CALVIN
INSTITUTE OF TECHNOLOGY
God's People for God's Glory

YOLO
(You Only Look Once)

Workshop

Dosen Pengajar: Steven Bandong S.Si., M.T

Topik Workshop

Topik workshop ini:

1. Visi Komputer
2. YOLO
3. Eksperimen

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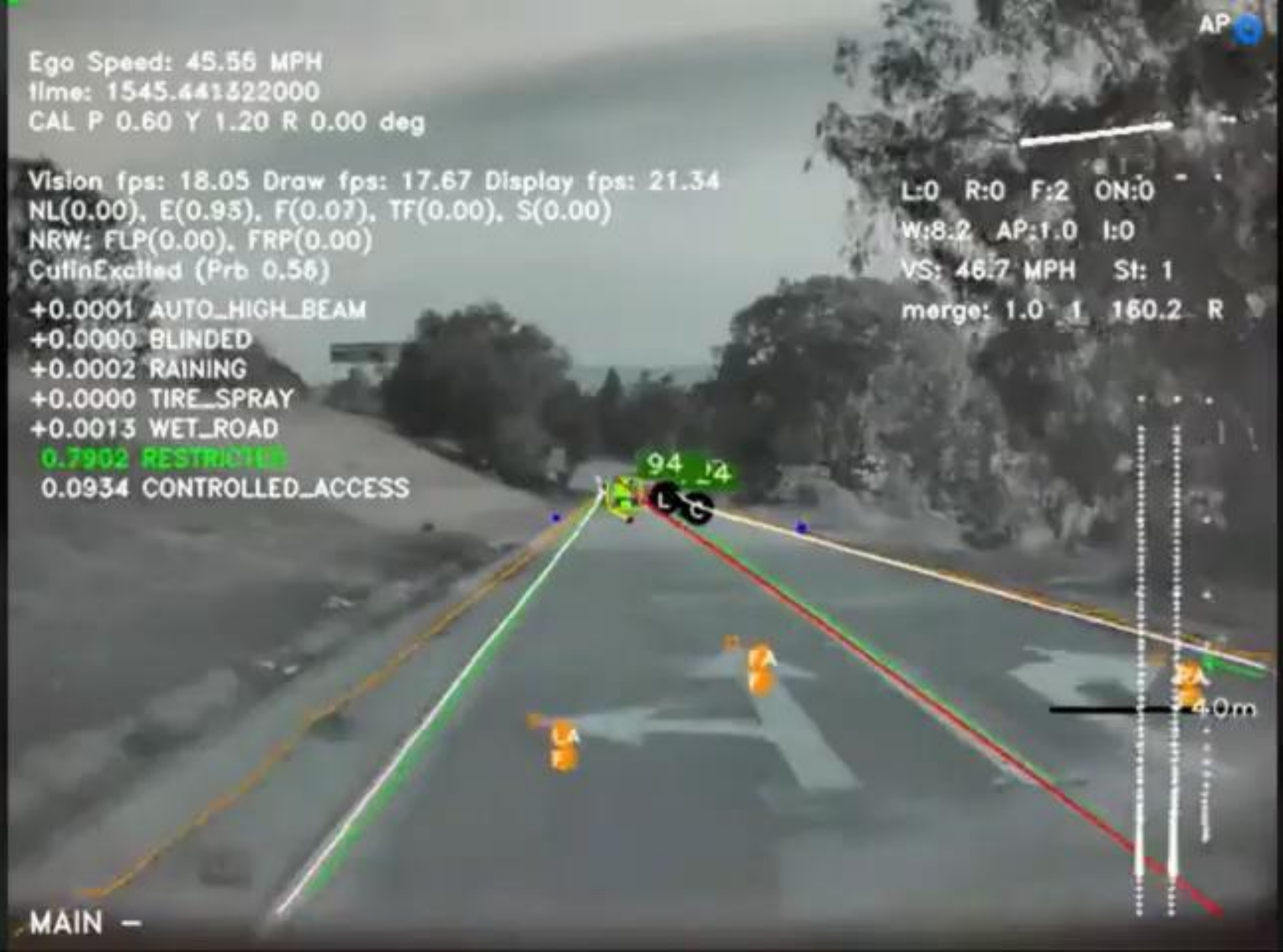
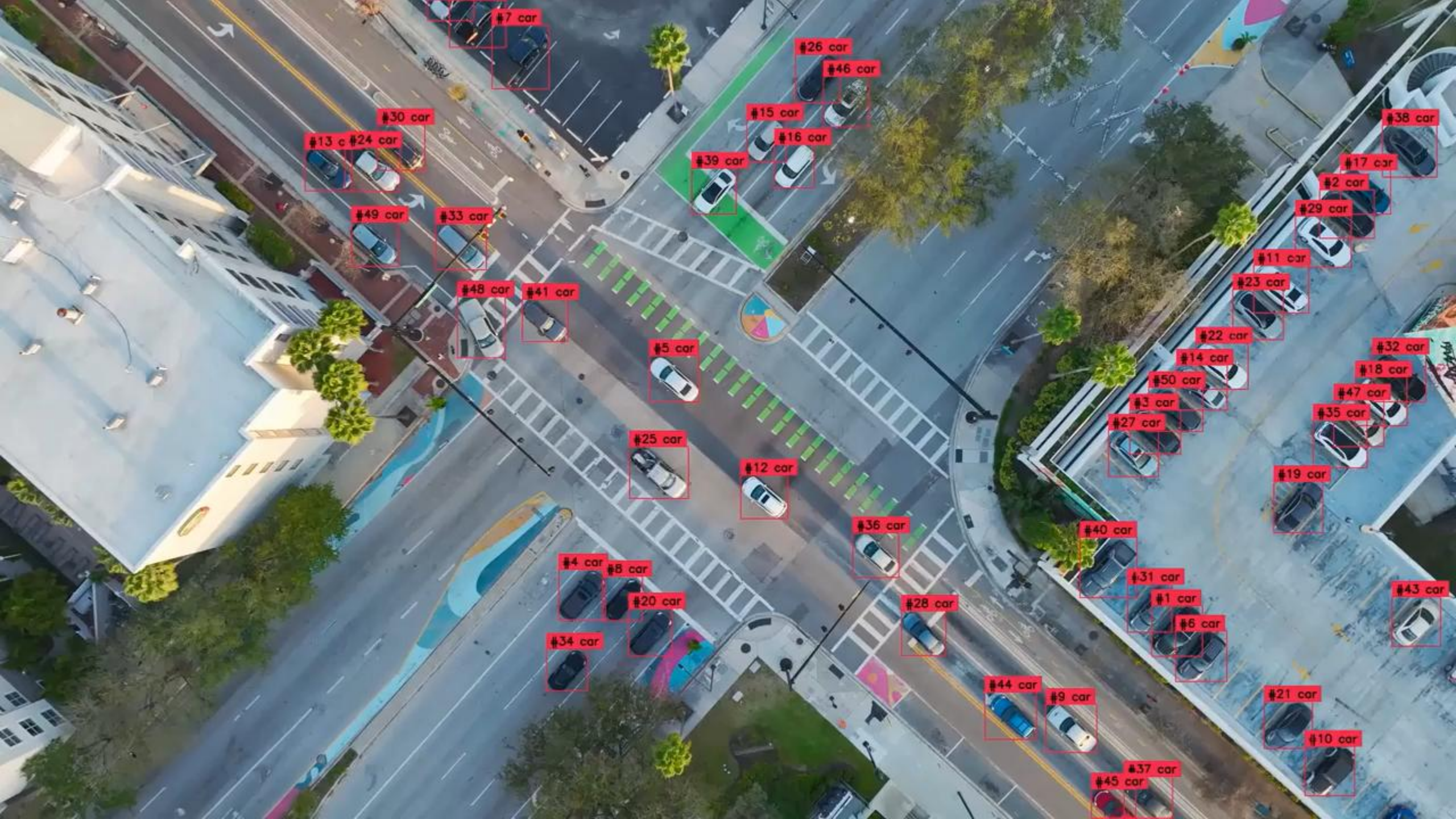
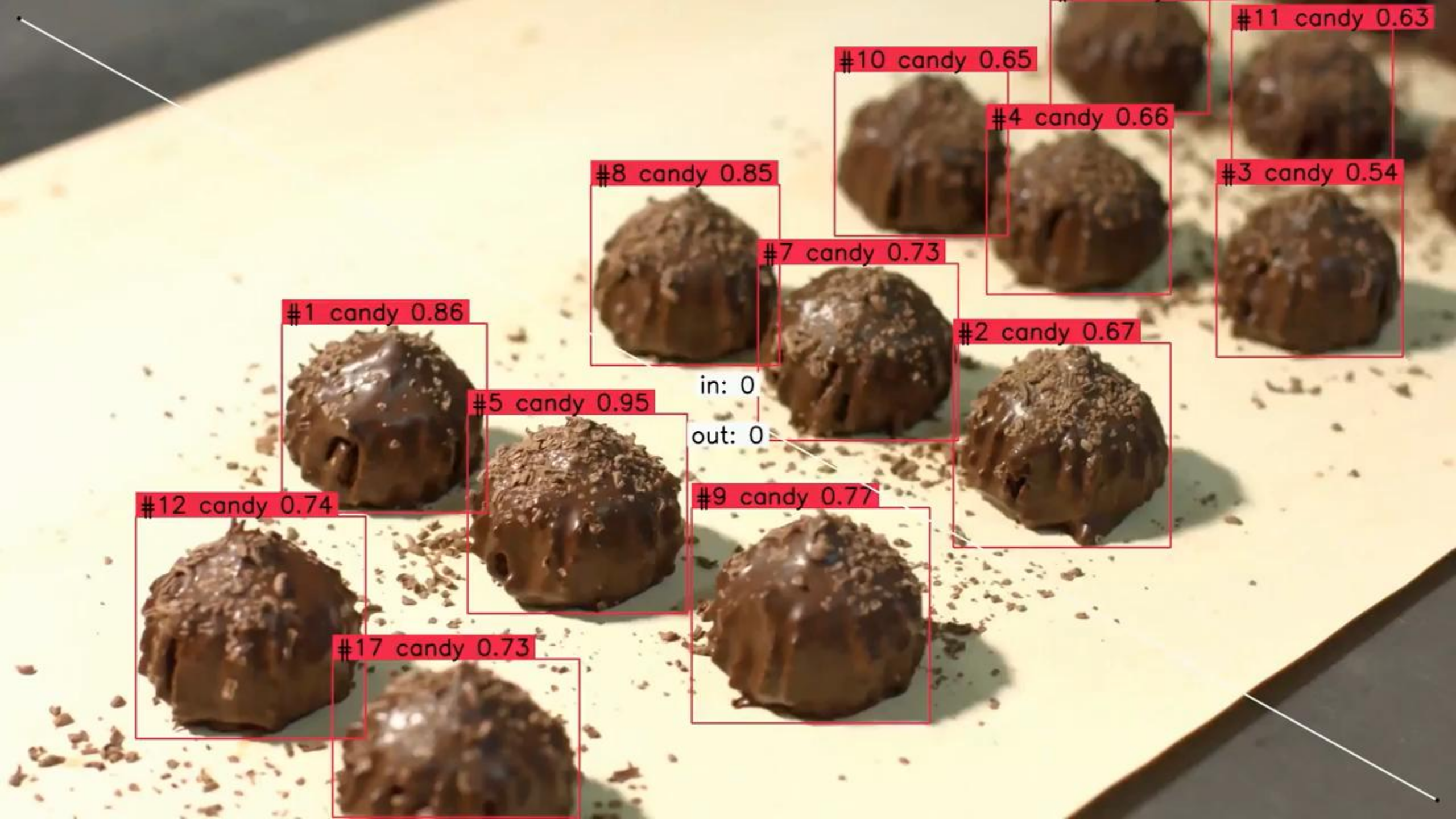
Visi Komputer (Computer Vision)

