



WESTERN MEDICINE ANALYZER

By : 高金生 – F74085319

指導老師 - 藍崑展

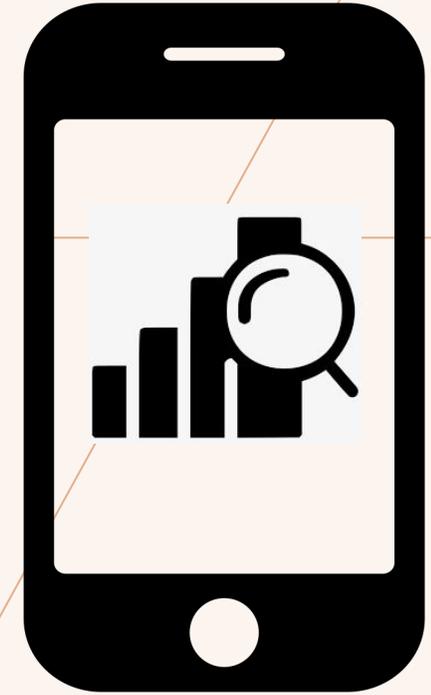
OUTLINE

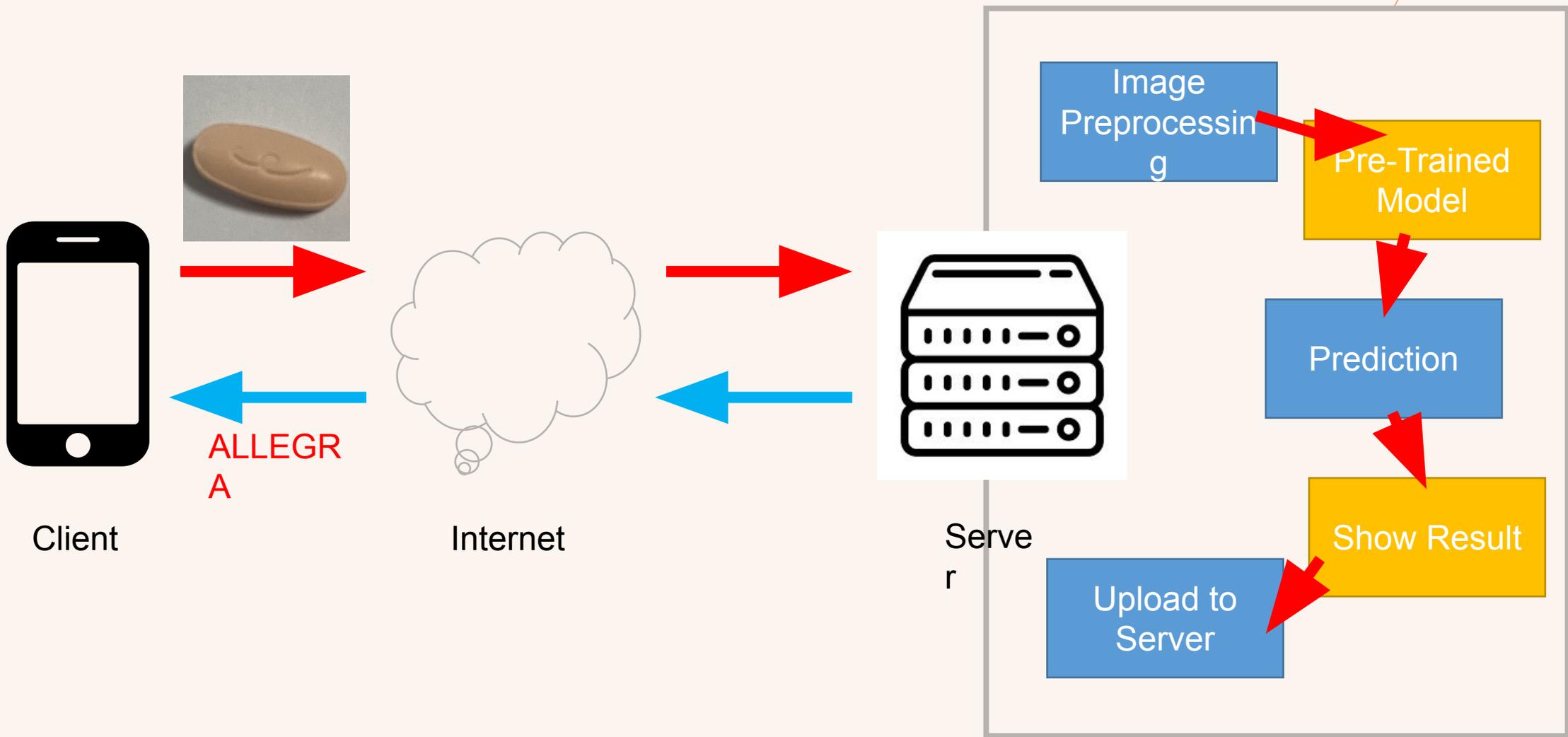
- Motivation
- Datasets
- YoloV5 Model
- Conclusion

