

In this paper, we present an intelligent control of an autonomous mobile robot in unknown environments. When an autonomous robot moves from an initial point to a target point in its given environment, it is necessary to plan an optimal or feasible path avoiding obstacles in its way and answer to some criterion of autonomy requirements such as: thermal, energy, time, and safety for example. Therefore, the major main work for path planning for autonomous mobile robot is to search a collision free path. . A key prerequisite for a truly autonomous robot is that it can navigate safely within its environment and executing the task without doubt. The problem of achieving this mobility is one of the most active areas in mobile robotics research. When the mission is executed, it is necessary to plan an optimal or feasible path for itself avoiding obstructions in its way and minimizing a cost such as time, energy, and distance. In order to get an intelligent component, the proposed approach based on intelligent computing offers to the autonomous mobile system the ability to realize these factors: recognition, learning, decision-making, and action (the principle obstacle avoidance problems) which are the main factors to be considered in any design of navigation approach. The acquisition of these faculties constitutes the key of a certain kind of intelligence. Building this kind of intelligence is, up to now, a human ambition in the design and development of intelligent vehicles. However, the mobile robot is an appropriate tool for investing optional artificial intelligence problems relating to world understanding and taking a suitable action, such as, planning missions, avoiding obstacles, and fusing data from many sources. In this context we discuss this ability by proposing this approach. The results are promising for next developments