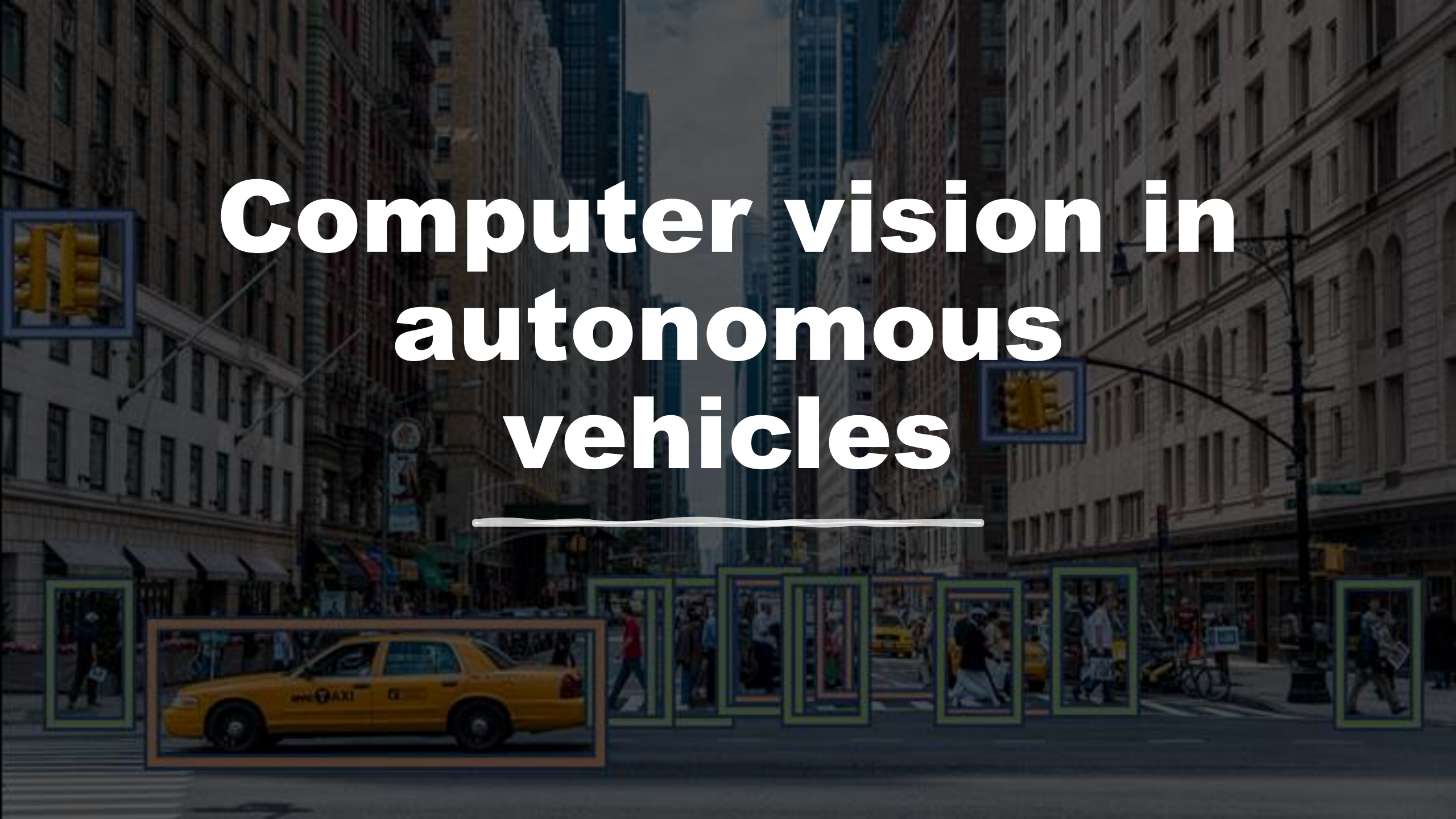



Computer vision in autonomous vehicles





What is Computer Vision?



