

Robot Maze

1 Objectives.

1. Combine previous labs into a system that solves a complex task.
2. Troubleshoot ECE applications.
3. Combine multiple systems (e.g., line following and wall detection) to build a more complex system.

2 Materials.

1. DFEC Robot
2. Maze

3 Robot Maze - Level 1: Line Following

The first level of the maze requires the robot to follow a white line to the end of the maze.

4 Robot Maze - Level 2: Advanced Line Following

The second level of the maze requires the robot to follow a white line to the end of the maze, detect the wall, turn around, and follow the line to the beginning of the maze, detect the wall, turn around, and stop.

5 Robot Maze - Level 3: Navigate Maze

The third level of the maze requires the robot to navigate the maze until it reaches the goal in the middle of the maze. It does not need to do anything special once it reaches the goal. Reaching the goal is enough.

6 Competition

The best times for each level will be recorded and displayed on a plaque in the ECE210 room.