Real time detect motorcycle rider non-wearing helmets on the road.

Presented by

นาย สิรภัทร วงศ์พัฒน์เสวก
นาย รัชตไพบูลย์ อ่ำขวัญยืน
นาย ศิริศาสตร์ ศรีงาม

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Introduction

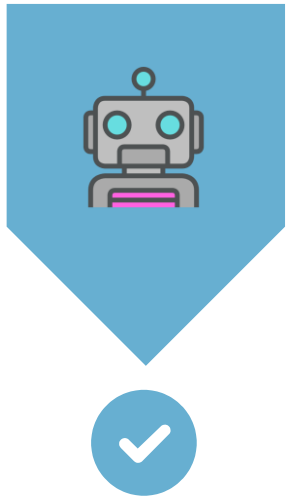
Introduction

- Motorcycle riders
- Helmet detection
- Real-time detection
- Maintain safety and reduce road accidents

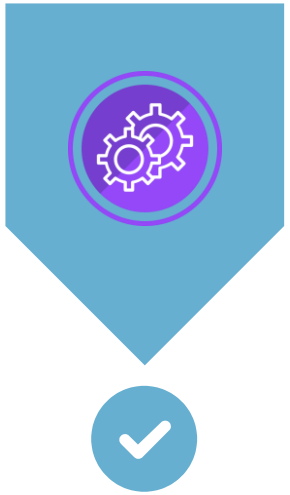
2

Objective

Objective



To apply artificial intelligence and analyze it in Detecting drivers who are not wearing a helmet



To increase efficiency in detecting helmets.

