

Optimisation of Multi Robots Hunting Game

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Abstract: This research presents multi robot cooperative hunting behavior using differential game approach. Two robots were used as pursuers while another robot is used as evader, the two robots (pursuers) try to search and surround the prey (evader) robot. The aim of the game is for the two robots to detect the evader at the minimum possible time while at the same time the evader dogged the pursuer to the maximum possible time. Differential game approach was used to construct the problem using system of ordinary differential equation. We give the required conditions for the two pursuers to catch the evader. It was also shown that the evader try to maximize the capture time, while the pursuers minimize the capture time.

Keywords: robot, pursuer, evader, differential game.

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