Research a non-trivial application of Machine Learning and upload a small blurb describing what the application is and why you find it interesting. I will also be giving students an opportunity to share their findings with the class the following week.

AlphaZero is the strongest chess engine in the world. It also does other games like Go and uses neural networks and a Monte Carlo Tree Search. At a high level, the Monte Carlo Tree Search is just a tree of possibilities since that is what chess really is. Since there are an absurd number of possibilities in chess (more than a computer can calculate all on its own), it has to narrow down these decisions and focus on the specific moves and paths of these moves in the tree that are more likely to lead to a win.

More technically speaking, the neural network takes the layout of the board as input and the output it creates is the probability that the current player will win (based on a certain move or position). The Monte Carlo Tree Search uses all the different probabilities in the board to see where to focus in the tree. For example, if a certain movie is supposedly a good move, then there will be more resources and time devoted to exploring that move and that certain path. A neural network or a "deep neural network" requires a lot of data, so once there is more data or more predictions, the network gets smarter. In this case, it may start off with "bad" moves, but eventually gets "smarter." This is how the network gains "knowledge" and "learns." At the end of the day, it chooses the higher statistical likelihood of winning.