To study about object detection

To maintain safety and reduce road accidents

3

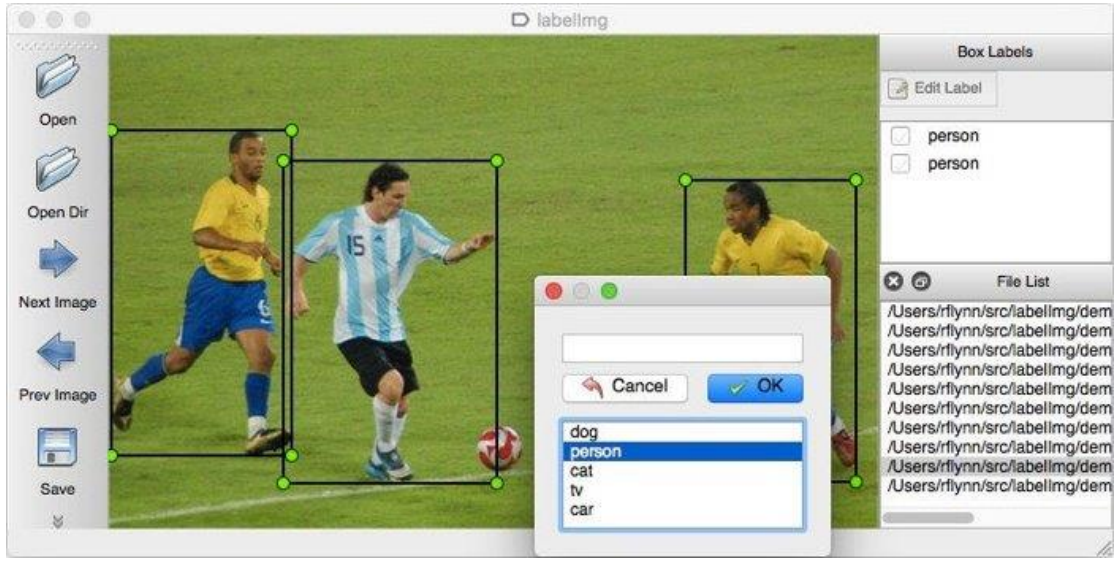
Method of operation

Method of operation

1 Select the original image to be used for detection.

Method of operation

2 Creating a data set for operations



Method of operation

3 Select a model from the YOLOv5 architecture.

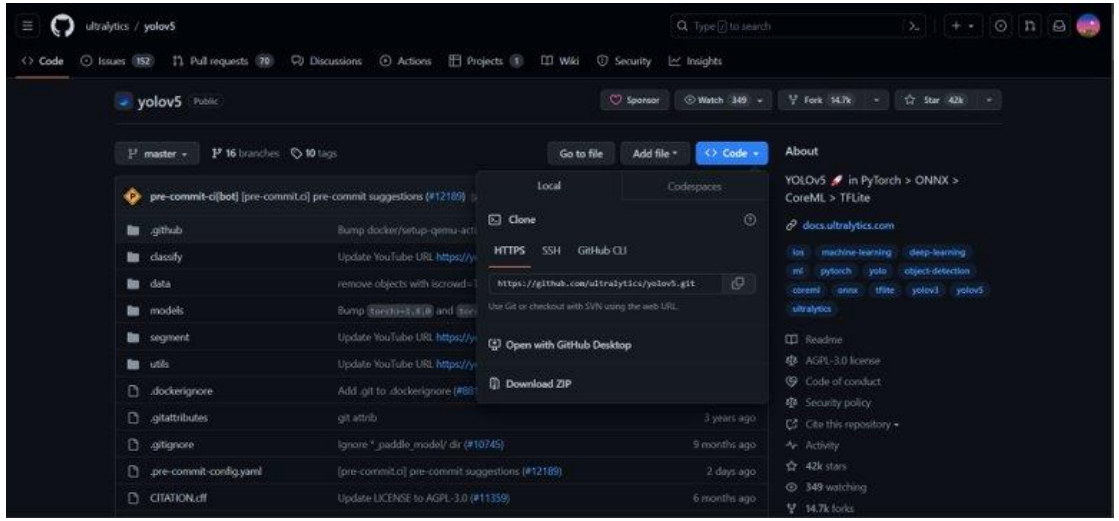
2. Select a Model

Select a pretrained model to start training from. Here we select YOLOv5s, the second-smallest and fastest model available. See our README table for a full comparison of all models.

Nano	Small	Medium	Large	XLarge
YOLOv5n	YOLOv5s	YOLOv5m	YOLOv5l	YOLOv5x
4 MB_{FP16} 6.3 ms_{V100} 28.4 mAP_{COCO}	14 MB_{FP16} 6.4 ms_{V100} 37.2 mAP_{COCO}	41 MB_{FP16} 8.2 ms_{V100} 45.2 mAP_{COCO}	89 MB_{FP16} 10.1 ms_{V100} 48.8 mAP_{COCO}	166 MB_{FP16} 12.1 ms_{V100} 50.7 mAP_{COCO}