AI



Computer vision

Computer vision Tech

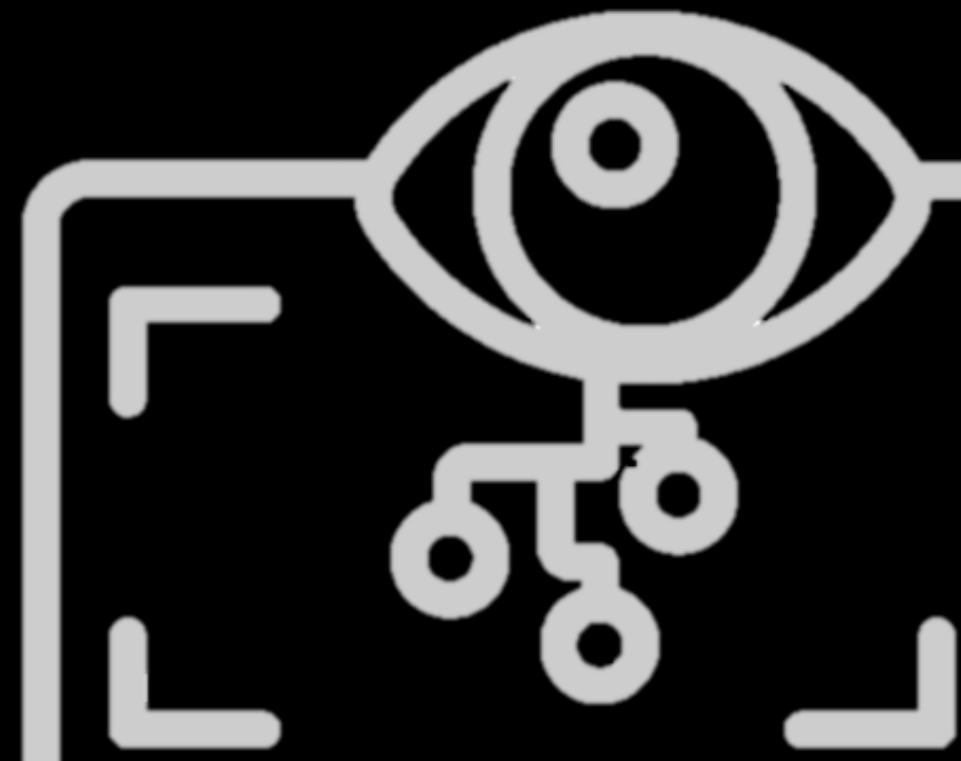
Gathering the training data

Data Labeling

Object detection

Stereo vision