Apa itu Visi Komputer?

WHERE'S WALDO?
The Animated Series


Ego Speed: 45.56 MPH
time: 1545.441522000
CAL P 0.60 Y 1.20 R 0.00 deg
Vision fps: 18.05 Draw fps: 17.67 Display fps: 21.34
NL(0.00), E(0.93), F(0.07), TF(0.00), S(0.00)
NRW: FLP(0.00), FRP(0.00)
CutinExcited (Prb 0.56)
+0.0001 AUTO_HIGH_BEAM
+0.0000 BLINDED
+0.0002 RAINING
+0.0000 TIRE_SPRAY
+0.0013 WET_ROAD
0.7902 RESTRICTED
0.0934 CONTROLLED_ACCESS
AP
L:0 R:0 F:2 ON:0
W:8.2 AP:1.0 I:0
VS: 46.7 MPH St: 1
merge: 1.0 1 160.2 R
40m
MAIN

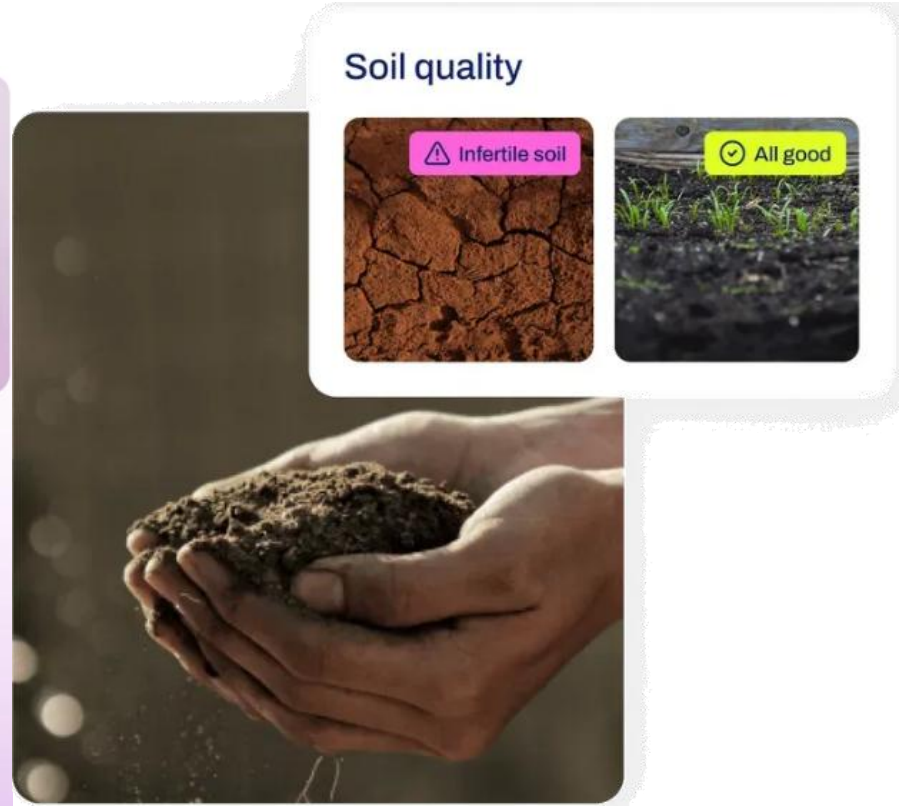

#7 car
#26 car
#46 car
#15 car
#16 car
#39 car
#30 car
#13 c
#24 car
#38 car
#17 car
#2 car
#29 car
#49 car
#33 car
#11 car
#23 car
#48 car
#41 car
#22 car
#5 car
#32 car
#14 car
#18 car
#50 car
#47 car
#3 car
#35 car
#27 car
#25 car
#12 car
#19 car
#36 car
#40 car
#4 car
#8 car
#31 car
#20 car
#1 car
#43 car
#28 car
#6 car
#34 car
#44 car
#9 car
#21 car
#10 car
#37 car
#45 car


#11 candy 0.63
#10 candy 0.65
#4 candy 0.66
#3 candy 0.54
#8 candy 0.85
#7 candy 0.73
#1 candy 0.86
#2 candy 0.67
in: 0
#5 candy 0.95
out: 0
#12 candy 0.74
#9 candy 0.77
#17 candy 0.73

