OBJECT-FOLLOWING ROBOT

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OBJECTVIE

An object-following robot (built upon Raspberry Pi) designed to track specific objects in real time. It uses OpenCV, a computer vision tool, to identify and follow these objects. The robot adjusts its movements based on the real-time location of the object.

R pi 3

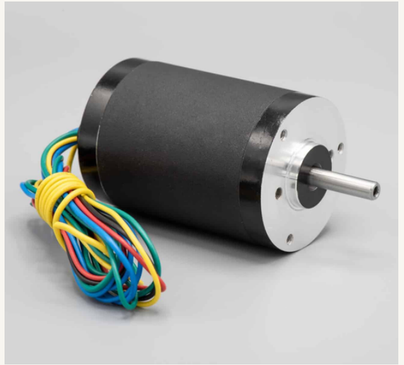
HARDWARE USED

R pi 3

Wheel

Camera module

Motor Driver



DC motors

Batteries

SOFTWARE USED

Python

Base Language used is Python

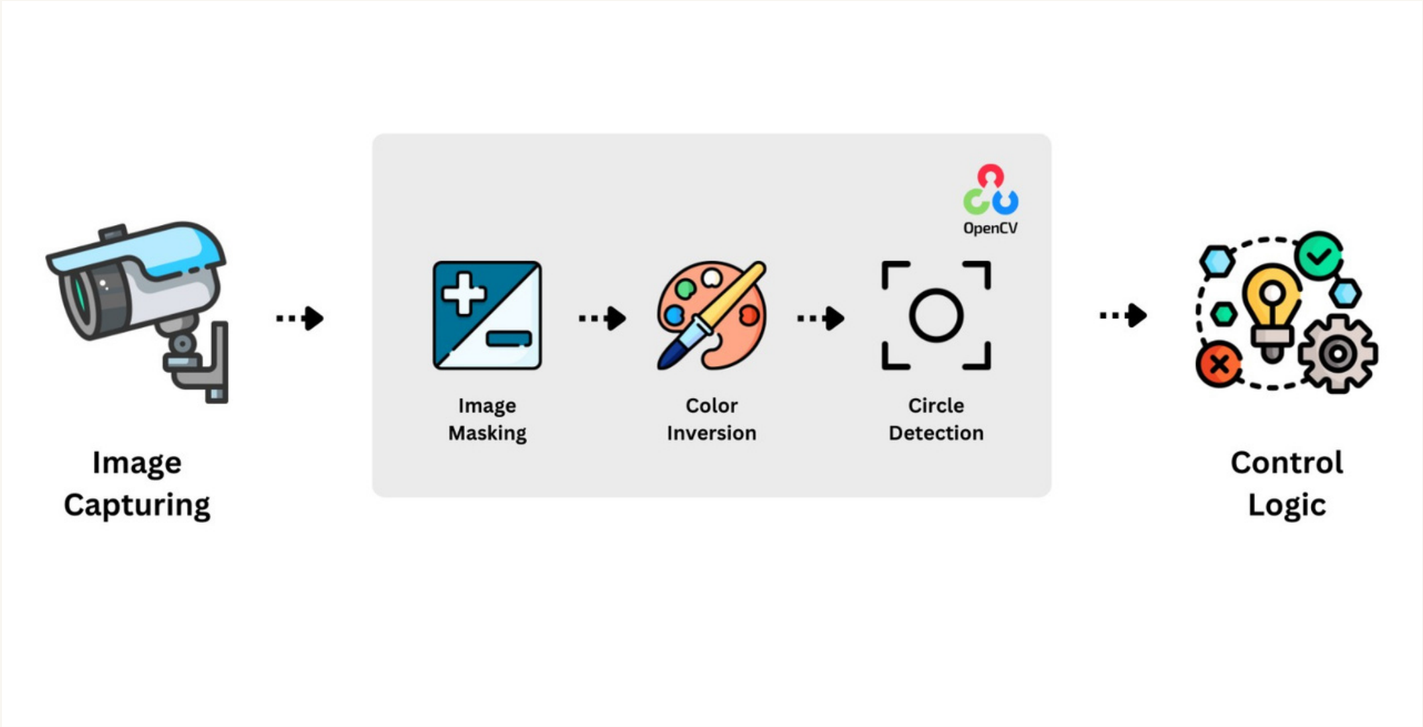
OpenCV

It is an open source library for computer vision and machine learning.
image processing and detection is done using this library.