Semantic segmentation and
semantic instance segmentation



Gathering
the training
Data



airplane

automobile

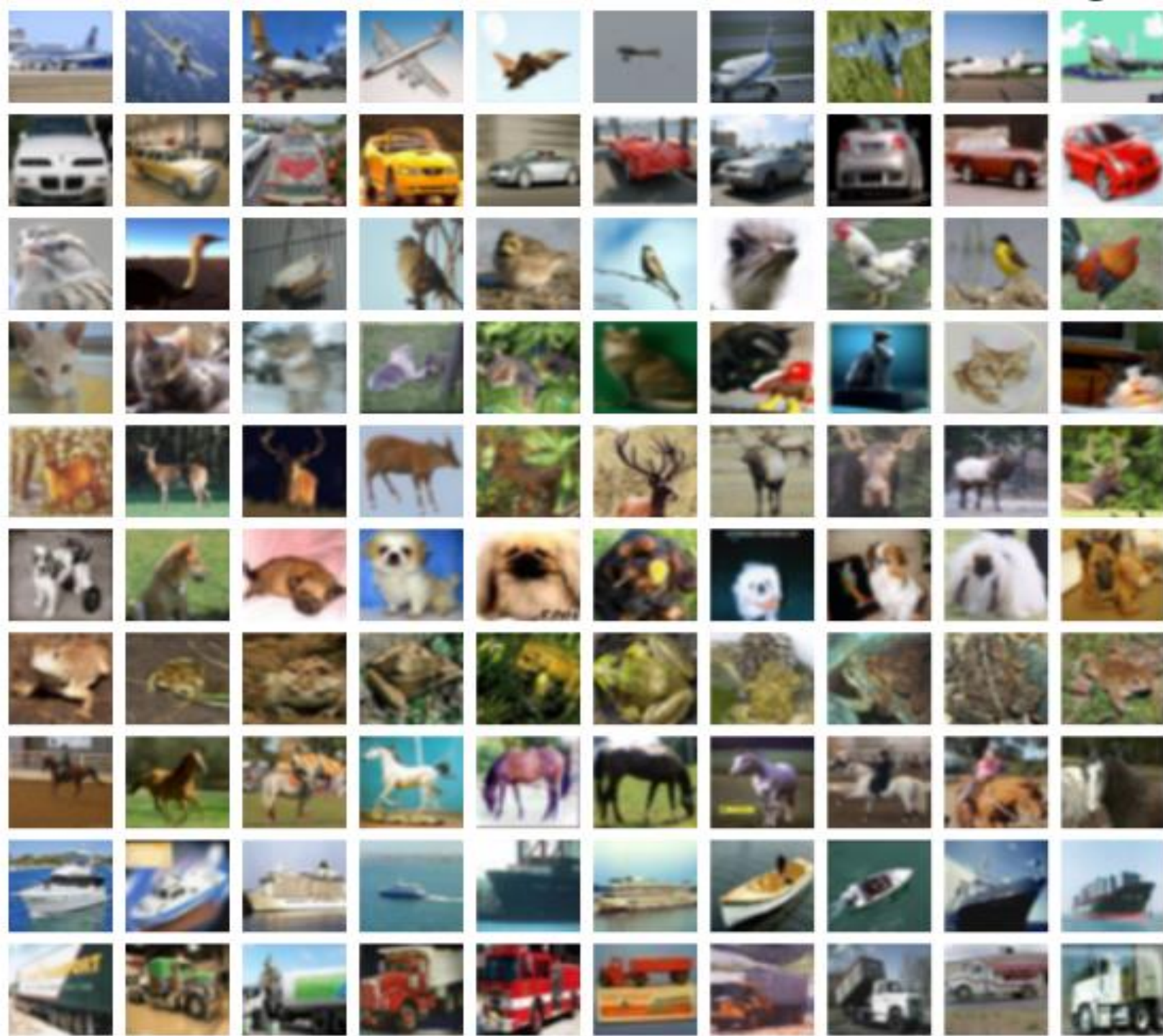
bird