Pass on right only
719

Agriculture

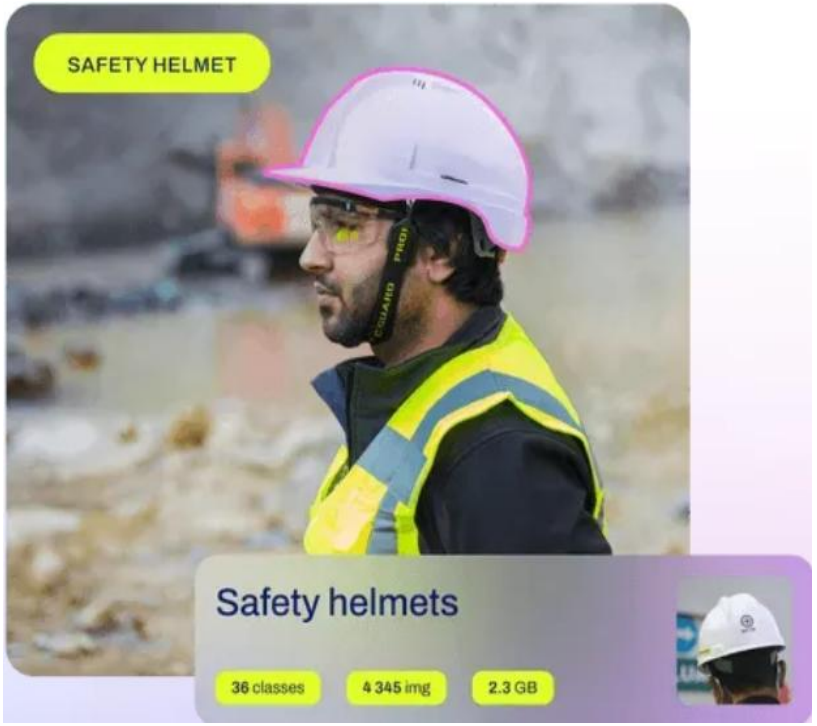
Deteksi Hama



Pantau kualitas tanah

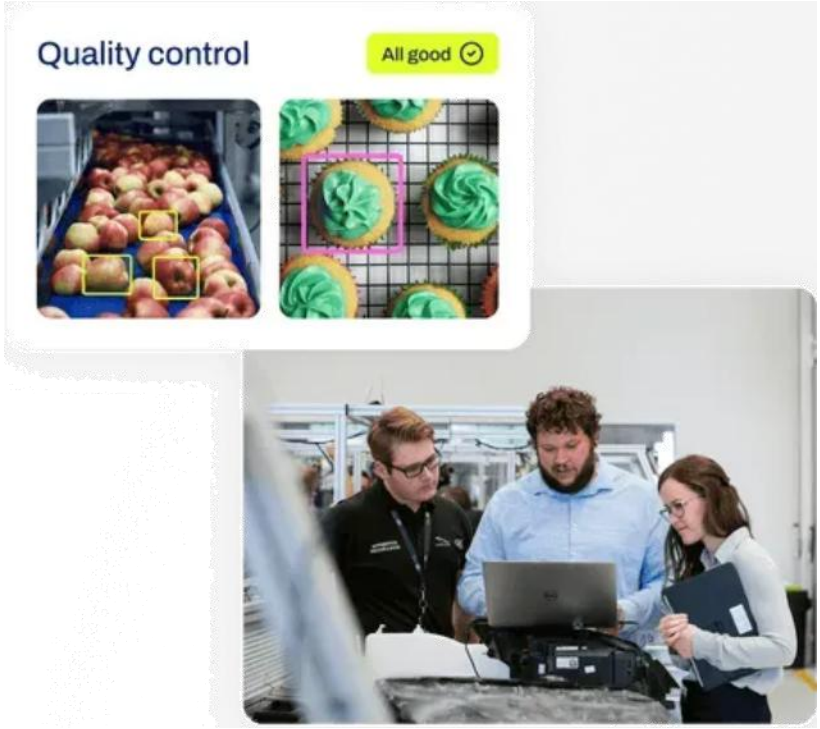
Penggunaan Drone

Industri Manufaktur



