# Object Detection Based Garbage Collection Robot

## Abstract :-

People are busy in their professional life and they forget to pay attention to their surrounding problems, which can lead to many hazards. One of the main problem is Garbage collection. Many times, it has been observed that the garbage which should be inside the dustbin is actually lying outside the dustbin and causing the pollution of the surrounding environment.

which further leads to numerous diseases. To solve this problem a human intervention is required which sometimes may lead to hazardous health problems. This paper proposes the method where a robot can be used to clean the polluted areas such as garbage around the dustbin.

A Robot is powered by Solar Panel, which again saves the electric power. Robot has the advantages of the powerful image processing and ultrasonic sensor to sense the surrounding area and accordingly action can be taken. An image processing has been used here to avoid interaction with the wild life. An Ultrasonic sensor is used to detect the object and the distance between the object and Robot. The Ultrasonic sensor is also used to employ a movement algorithm for the movement of the robot.

**Block Diagram:-**