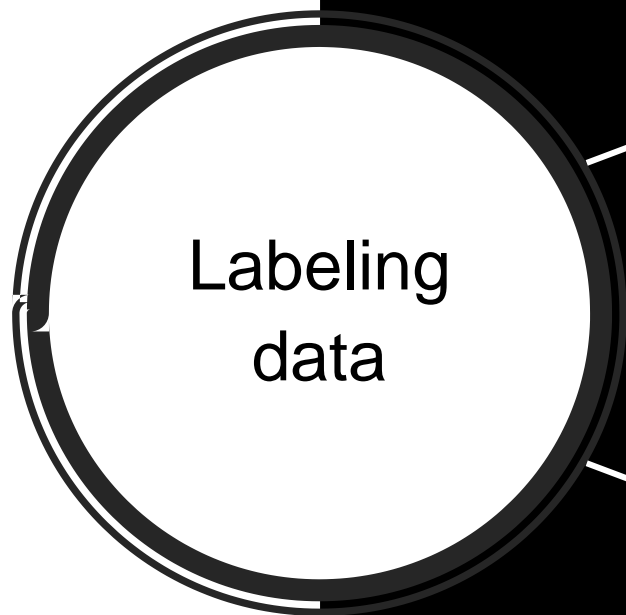
Labeling
data

horse

ship

truck

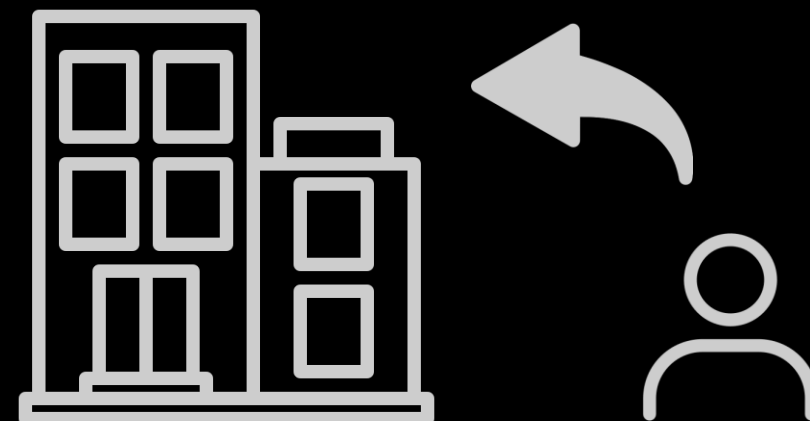




In - house

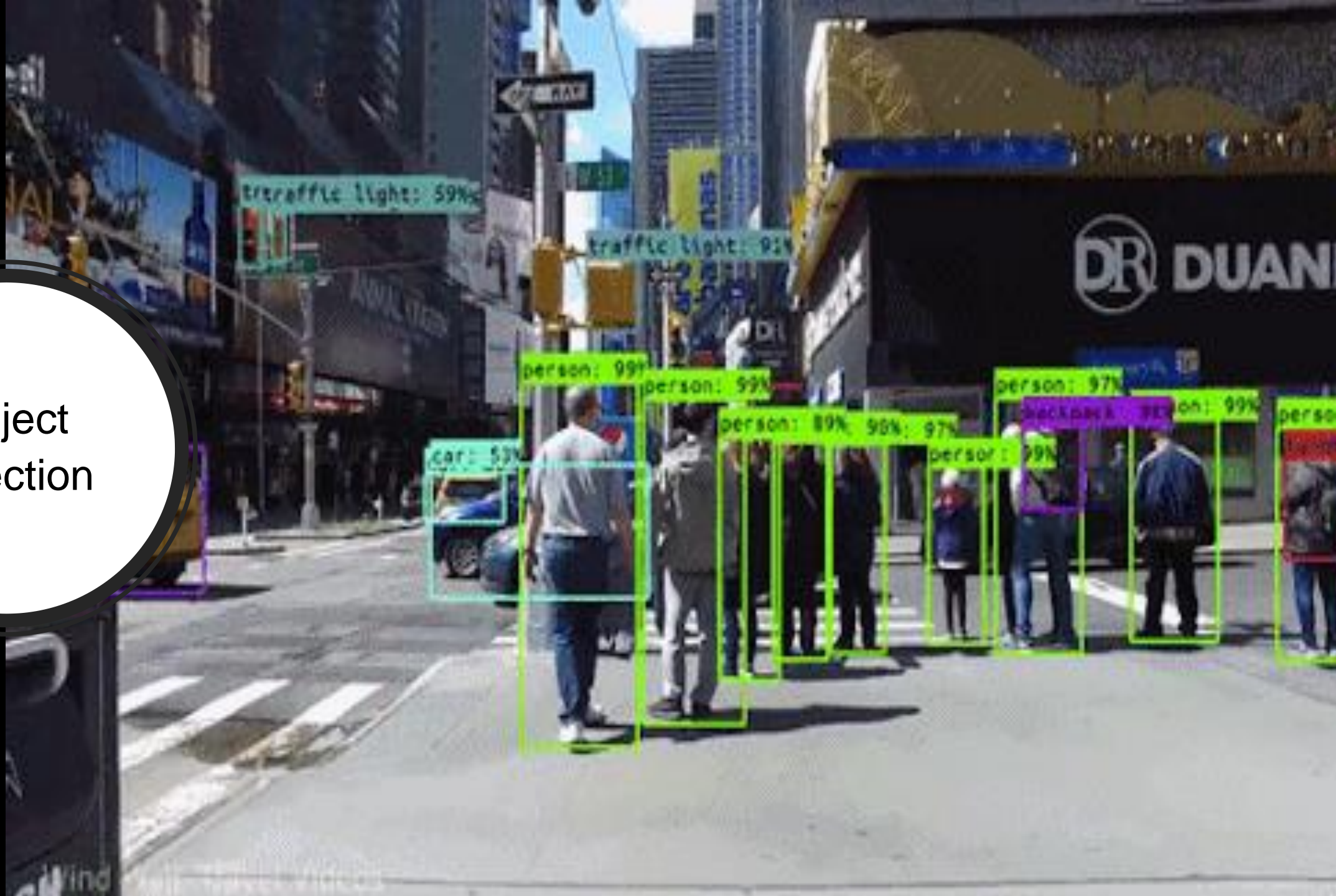


