Q-Learning of Bee-Like Robots Through Obstacle Avoidance

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Abstract : Modern robots are often used for search and rescue purpose. One of the key areas of interest in such cases is learning complex environments. One of the key methodologies for robots in such cases is reinforcement learning. In reinforcement learning robots learn to move the path to reach the goal while avoiding obstacles. Q-learning, one of the most advancement of reinforcement learning is used for making the robots to learn the path. Robots learn by interacting with the environment to reach the goal. In this paper simulation model of bee-like robots is implemented in NETLOGO. In the start the learning rate was less and it increased with the passage of time. The bees successfully learned to reach the goal while avoiding obstacles through Q-learning technique.

Keywords : reinforlearning of bee like robots for reaching the goalcement learning for randomly placed obstacles, obstacle avoidance through q-learning, q-learning for obstacle avoidance,

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