Deteksi Perlengkapan Safety

Deteksi produk cacat



Quality Control

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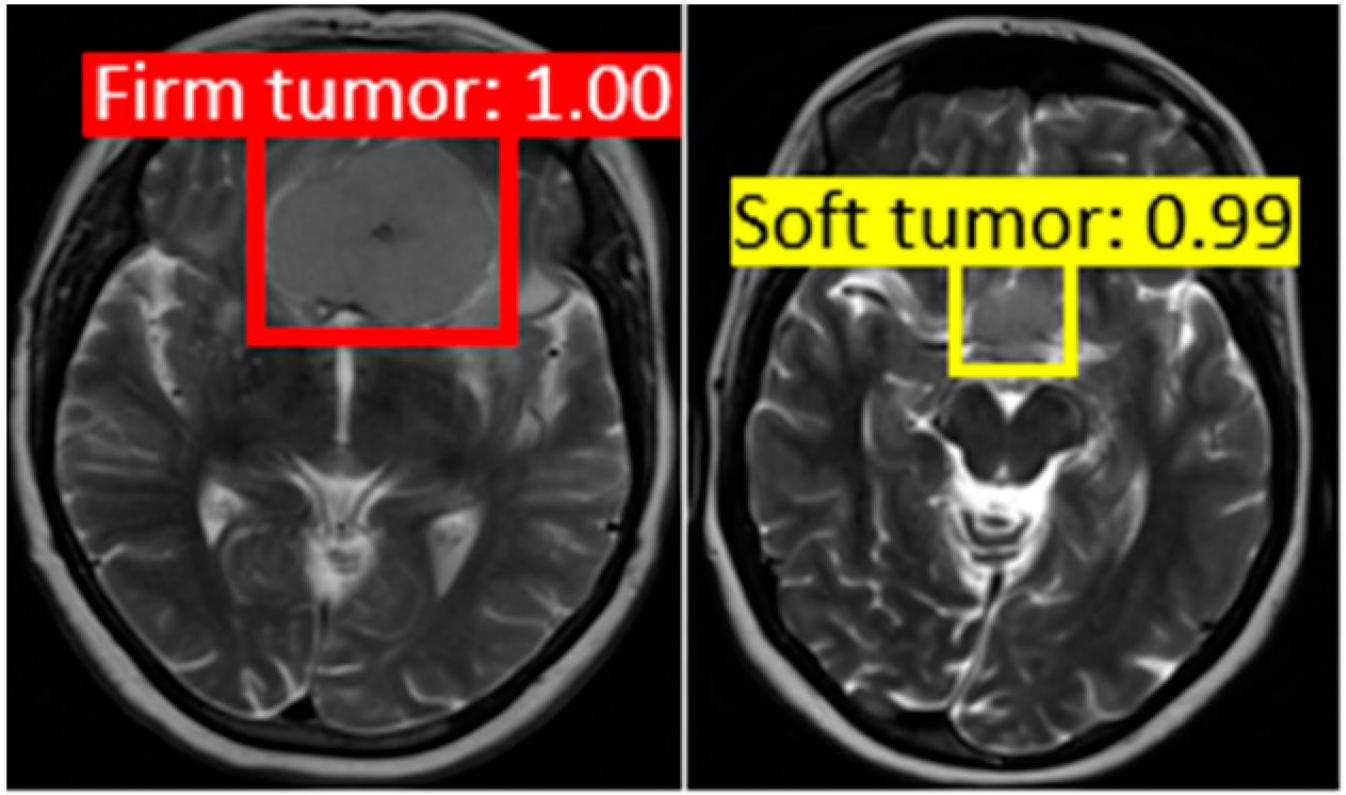
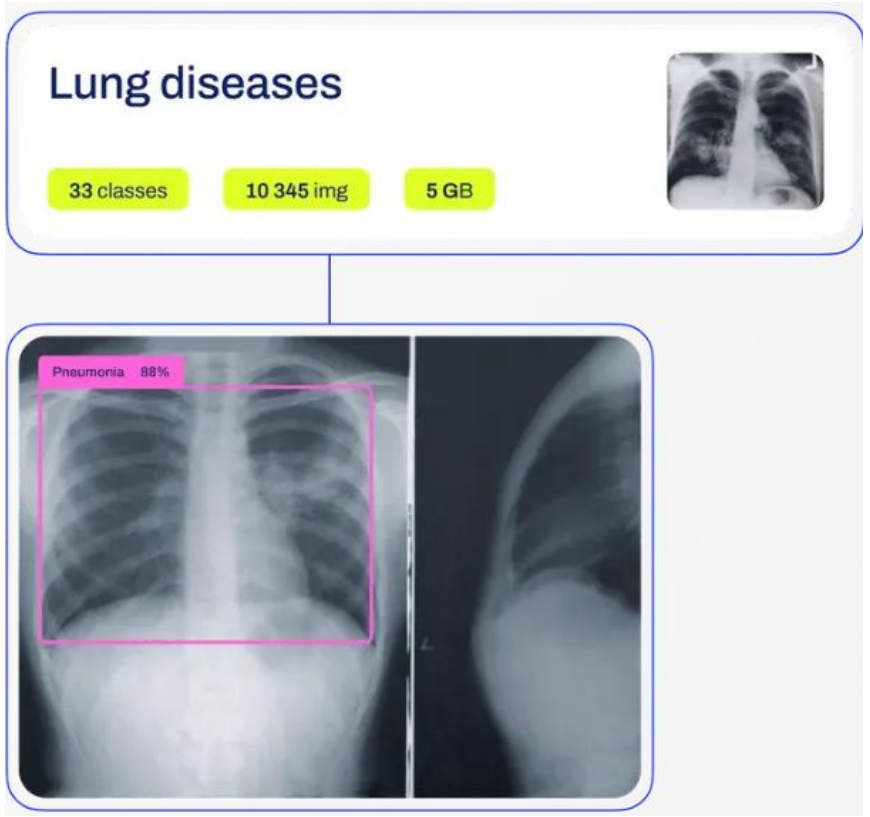
Kesehatan