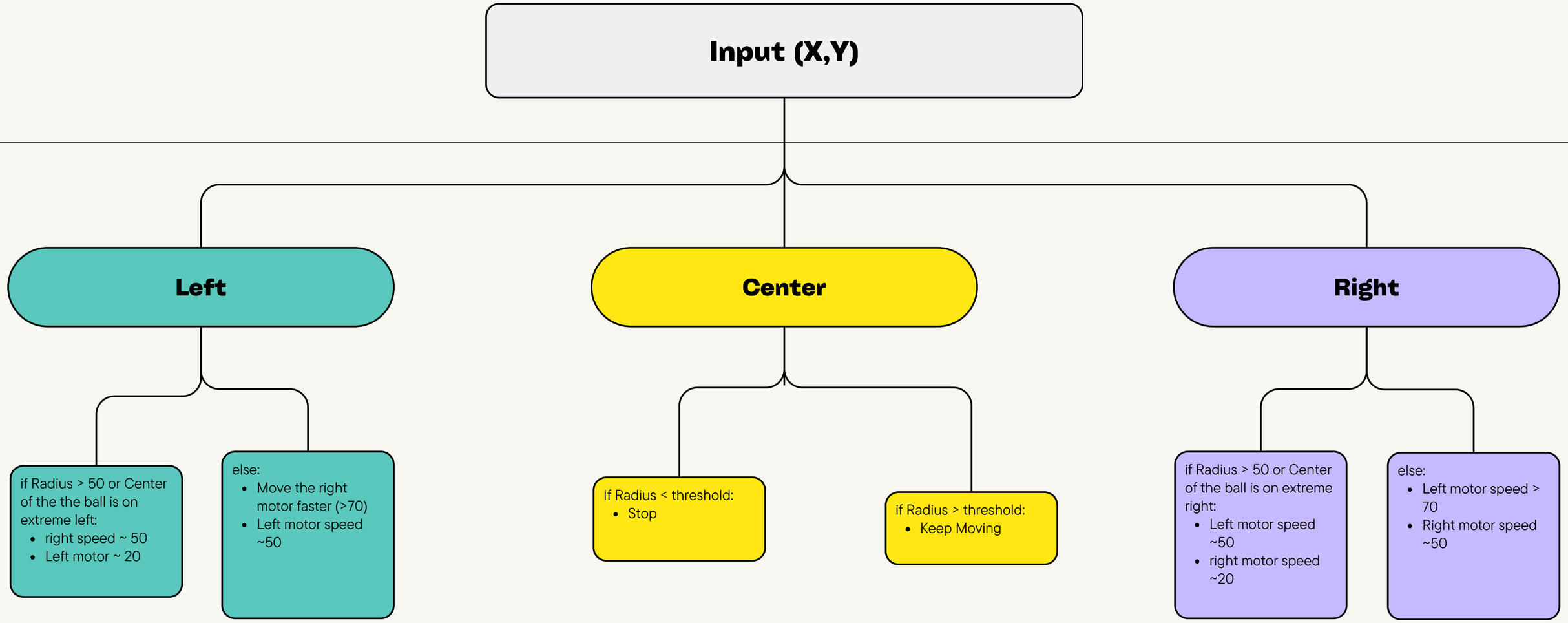
GPIO

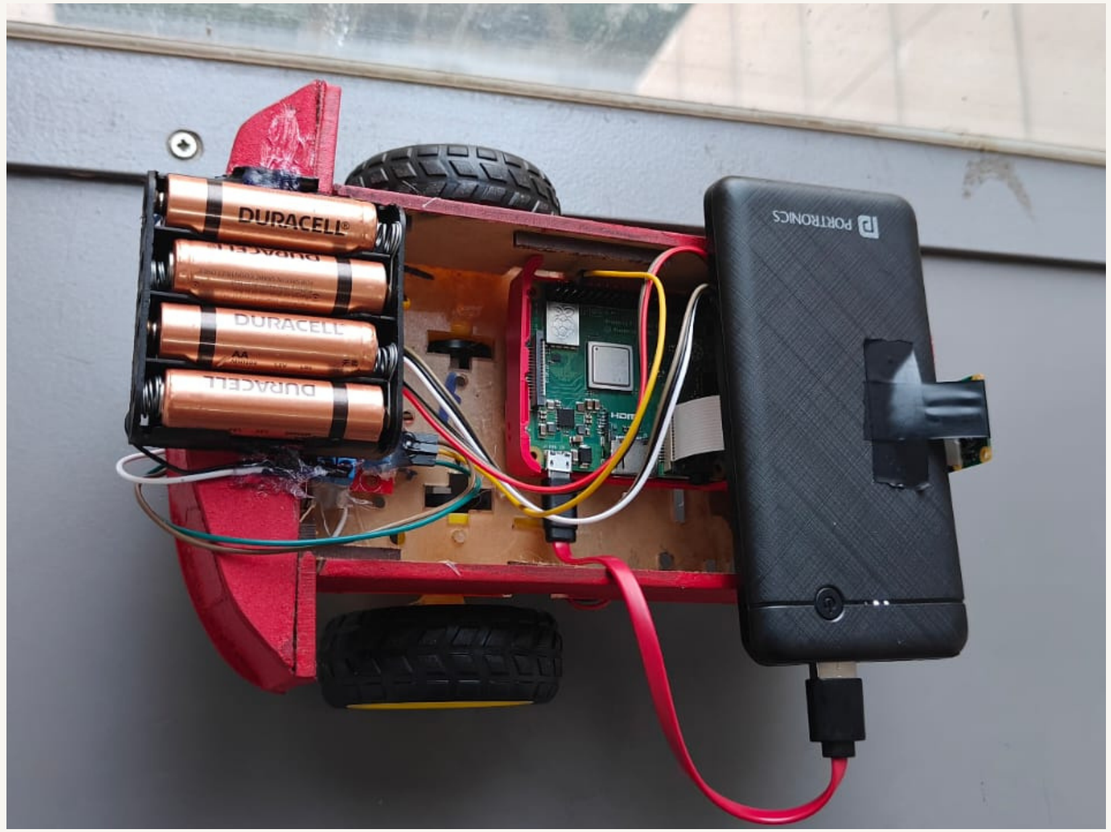
This package provides a module to control GPIO pins on raspberry.

