Personal Learning Goals

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Goals

1. Successfully complete the project.

   As someone with 0 (zero) experience with `MATLAB` and *Robotics* in general, it would be a huge milestone for me to successfully complete this course and implement the project. I would also like to learn `MATLAB` and `Simulink` proficiently enough to implement a project all on my own.

2. Simulate a robot in a 3D environment using ROS and Gazebo.

   I have learned the theoretical concepts of mobile robots and their kinematics in the course. We have also learned how to simulate a differential drive robot in a 2D environment using ROS and Gazebo. I would like to extend this knowledge to simulate a real robot in a 3D environment. This will help me understand the practical challenges of implementing a robot in a real world environment.

3. Implement a path planning algorithm for the robot.

   I have studied a number of path planning algorithms and other optimization techniques in my undergraduate studies including BFS, DFS, Dijkstra's, A*, EA. I would like to implement couple of these algorithms in the project. This will help me understand the practical challenges of implementing a path planning algorithm in a real world environment.