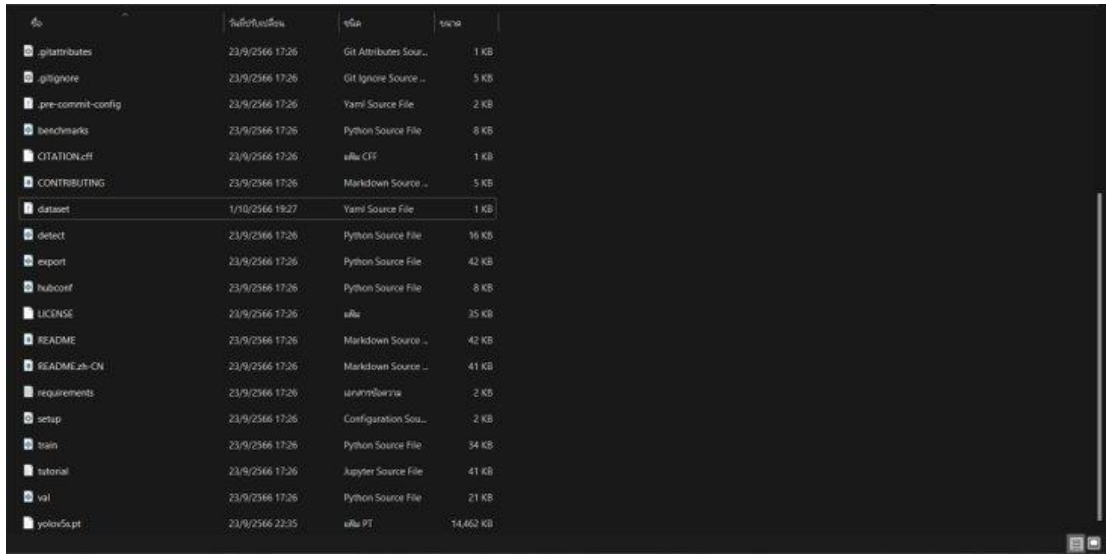
Method of operation

4 Clone the model from Github



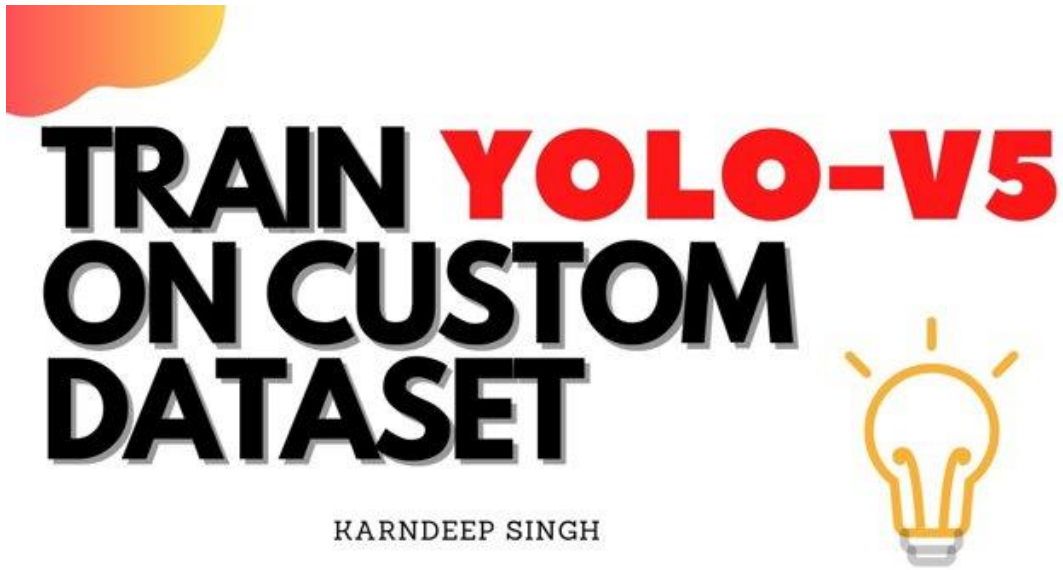
Method of operation

5 Create yml file in folder yolov5



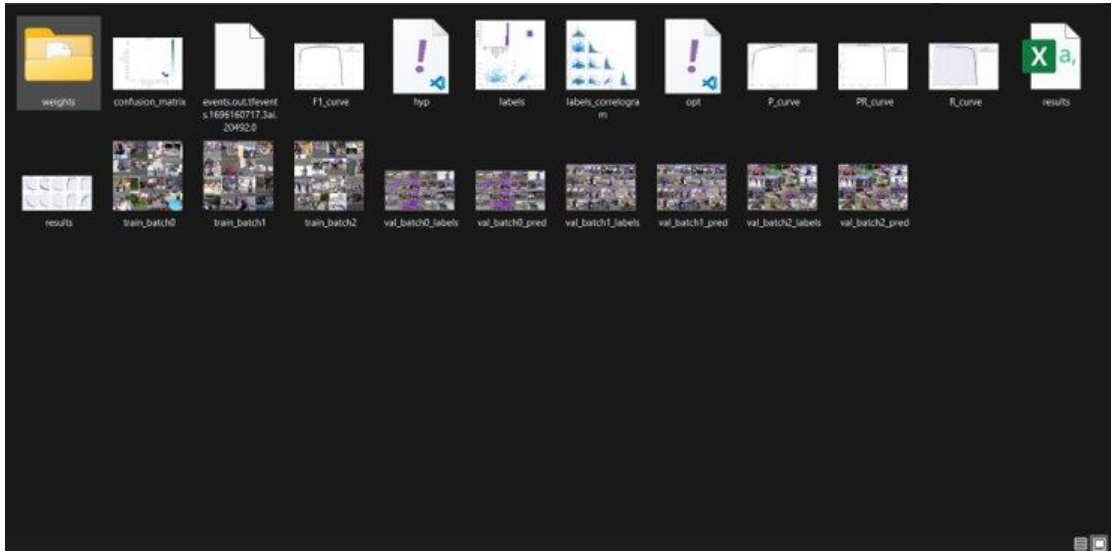
Method of operation

6 Trend model



Method of operation

7 files obtained from training to continue



Method of operation

8 Trend Detect data from models that have been learned

4

Research results

Research results

1. Separation between helmet wearers and non-helmet wearers.
2. Accuracy of inspection
3. Object detection errors
4. Adding more datasets and training models