Report

Code is sort of supervised learning!

Coding Cassowary reference:

<https://www.youtube.com/playlist?list=PLBLV84VG7Md8SgHlXuQXPMJLDvCaWVVQv>

Future work:

* Ai tracks optimal places for it to place its own ships, learns over time.
* AI stops taking shots directly next to ships if it has already shot large amounts in the area, and moves on to new areas.

CHATGPT:

*Based on the provided code and context, your AI appears to incorporate elements of the following:*

*1. \*\*Search and Heuristic\*\*: Your AI performs a form of search in selecting the next shot location on the game board. It evaluates potential targets based on a weighted matrix and considers various strategies. While it doesn't explicitly use Minimax Search, Alpha-Beta Pruning, or Monte Carlo Tree Search, it does employ a heuristic approach to selecting shots.*

*2. \*\*Supervised Learning\*\*: Your AI uses a form of supervised learning to inform its decision-making process. It maintains a `weighted\_board` that accumulates data about common ship placements by the player. This information is used to make informed choices about where to shoot.*

*3. \*\*Knowledge Representation\*\*: Although your AI doesn't explicitly represent knowledge in a formal knowledge representation language (e.g., propositional logic or first-order logic), it does represent knowledge in the form of the `weighted\_board`. This board represents probabilistic knowledge about likely ship placements.*

*However, your AI does not appear to explicitly incorporate elements of:*

*1. \*\*Game Theory and Nash Equilibrium\*\*: Game theory and Nash equilibrium involve modeling strategic interactions between rational agents. Your AI follows predefined rules and heuristics but doesn't explicitly model the strategic decisions of an opponent or reach Nash equilibria.*

*2. \*\*Reinforcement Learning and Deep Neural Networks\*\*: Your AI doesn't use reinforcement learning or deep neural networks to learn optimal strategies through interactions with the game environment or opponent.*

*3. \*\*AI Safety and Explainable AI\*\*: There is no evidence in the provided code that the AI considers safety or includes mechanisms for making its decisions more explainable or interpretable.*

*So, in summary, your AI primarily incorporates elements of heuristic search and supervised learning but does not explicitly involve game theory, reinforcement learning, deep neural networks, or AI safety considerations.*