



TIC TAC TOE IMPLEMENTATION USING MULTI AGENTS

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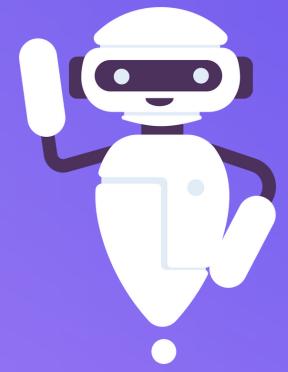


INTRODUCTION

Combining algorithms like Min-Max algorithm, Alpha-Beta algorithm, and Reinforcement learning to implement the tic tac toe problem which is a two player game on a 3x3 board.

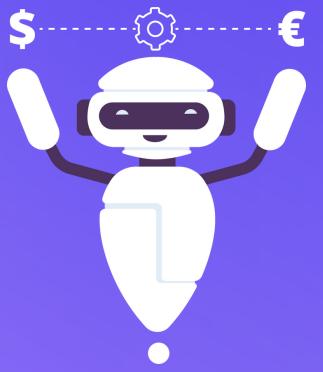


PROJECT OBJECTIVES



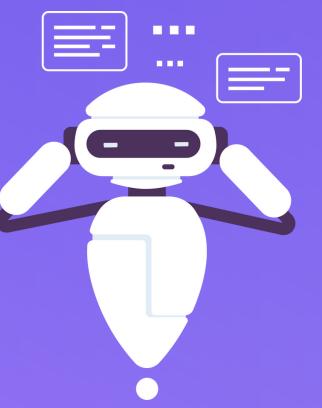
OBJECTIVE 01

Design Adversarial Search algorithm and reinforcement learning agents which are Min-Max algorithm, Alpha -Beta algorithm & Q-learning.



OBJECTIVE 02

Playing the game multiple times to find the exact algorithm that suits the game in such a way that a player should get a series of symbols in a row who gains a point.



OBJECTIVE 03

Comparing the Adversarial search and reinforcement learning to get to know which performs better by using the three algorithms efficiency

APPROACHES



The first approach is to perform Q-learning from reinforcement learning to test the efficiency



The second approach is to perform the Min-Max algorithm and Alpha-Beta Pruning from Adversarial search to test the efficiency.



The third approach is the technical stack which uses the Python Programming language for the AI agents

RESULTS AND ACHIEVEMENTS

01

- A detailed implementation of the Tic Tac Toe game using the AI agents which includes adversarial search and reinforcement learning and algorithms developed for AI agents will be presented with the Python files (.py files).
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02

- A github repository link for the python code and a video link demonstrating about the project implementation and presentation slides.



EVALUATION METHODOLOGY

- The project is evaluated based on the implementation about the AI agents which provides the efficient algorithm to design the game plan and to count the points when played multiple times by the agent.
- A table will be designed based on the scores and moves which helps in comparing each agent which results in finding the accuracy.
- Time and space complexity is compared for all the AI agents which is portrayed by a graphical representation.

THANK YOU!