WORKFLOW


OpenCV
Image Capturing
Image Masking
Color Inversion
Circle Detection
Control Logic

Control Logic

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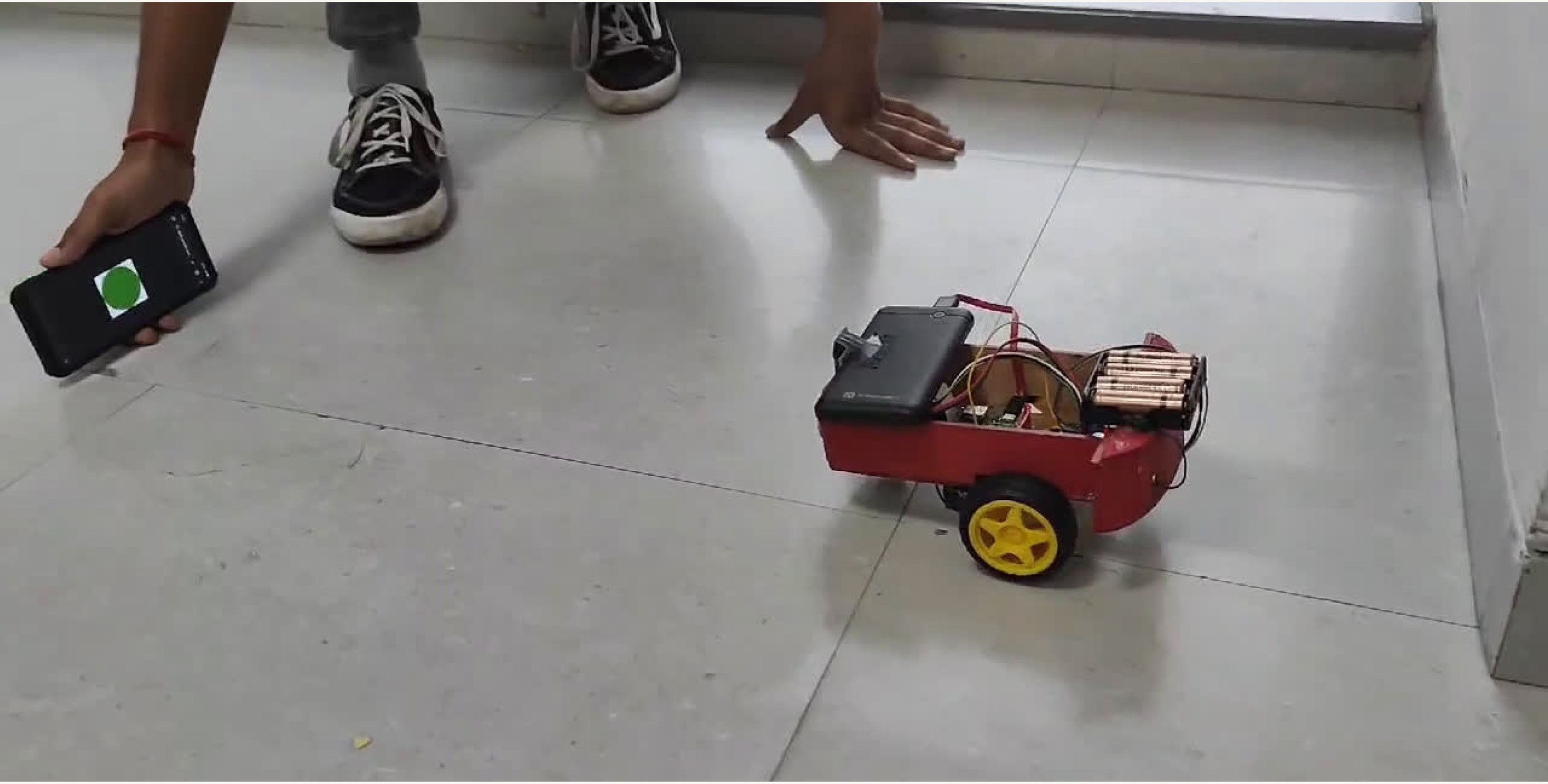
PORTRONICS



SCOPE FOR IMPROVEMENT

- FOV (Field of View) of Pi Camera is smaller.

- Camera’s Frame rate is limited.

GROUP INFO

Saurabh Jaiswal

2020331

Sahil Kumar Singh

2020115

Aftab Hussain

2020277

Henansh Tanwar

2020065

Pranav Bhaskar

2020227

Raman Yadav

2020111

THANK YOU