Abstract

This thesis proposes how fuzzy controller can be applied in mobile robot navigation system. The algorithm that is used is behavior-based where robot move based on information that is got from sensor, which recognizes its environment. The sensor type is sonar sensor. Information that is obtained from sonar sensor is distance from robot to obstacle, and then be processed by fuzzy controller to be given respond in the form of robot movement to right or to left. The robot has three behavior with different stimulation, that is avoid-obstacle, follow-wall, and seek-goal. Avoid-obstacle is behavior of robot to avoid obstacle or barrier around robot, follow-wall is behavior of robot to follow wall, while seek-goal is behavior of robot to look for field goal position. From third the behavior, robot earn to determine what which must be done though the environment is change or dynamic in every robot movement.

Keywords : fuzzy controller, behavior-based, mobile robot, sensor.