ABSTRACT

The development of Artificial Intelligence in the present or the next few years is very rapid. One of them is in the Robocup Small Size League (SSL) competition. The competition was held to develop the fields of science such as artificial intelligence, robotics, communication science, and image processing. Soccer robot is a robot that is used to perform soccer games such as determining strategy like a soccer game on humans. As in dribbling which will determine the decision of the parameters that have been determined, where the robot can do the process of dribbling (maintaining the ball) and detecting the presence of enemies. This Dribbling system works on balls that have a specified size and type, as well as field and robot dimensions.

Dribbling system in football robots has input in the form of opponent's robot distance information in front and back of the robot. Where the information is obtained from the ultrasonic sensor, then the information will be processed to determine the speed of the roller in order to maintain the ball properly.

To make a good dribbling system, the Fuzzy Logic method is used as a setting to make the dribbling system more stable. When the robot is stationary, it can last more than 2 minutes and when the robot is in a straight walking state, the robot can dribbling under running conditions with 58.82% and 78.43% duty cycle of the motor on the wheel. Meanwhile, when the robot drove with 88.23% duty cycle conditions from the motor on the wheel, the robot was unstable in dribbling.

Keyword: Robocup SSL, Roller, Soccer Robot, Dribbling, Fuzzy Logic.