Out - sourcing





Object
detection



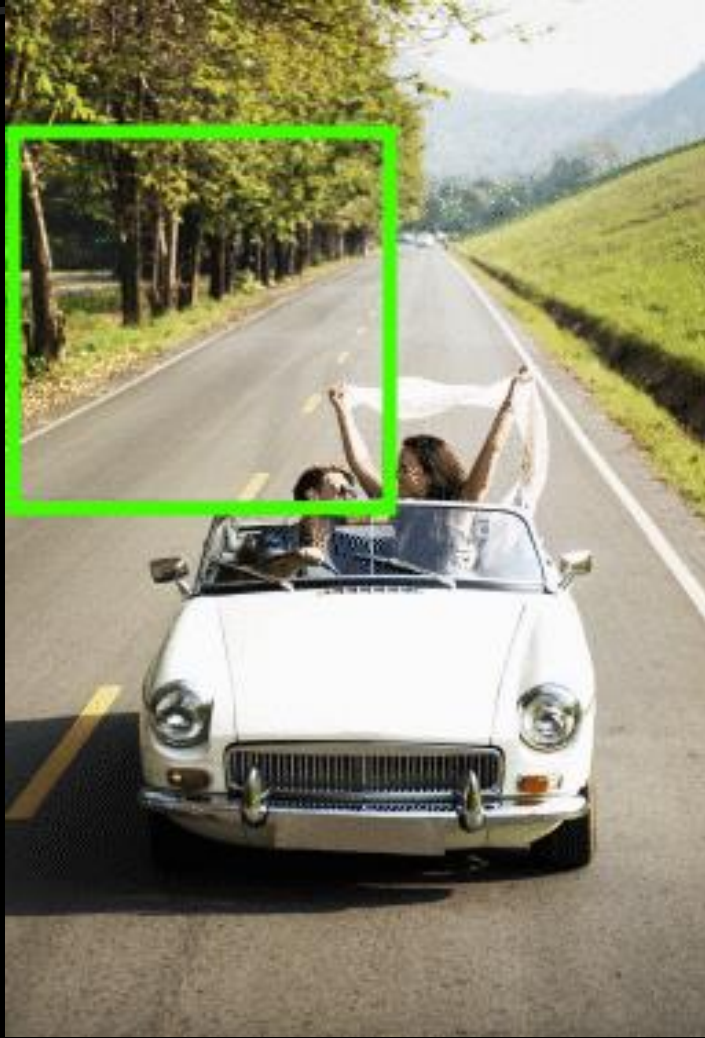
Object
detection

**Image
classification**

**Image
localization**