Deteksi Tumor



Deteksi Penyakit Paru-paru

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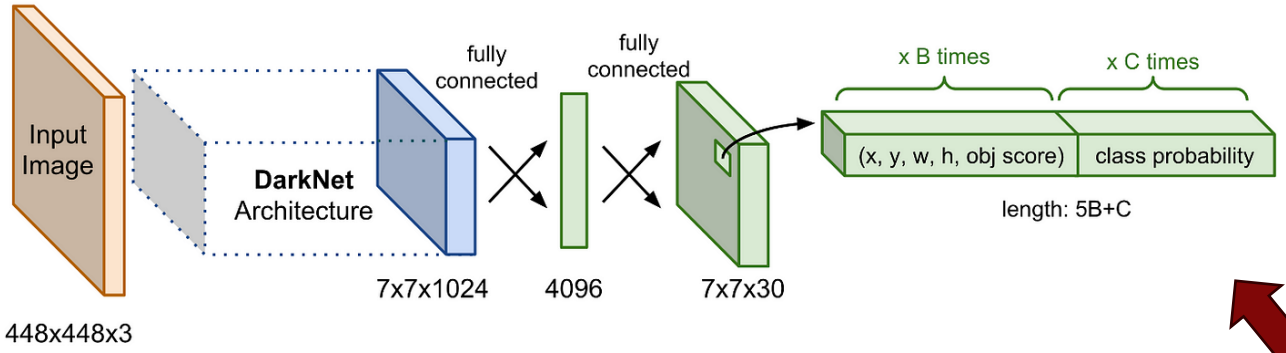
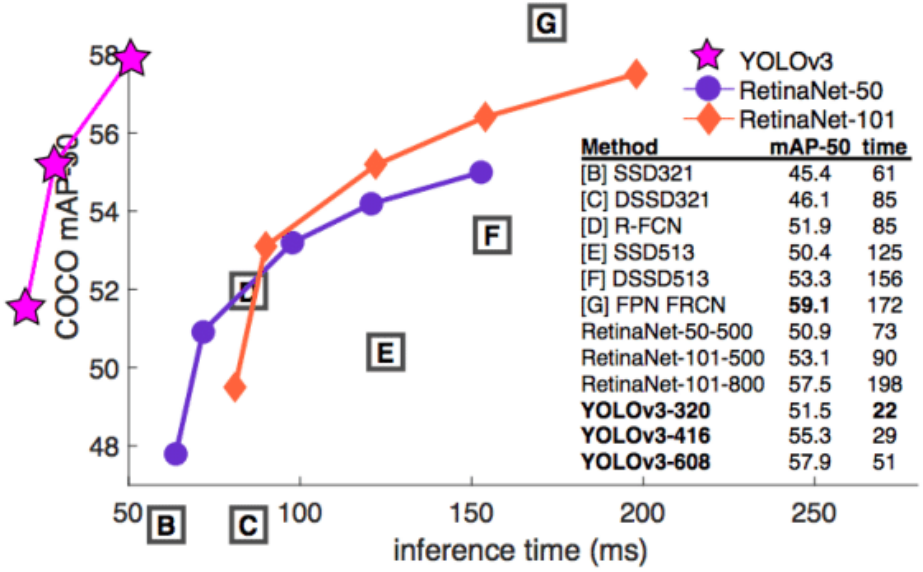
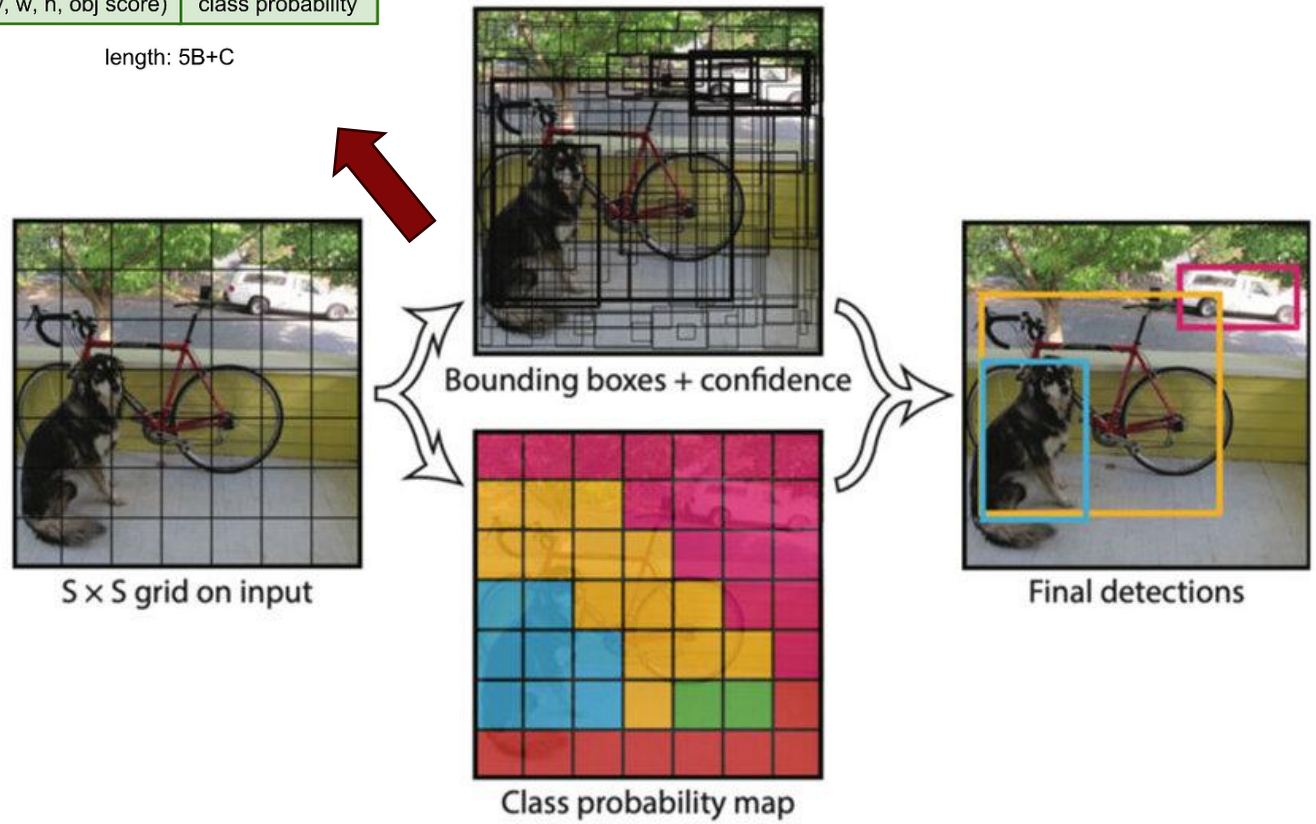


Deep Learning



Method	mAP-50	time
[B] SSD321	45.4	61
[C] DSSD321	46.1	85
[D] R-FCN	51.9	85
[E] SSD513	50.4	125
[F] DSSD513	53.3	156
[G] FPN FRCN	**59.1**	172
RetinaNet-50-500	50.9	73
RetinaNet-101-500	53.1	90
RetinaNet-101-800	57.5	198
YOLOv3-320	51.5	**22**
YOLOv3-416	55.3	29
YOLOv3-608	57.9	51



