Final Year Project Plan

Reinforcement Learning for Tetris

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Introduction

Reinforcement learning refers to goal-oriented algorithms, which learns how to maximize along a specific dimension over many steps; in this case, maximize the points won in a game of Tetris over many moves. Like how humans learn to achieve better score, through multiple interaction with the Tetris game environment, Reinforcement learning is just a computational approach of learning from action.

Objectives / Milestones

1. Understand the theory behind Deep Reinforcement Learning and Convolutional Neural Network for Visual Recognition

   From Aug 2018
   To Sep 2018

2. Design and implement a Tetris game environment to simulate and visualize the actual gameplay

   From Sep 2018
   To Nov 2018

3. Learn how to implement Convolutional Neural Network for Visual Recognition to allow agent to recognize the environment

   From Nov 2018
   To Nov 2018

4. Design and implement an agent that can interact with the Tetris game environment

   From Dec 2018
   To Jan 2018

5. Reinforcement Learning techniques will be used to train the agent to learn how to behave in the environment

   From Jan 2018
   To Feb 2018

6. Agent is required to learn the optimal policy and select the optimal action to perform which maximizes the score of the Tetris game

   From Jan 2018
   To Feb 2018

Progress Tracking & Reporting to Supervisor

- Bi-weekly meetings will be held to discuss progress and clarify of any doubts faced

- A GitHub Repository will be used to organize the entire project and a GitHub Page (https://jcodesh.github.io/) will updated regularly to report intermediate results and stay on track of the project