

Method 1: Use GPS or IMU

Method 2: Use Yolo

- <https://www.youtube.com/watch?v=oKaLyow7hWU>
- <https://forums.developer.nvidia.com/t/using-detectnet-to-get-coordinates-of-an-object-detected-by-camera/119183>
- <https://medium.com/@jaimin-k/estimating-pedestrian-proximity-using-midas-and-yolov7-14b5a08b8740>
- <https://github.com/RizwanMunawar/yolov7-pose-estimation>
-

```
<detectNet.Detection object>
- ClassID: 1
- Confidence: 0.891811
- Left: 477.052
- Top: 400.135
- Right: 933.989
- Bottom: 720
- Width: 456.936
- Height: 319.865
- Area: 146158
- Center: (705.52, 560.068)
```

Method 3: Use Yolo using RealSense

- <https://www.youtube.com/watch?v=-81OoXMvIw>

Based on method 2 or 3, here's a simple algorithm I've come up with:

Step 1: calculate the robot's orientation or direction

Step 2: Transmit the calculated orientation information from Jetson to Rpi over Ethernet when the trash object is detected and identified.

Note*: Rpi should be able to understand the coordinates

Step 3: Motor control adjustment