

## CEN200 Course Project

# Line Maze Solver Robot

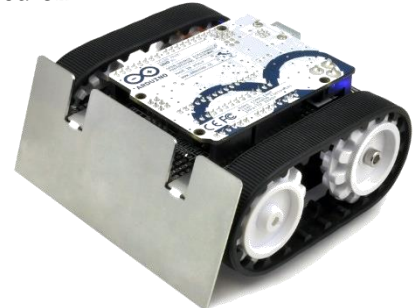
### Objective

The purpose of this project is to introduce students to basic Electrical and Computer Engineering concepts. They will learn how to interconnect hardware components and write code to control the movement of a line maze solver robot. Moreover, students will learn how to test their design and adjust for any errors.

### Description

In this project, you are required to program a line maze solver robot. This type of robots is designed to move in a maze and escape through it by following its walls. Hence, it must be programmed to find a wall and starts following it until it finds an escape route. You will be programming a Zumo Robot, shown in the figure below, to escape a predefined line maze. Pictures of the maze will be posted later on. The electronic circuitry of the robot consists of the Arduino board, IR sensor array and dual motor driver coupled with two geared DC motors. The robot is powered by a 4 AAA batteries and is programmed to instantly start finding an escape route once it is switched on.

Students should form teams of 4-5 members. Each team will have to demo their project, submit a project report and a poster, and deliver a presentation.



### Evaluation

The evaluation of the projects will be based on the following

- Performance in the demo      09/06/2019
- Project report                      11/06/2019
- Presentation                        11/06/2019

### Technical support

If you have any questions or enquiries, you can email me at ([tasnim.basmaji@adu.ac.ae](mailto:tasnim.basmaji@adu.ac.ae)) or visit my office during your office hours.