***Artificial Intelligence***

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In this assignment I decided to use the fuzzy logic part of the game to determine whether the game was going to be lost based on the player health and the enemy health. The fuzzy logic for the game is implemented in a file called FuzzyLogic.fcl and in this file it takes in the playersHealth and the enemyHealth to determine how probable a game was to end. So if the players health was equal to 10 and the enemies health was equal to 70 then the enemy would have a far greater chance of victory. I decided to use the COG (centre of gravity) operation as this was the most accurate for me as it returned 91% when testing and I also tried COA and the right most max operation which both returned lower values.

For the rest of my game I decided to keep it simple as I found this was effective for this game. So I decided to make a player health and an enemy health so when the enemy hits the player it will decrease the players health by 10 each time and then eventually when it gets to 0 the game will then exit.

In my neural network, I use the player health and enemy health as the inputs. The neural network then uses the data it learned from my dataset to determine whether the player should panic or attack. In the data set when it says {2,0} that means that the players health is high and the enemys health is low and in the data set {1, 0) would mean that they would be expected to panic.