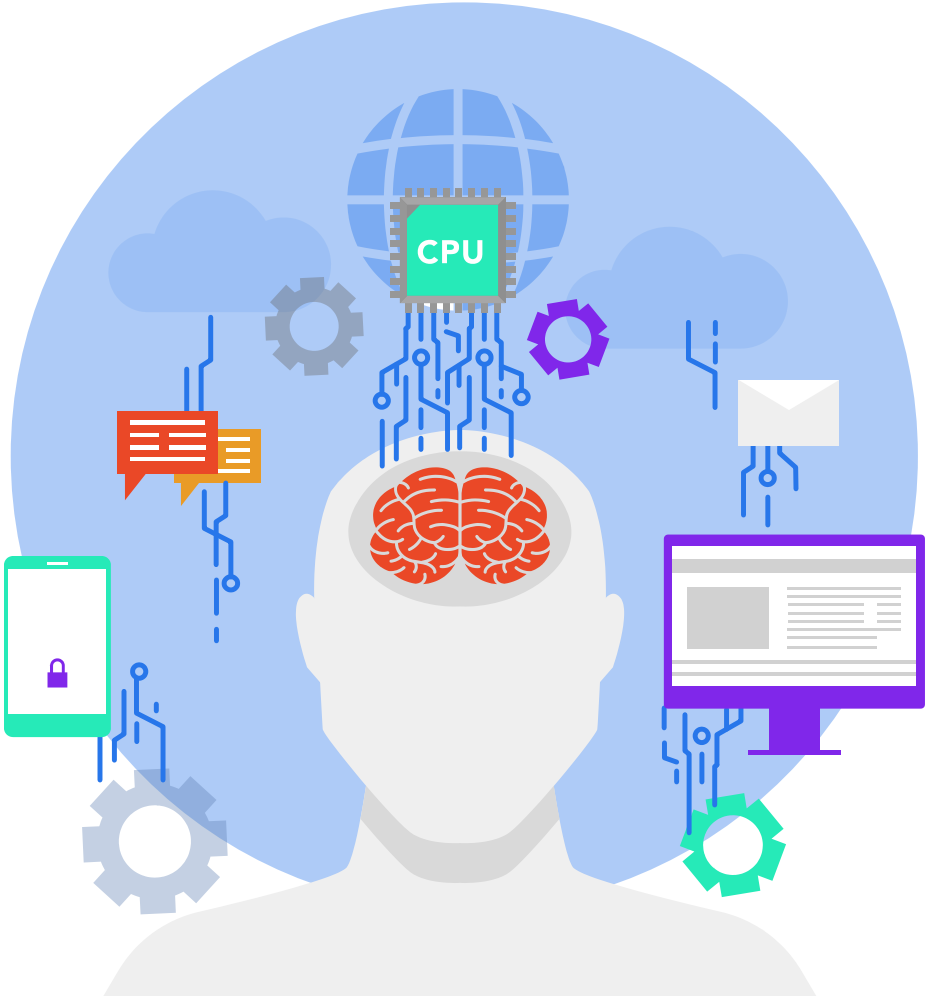

Semantic Segmentation For Pedestrian in Real Life

Team Members

Salma khaled	211001614
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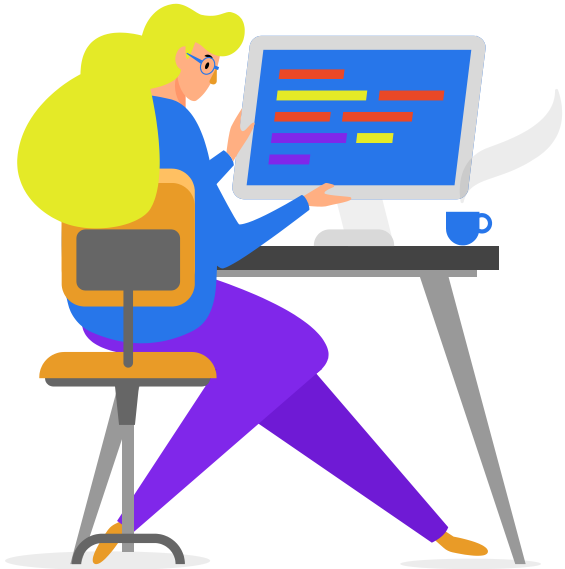
Salma Jamal	211001621
Ayaalla M. Eltabey	211001613