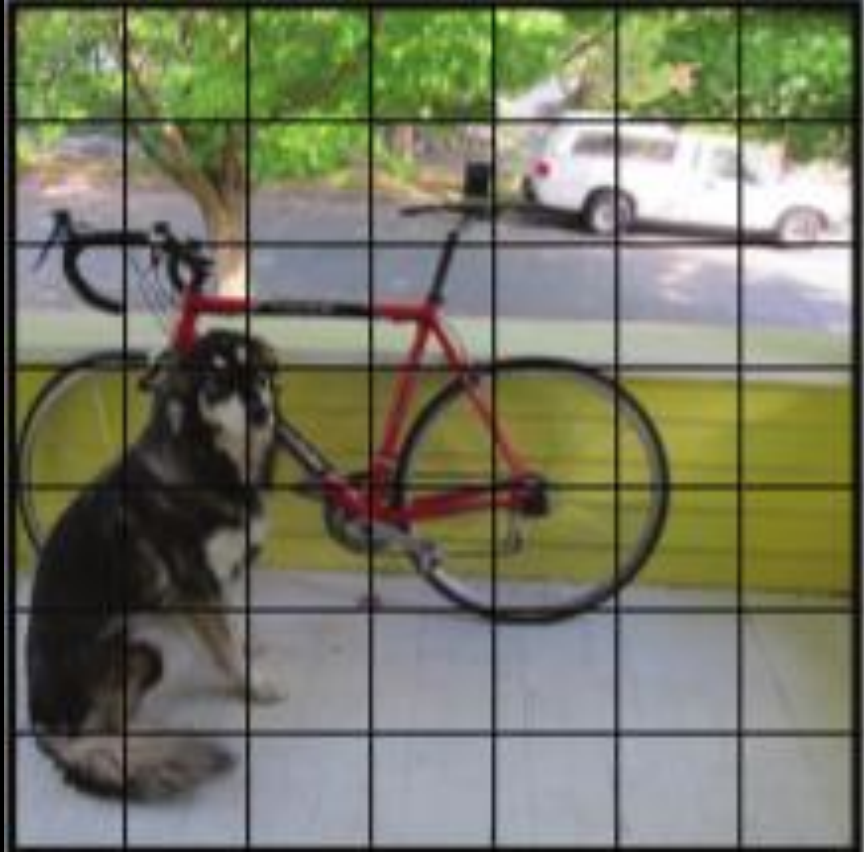


Object Detection

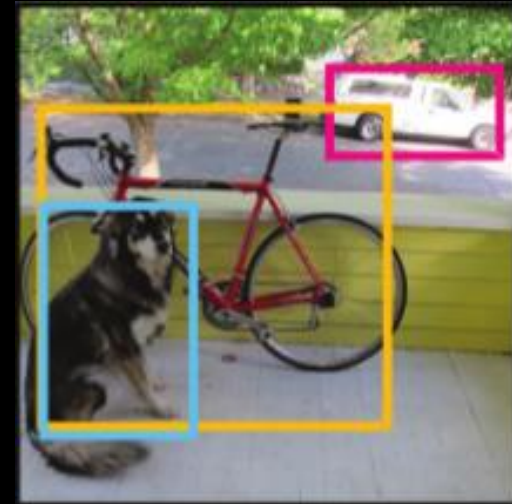
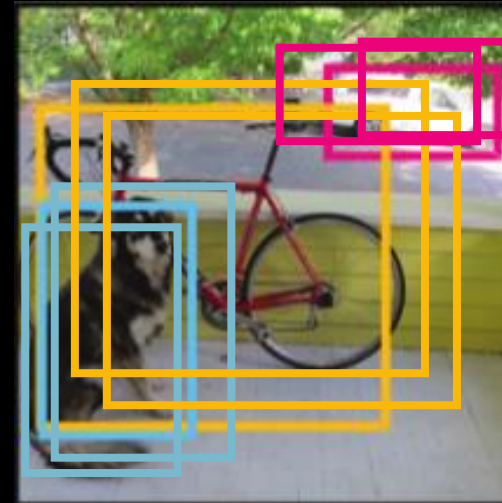
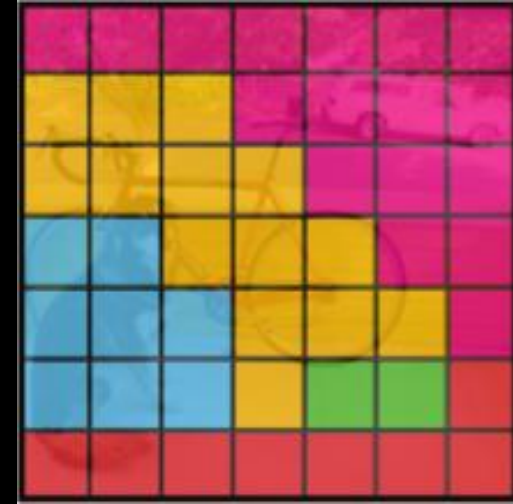


