PROJECT PROPOSAL

PROJECT TITLE: AI BOT TO PLAY SNAKE GAME

TEAM MEMBERS: ANVIKA REDDY VELURI – 11502808

SHRIYA KANNOJ – 11507709

INDIRA DEVI SIRIPURAPU – 11550109

GOALS AND OBJECTIVES:

MOTIVATION:

Every gamer has a first game where they started playing and made into a career or passion, I am pretty sure for most of them the first game was the OG Snake Game. A little Nokia phone with a black and white background with a baby snake eating dots and growing into a big snake. The motivation behind this game is to make this childhood game into a better version and with a broad platform to play and make this game into an experience.

SIGNIFICANCE:

Snake game is one of the most popular computer games in which players control snake movements in a specific grid. When the snake eats a fruit which appears at a random position in the grid, the size of the snake increases and the score of the player increases. The goal of creating an AI bot to play the snake game is for better performance than humans. The main objective of this project is to create an agent that can play the game very well compared to human beings.

OBJECTIVE:

The main objective of this project is to create an agent that can play the game very well compared to human beings. For the AI bot to play the snake game efficiently it should be able to find the most efficient path to advance towards the fruit. The basic code for the snake game is created using python and the library pygame. Once the game is created the code can be developed for intelligent agents. This can be achieved using different algorithms proposed in this project.

FEATURES:

- At each iteration the snake begins with length 1.
- The snake can go in any of the four directions at each iteration.
- The length of the snake increases when it eats a fruit.
- At each iteration a new fruit gets generated at random position on the grid.
- The game ends when either the snake crashes the wall or the snake head hits its own body

REFERENCES:

- S. Sharma, S. Mishra, N. Deodhar, A. Katageri and P. Sagar, "Solving The Classic Snake Game Using AI," 2019 IEEE Pune Section International Conference (PuneCon), 2019, pp. 1-4, doi: 10.1109/PuneCon46936.2019.9105796.
- https://craighaber.github.io/AI-for-Snake-Game/website_files/index.html
- https://github.com/stschoberg/snakeGame