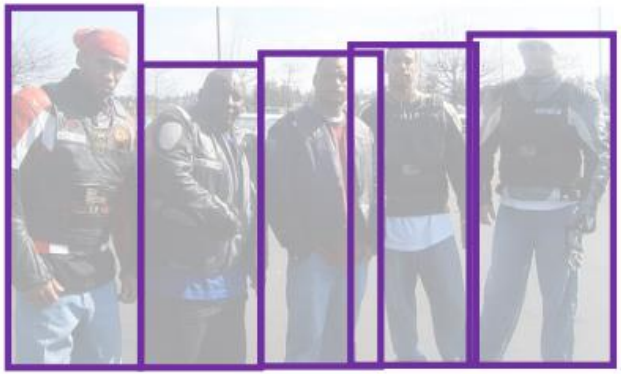
Contents



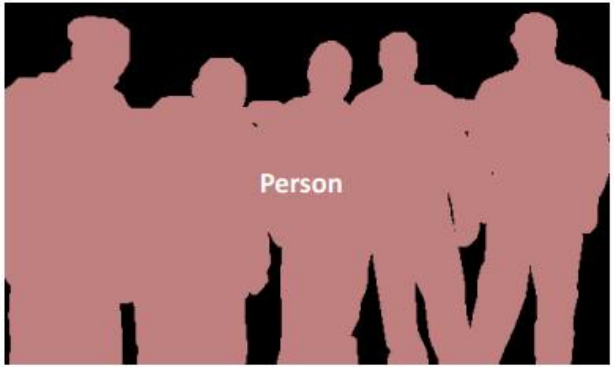
01

Problem Definition

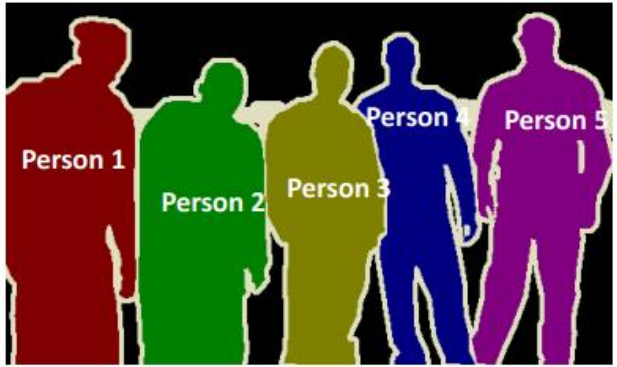
Problem Definition



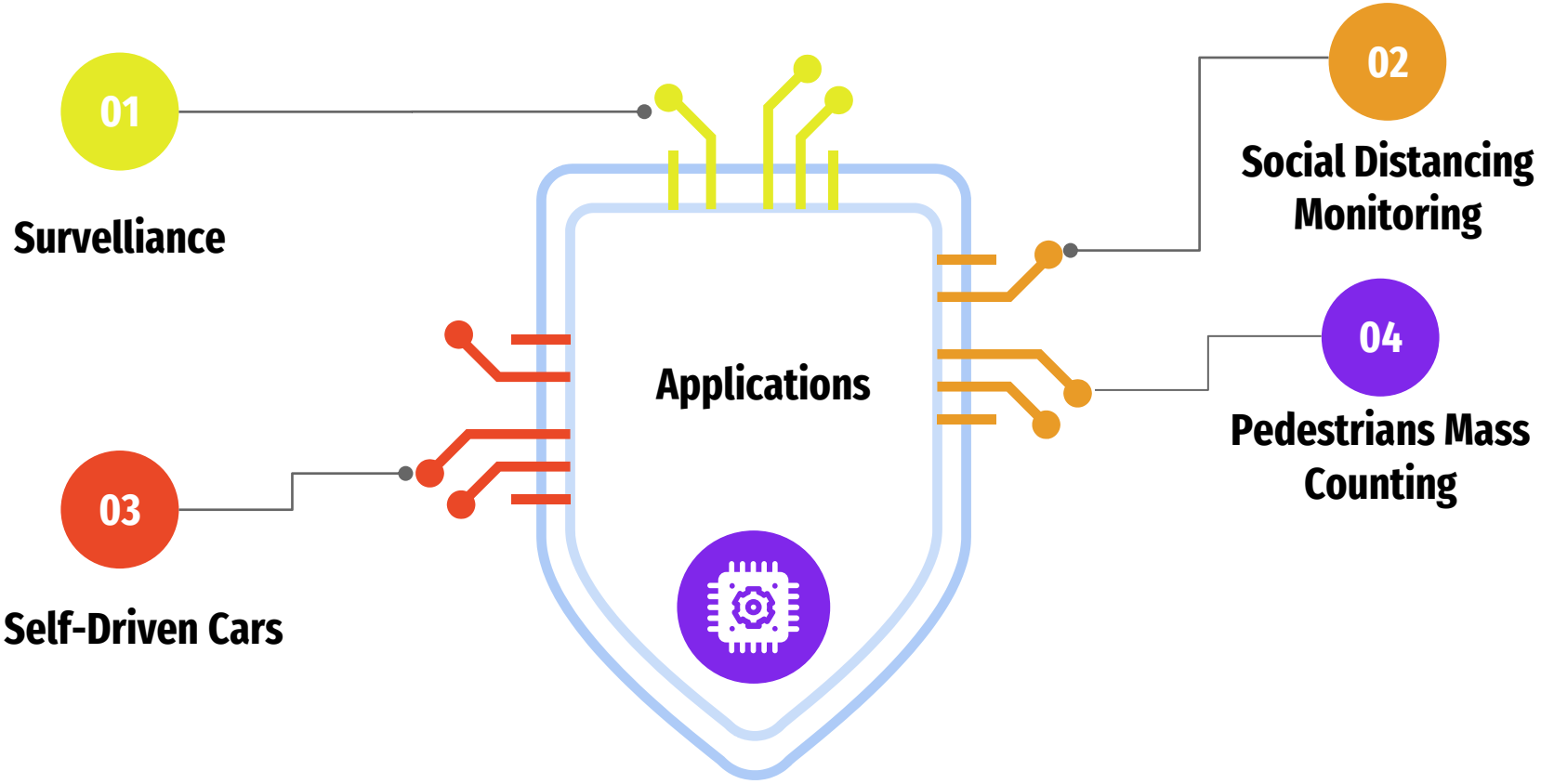
Object Detection



Semantic Segmentation



Instance Segmentation


01
