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**CS-370: Current & Emerging Trends In Computer Science**

**SNHU - Instructor Richard**

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**Week 8 - Portfolio Entry**

In the final project, an A.I. agent was trained to traverse a maze and find a hidden treasure. The work was done using the Keras backend and run in Jupyter Notebook. Two Python modules were included with the project, the TreasureMaze.py and the GameExperience.py files. TreasureMaze is responsible for building the environment where the game will be played and GameExperience stores the data gathered from the agent’s experience. The code that needed to be written facilitates the Q-Learning process and provides the training framework the agent will follow over each iteration. Within this part of the code, the discount factor, epsilon variable, number of epochs (sessions), and other crucial components of the system can be tweaked.

Computer scientists are responsible for exploring and creating the technological world around us. This is extremely important due to modern technology barely being in the beginning stages of its existence. Although the majority of people now know how to use these technologies, very few people understand how they work behind the scenes. This makes the computer scientist’s role invaluable, since it will be up to them to maintain existing computer systems and it will put them at the forefront of every new technological discovery.

In the field of computer science, there are never-ending hurdles, complications, and intellectual mountains to climb. When dealing with a problem, I have found reading articles from multiple sources and different perspectives is helpful. I also frequently use video tutorials to gain a deeper understanding of the issue or subject. In any case, I usually have to fail many times at trying to resolve an issue before I finally find the solution. So, my approach to problem solving is really a combination of learning from multiple sources and the act of failing miserably until I’m successful.

The computer scientist’s role consists of many ethical responsibilities and demands skillful & wise individuals who can view technology's role in society from a birds eye view. This is especially true as technology grows, becomes ingrained into society, and dominates the culture. The computer scientist should always strive to protect every end user’s privacy and ensure that technological entities are handling user’s data properly. When working for, or with, an organization, a computer scientist should always clearly communicate with their client and provide transparency about the project. They should also always strive to be equally as creative as they are efficient, since this will give them the benefits of an exploitative/explorative approach.