MOTIVATION

There are an enormous amount of western medicine pills and I want to classify them so that it's easy to know which medicines is which and to also list their functionality / usages







DATASET

Each class has 100 Raw Data and 700 Augmented Images

Image Augmentation :

- Flipping Image = x , y , both axis
- Scaling Image = 0.5x and 0.8x
- Darker Image
- Adding Noise

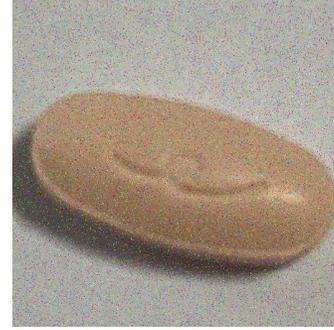
DATASET



Original Image



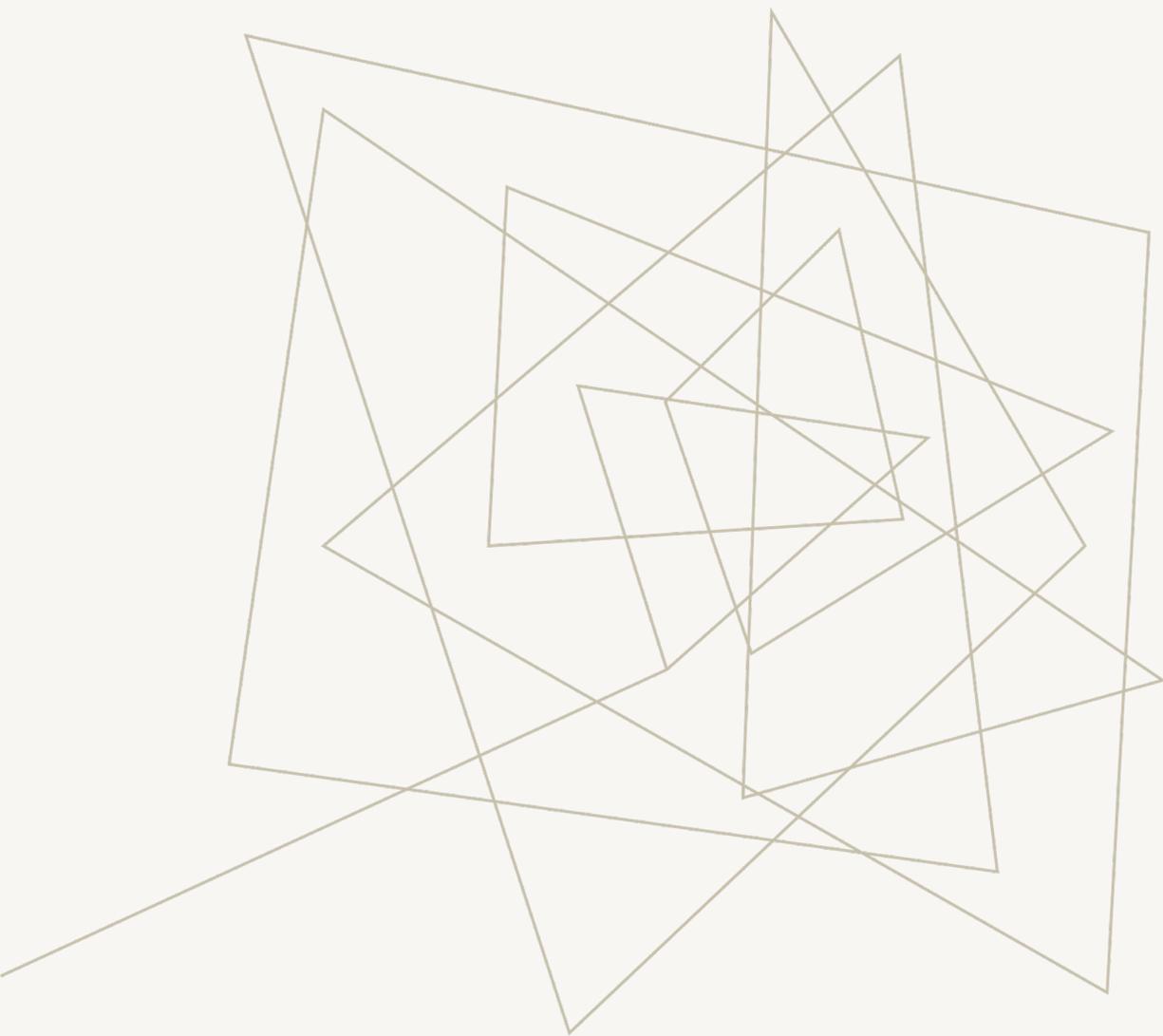
Flipping Image



Darken Image and Adding Noise



Scaling Image



YOLOV5

YOU ONLY LOOK

ONCE

```

zidane.txt
0 0.480109 0.631250 0.692969 0.713278
0 0.741016 0.522222 0.314844 0.933333
27 0.785937 0.506944 0.039062 0.151030

```



YOLOV5 MODEL

1. CREATE DATASET