Survelliance
02
Social Distancing Monitoring
Applications
03
Self-Driven Cars
04
Pedestrians Mass Counting

02

Methodologies

01

Detectron2

02

YOLOv5

Yolov5

YOLO V5

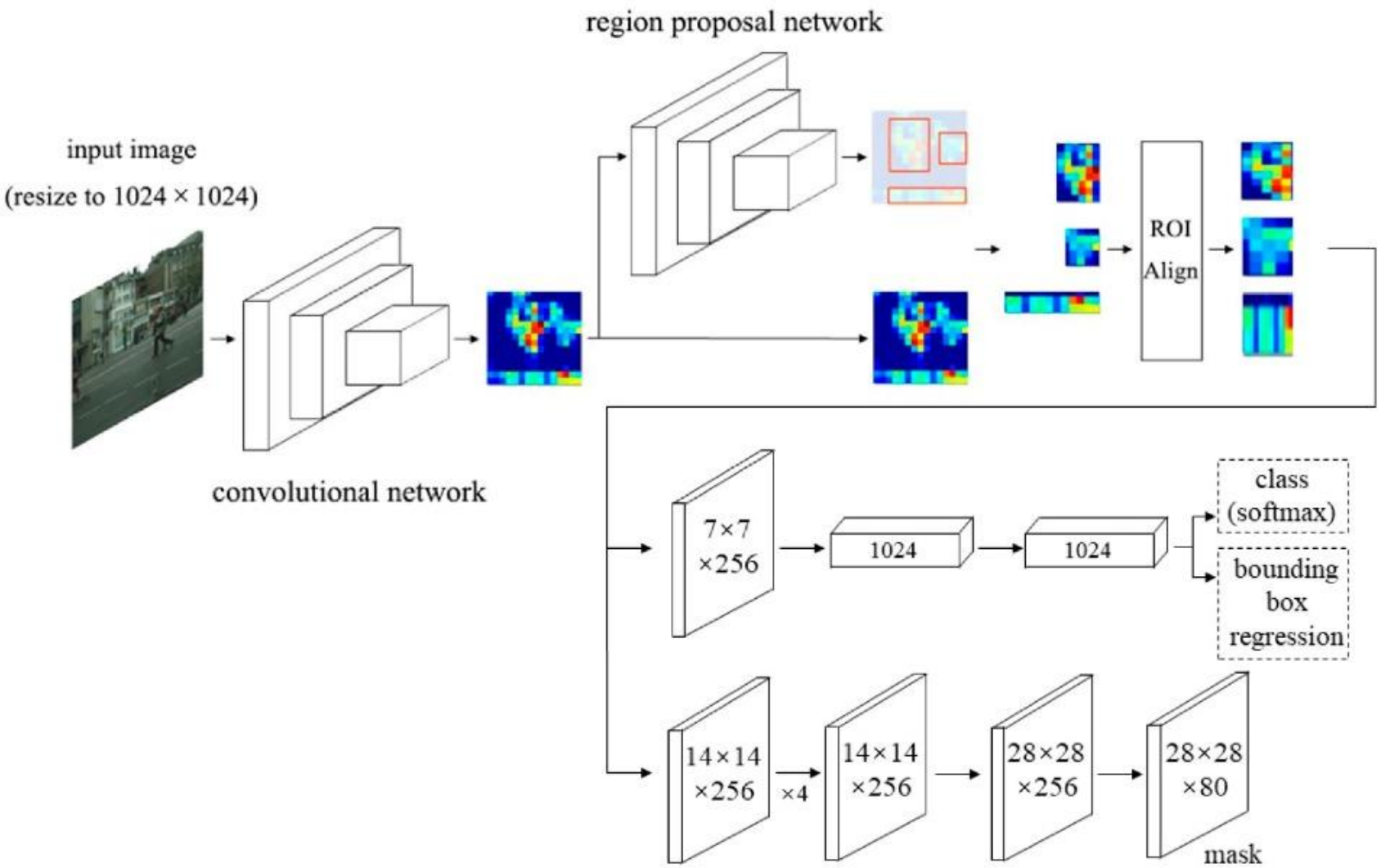
- Image Griding to Pixels
- Centering & Object Detection
- Object Classification
- Remove overlapping boundry Box

Detectron2

Region Proposal Network

Fast RCNN

Mask RCNN


region proposal network
input image
(resize to 1024 × 1024)
convolutional network
ROI
Align
7×7
×256
1024
1024
class
(softmax)
bounding
box
regression
14×14
×256
×4
14×14
×256
28×28
×256
28×80
mask