Sliding windows

Object Detection

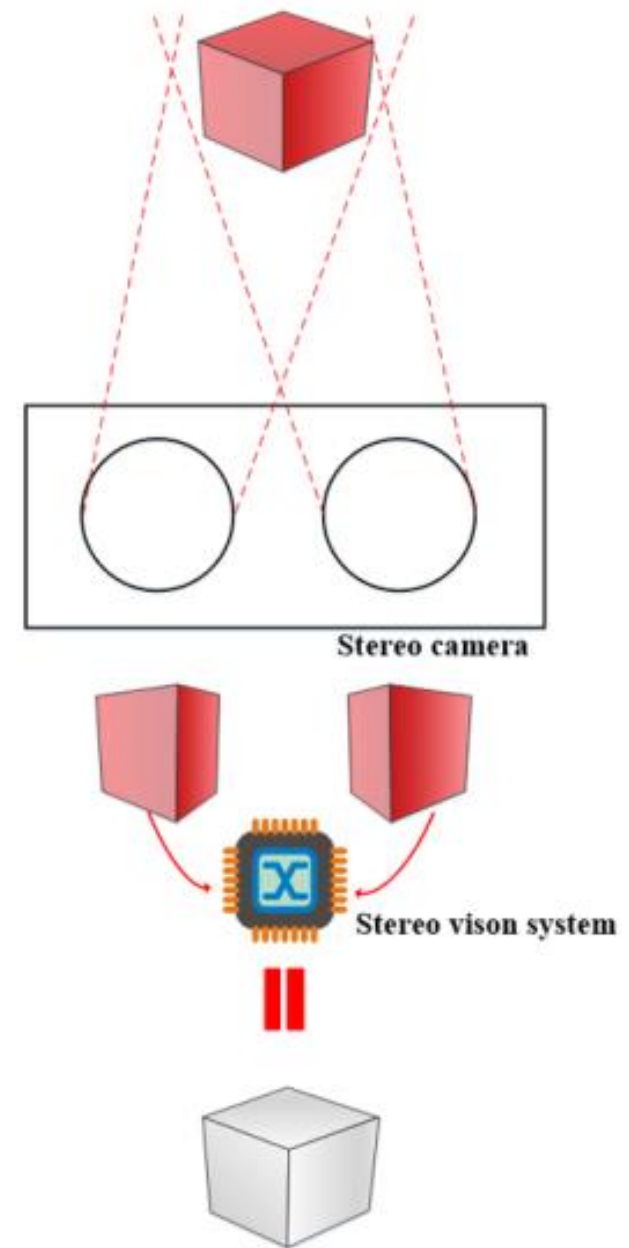
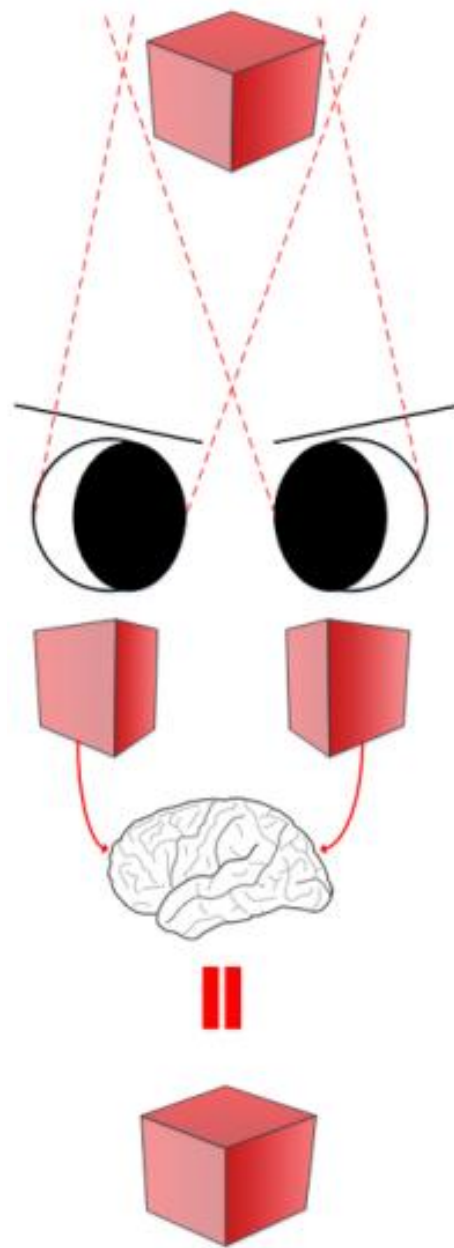