YOLOv5 models must be trained on labelled data in order to learn classes of objects in that data.

2. SELECT A MODEL

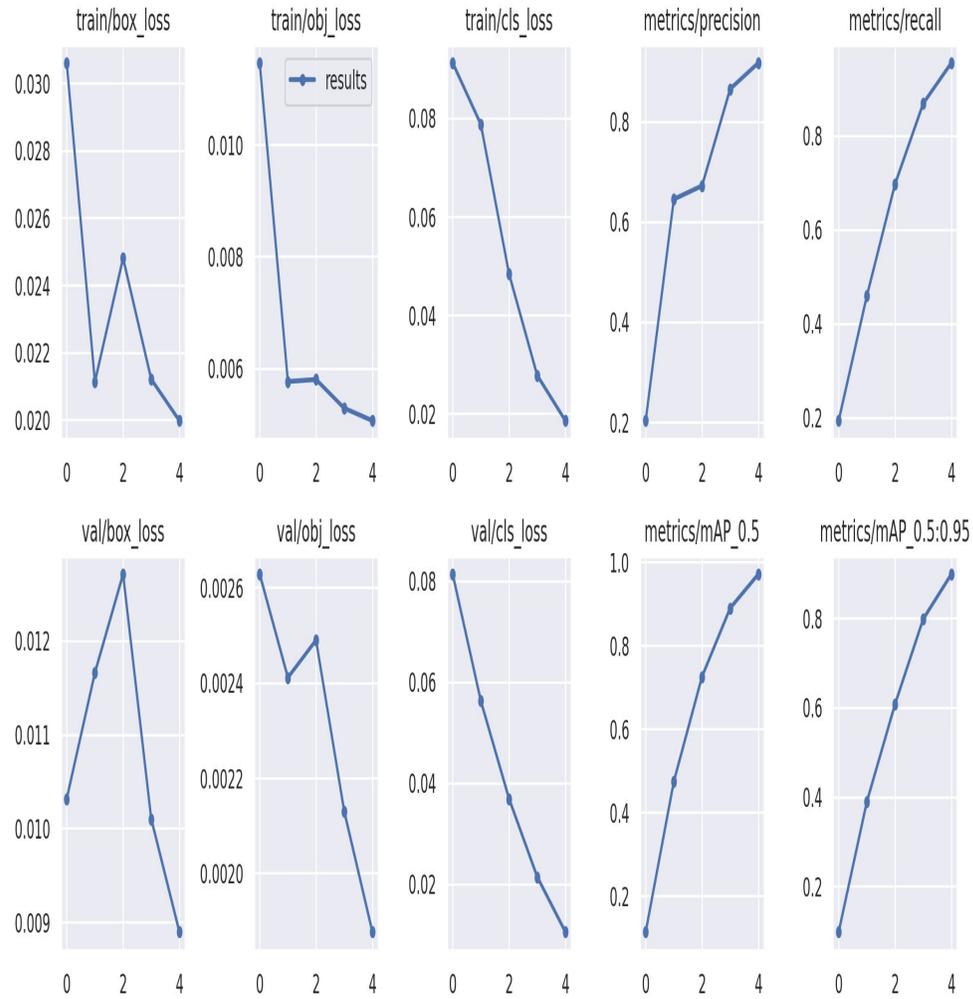
Select a pretrained model to start training from. I select YOLOv5s, the smallest and fastest model available.

3. TRAIN

After obtaining the necessary data, we can start training our model

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

RESULT



CONCLUSION

What can be better?

- The dataset can be expanded to detect more medicines with a different environments.
- The application can also be upgraded with a feature where user can insert their symptoms and find what medicines that is suitable for them

Problem faced

- Collecting the Data and clean them up takes a lot of time
- Setting the server because its new to me



THANK YOU FOR LISTENING