03

Dataset & Preperation

Input Image

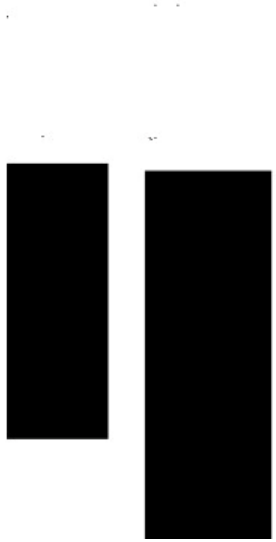
Detectron2

YOLOV5

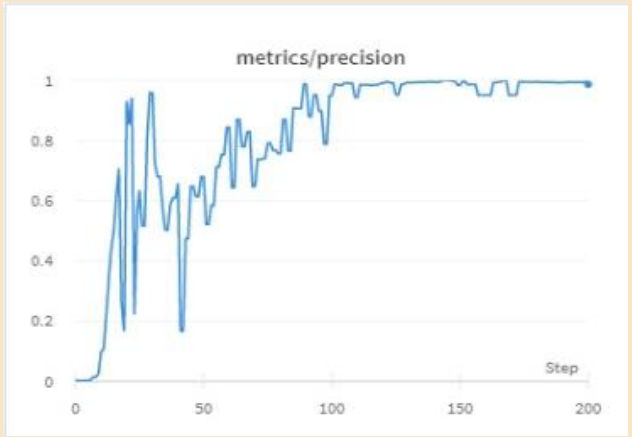
04

Results

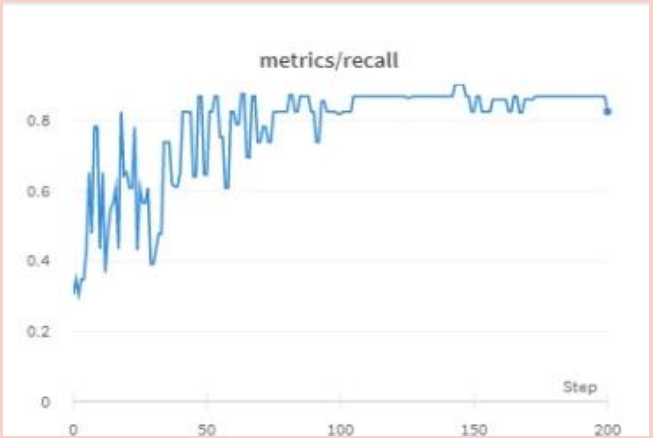
YOLOV5



YOLO V5

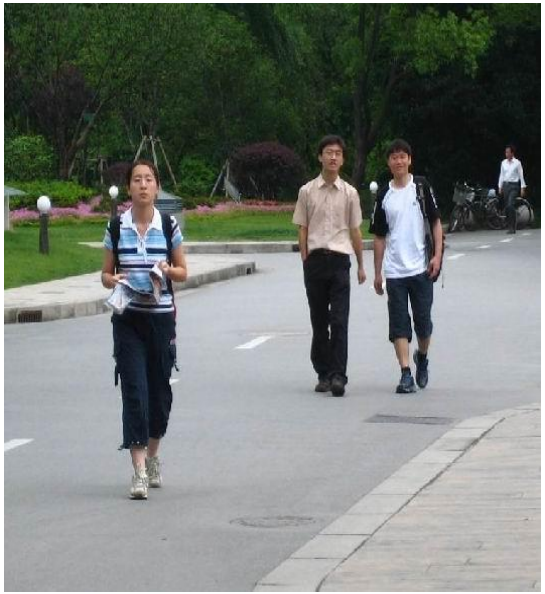


- Precision: 0.987

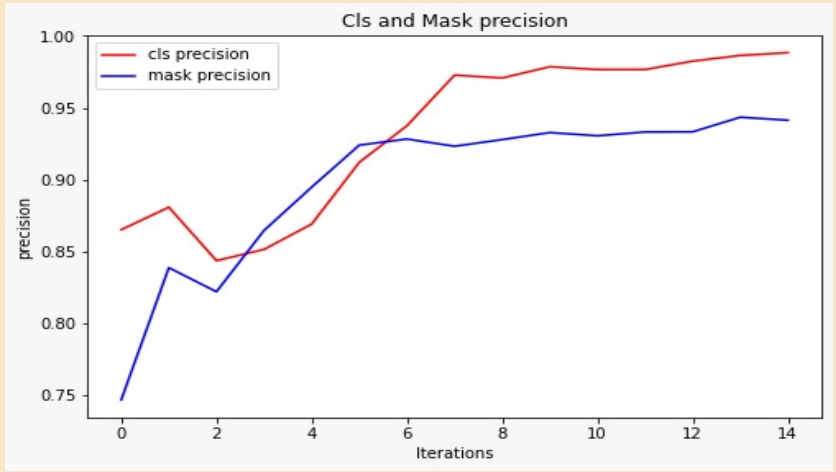


- Recall: 0.826

Detectron2



Detectron2



- cls precision :0.98
- Mask precision: 0.94

05

Conclusion

Detectron2

- More Accurate segmentation
- Musk Segmentations + BBox

Vs

YOLOv5

YOLOV5

- Faster & More Efficient
- Smaller Model Size
- Bbox only

Thank You!!