YOLO



NMS

Stereo vision

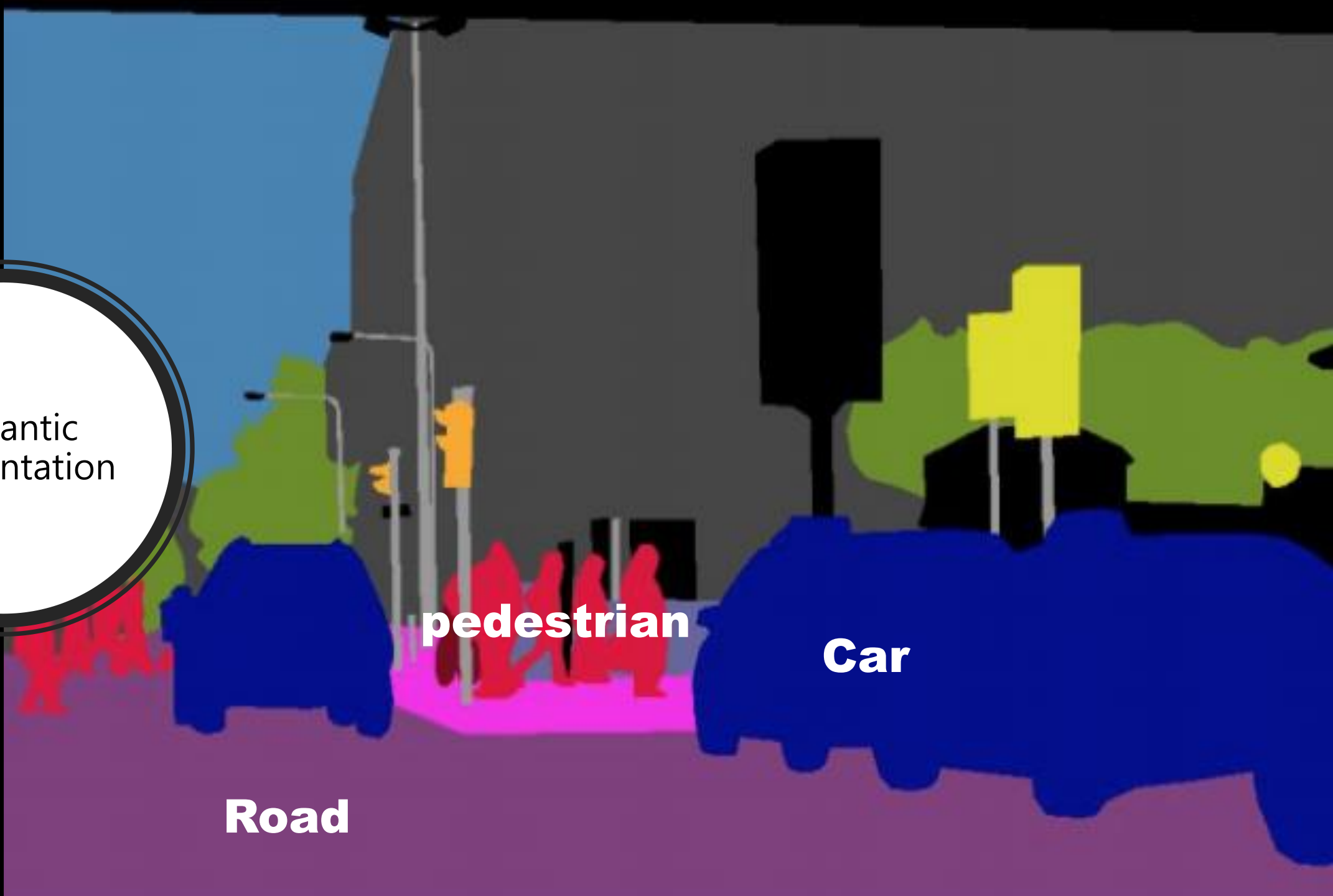


Semantic
segmentation

pedestrian

Car

Road



Instance
segmentation

Car3



Car1

Car2

Ego Speed: 23.50 MPH
time: 1552.662443000
CAL F 0.60 Y 1.20 R 0.00 deg

Vision fpr: 18.15 Draw fpr: 17.56 Display fpr: 25.03
NL(0.00), E(0.99), F(0.01), FF(0.00), S(0.00)
NRW: FLP(0.00), FRP(0.00)

+0.0000 AUTO_HIGH_BEAM
+0.0000 BLINDED
+0.0000 RAINING
+0.0000 TIRE_SPRAY
+0.0005 WET_ROAD
0.4046 RESTRICTED
0.3192 CONTROLLED_ACCESS



AP 6
L:0 R:0 P:1 ON:0
W:7.4 AP:0.5 L:0
VS: 30.5 MPH SH:4
margin: 1.0 S: 210.7 R



**Thank
you**

MAIN —