

YOUTUBE LINKS FOR ROBOTICS

EOIN MULDOWNEY

CONTENTS

1. Line Following Robot	1
2. Collision Avoidance Robot	1
3. Combination of Collision Avoidance and Line Following	2

1. LINE FOLLOWING ROBOT

These videos all show different forms of line following robots. They use different combinations of sensors. The majority of these videos are taken in competition format venues. As you can see, not all of them succeed. This is always the case with robotics. The idea behind engineering is to design the robot to work in once scenario. Then change it when it needs to work in another scenario. The last video is an excellent example of how a robot is designed for a single scenario. There is a specified task to be completed and the robot will only be able to do this. If that robot was to be placed on our track, there is every likelihood it would fail to complete a circuit.

<http://www.youtube.com/watch?v=4XiRxNkZ1eY>

<http://www.youtube.com/watch?v=Z161r7Z4n-A>

<http://www.youtube.com/watch?v=AriuYTqxAMg>

<http://www.youtube.com/watch?v=D-fhQgktRyc>

<http://www.youtube.com/watch?v=5XDXyJTNFu4>

<http://www.youtube.com/watch?v=F2q5wi2bfBc>

<http://www.youtube.com/watch?v=7yNs55LSNAY>

2. COLLISION AVOIDANCE ROBOT

The first of these robots works in a very similar manner to ours. The major difference is that it uses an ultrasonic range finder, rather than an Infrared sensor. These robots, demonstrate a number of different ways of implementing collision avoidance. This is always the case with engineering, "if it can be done, there is more than one way of doing it".

<http://www.youtube.com/watch?v=bGQztQbtE-Q>

Date: July 4, 2012.

<http://www.youtube.com/watch?v=13ft1Q06GM0>
<http://www.youtube.com/watch?v=Cc9vwvdV9Ds>
<http://www.youtube.com/watch?v=v4Hci4ieV0w>
<http://www.youtube.com/watch?v=2CCf1yRaKiM>
<http://vimeo.com/18766235>

3. COMBINATION OF COLLISION AVOIDANCE AND LINE FOLLOWING

This robot uses both collision avoidance and line following (actually edge following) to plot out the edges of the maze. Its task is to find the centre of the maze, and then the challenge is to see how fast it can get to the centre, after already learning its structure. The second video is an interesting one, as it brings a social element to the robots. When they meet each other on the track they avoid collision, and one actually steps off the track to allow the other to pass. It also uses a "convoy" like setting where faster robots follow slower ones when they are in their way.

The intelligence built into these robots is much greater than could be expected of younger students. These are typically made by advance college students, and may require over 100 hours of work. However, much of this is explored in engineering degrees, and all of the basic knowledge required to build these are taught. What one can make is then only limited by the imagination of the student and the cost factor that comes with purchasing the parts.

<http://www.youtube.com/watch?v=ZszT0pILeP0>
<http://www.youtube.com/watch?v=4rXm40SpaZg>