INTERIM REPORT

Decision making using Reinforced Deep Learning

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Prepared by:
Kevin Joseph, Jayadeep K M, Mohammed Nisham K

Guide:
Vipin Vasu
vipin@cet.ac.in

College Of Engineering, Trivandrum

1 Progress

1. Implemented Q Learning with Tic Tac Toe to understand Q Learning
2. Researched speed differences and math library performances in java and python for machine learning applications. Fixed python due to abundance of easily accessible deep net libraries, and ale interface.
3. Researched related projects and associated libraries to be used in project:
   (a) Associated Libraries
      i. Atari Learning Environment
      ii. Numpy
      iii. Neon
   (a) Related Project
      i. Deep Mind
      ii. Convnet.js
4. Interfaced ALE(4 games) with a random agent.
5. Interfaced online statistics with agent to plot reward and q function
6. Created class structure for project.
7. Created design for agent neural net.

2 Class Design

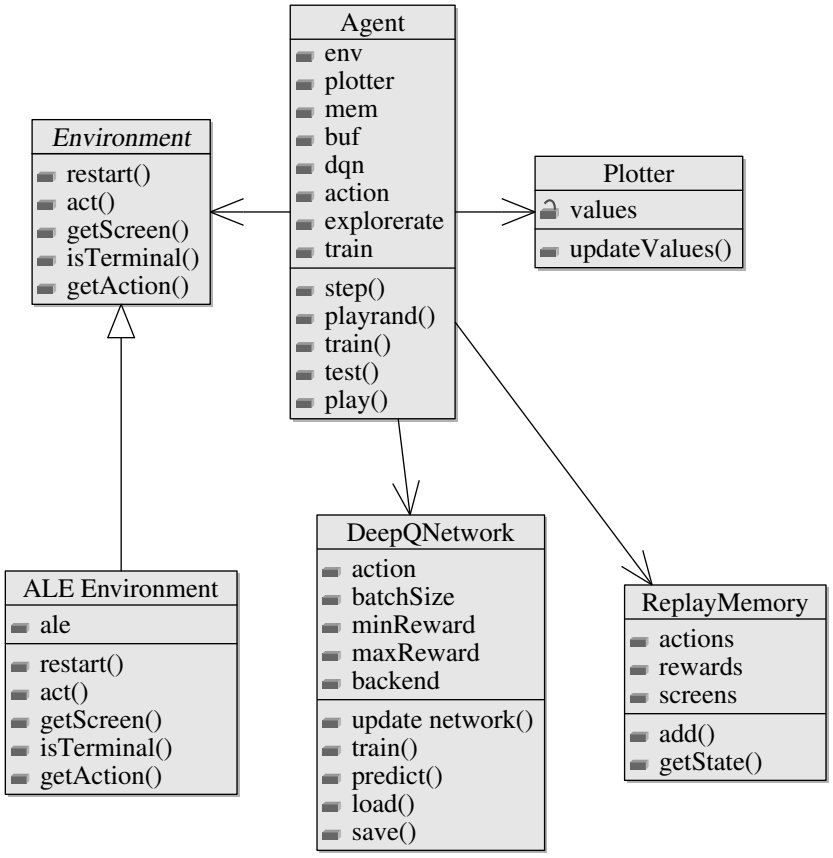

Figure 1: Class UML Diagram

3 Neural Net Design

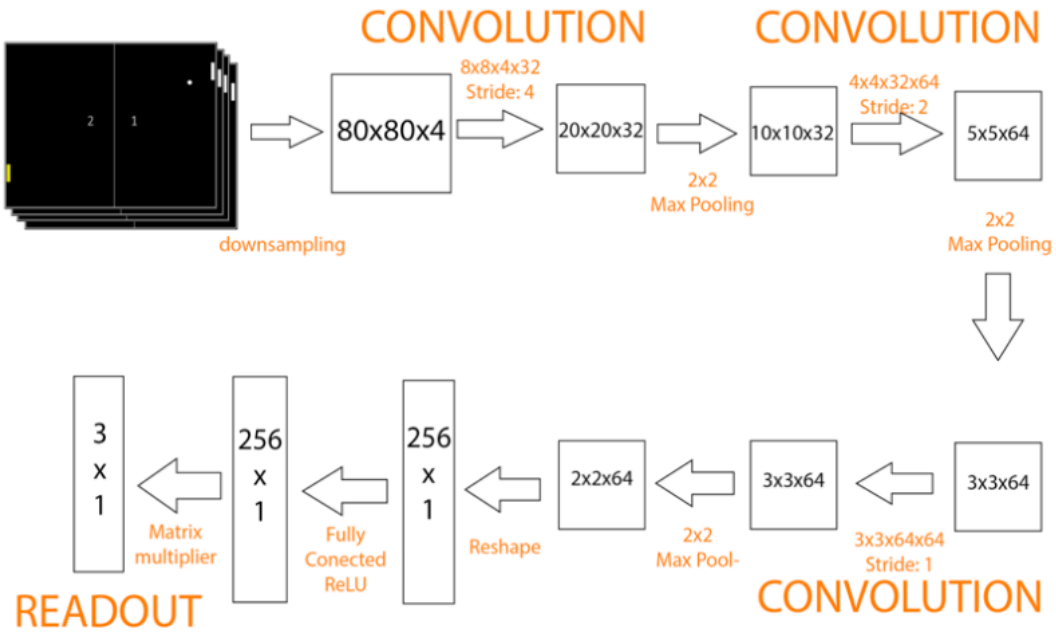

Figure 2: Neural Network Design

4 TODO

#	Task	Estimated Time
1	Coding of Intelligent Agent	2 weeks (In progress)
2	Training and testing of Agent	1 week (depends on gpu)