

INTRODUCTION

- This repository contains Python codes for the Football Pi-Car Controller.
- The codes are implemented in Python3.9.
- The codes were run on Raspberry with the dependency of **OpenCV**, which can install with pip command as

```
pip install opencv-python
```

START

- Ensure the fields (ball, goal, goal markers) are deployed completely. In our experiments, we used tennis balls and blue goal markers.
- *Note: The different targets will affect the algorithm's performance. If other targets are used, the HSV value of new targets must be re-calibrated and initialized in the `Class FootballCar()` of `./Football_Robot.py`.*
- Ensure the codes are located in folder `./Picar-4wd/` and the two servos are mounted on PWM 1, and 2 of the striker.
- Make sure that two Pi-Cars are connected to the computer and run the following commands separately.

```
python start_goalkeeper.py  
python start_striker.py
```

The striker and goalkeeper will now loop several times (the number of loops can be controlled in the `start_<player>.py` file).