm can act in an environment which its model is not necessarily known to the agent.

Aim of the Project:

The aim of this project is to devise an agent which can navigate through a maze using the techniques of Actor Critic Algorithms. It will be simulated on Matlab.

Supervisor: Dotan Di Castro, mail: dot@tx.technion.ac.il, phone: 04-829-5079

Duration: One semester (may be extended to two semesters)

Requirements:

- Machine Learning course (046195)
- Random Signals course (044202)
- Some Matlab programming skills