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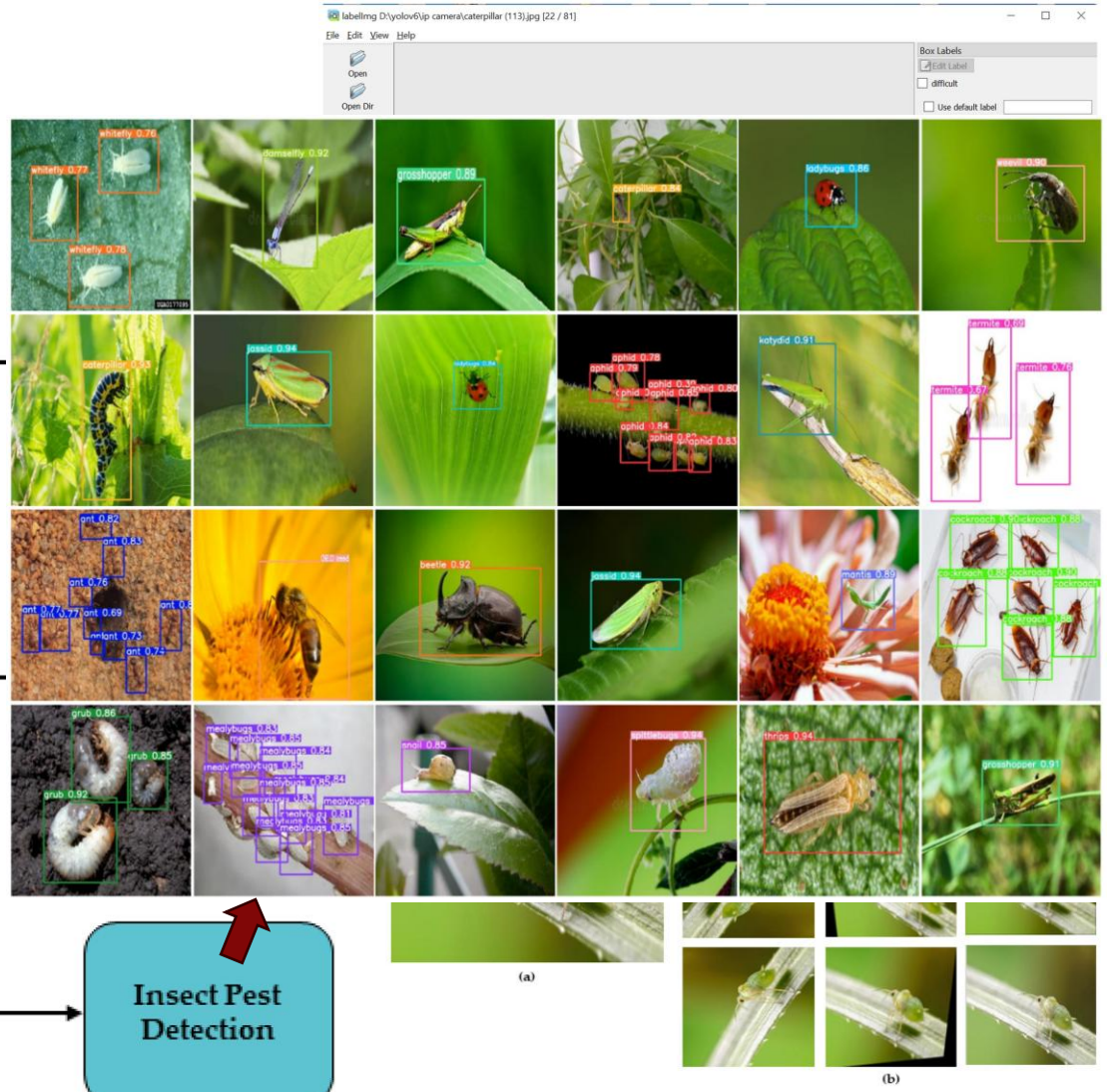
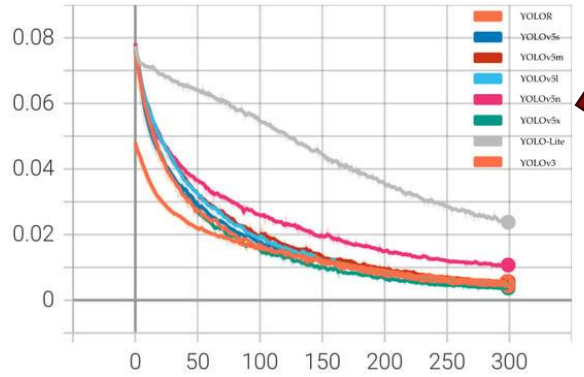
Insect Pest images dataset

Images annotation





Trained Models Evaluation

YOLO Training

Training Objective achieved

No

Yes

Insect Pest Detection

Eksperimen

Eksperimen (https://cit.to/STEMWorkshop/YOLO)yang akan dilakukan:

- Deteksi objek menggunakan YOLO pada gambar dan video
- Deteksi objek menggunakan YOLO secara *realtime*
- Deteksi objek menggunakan Roboflow API
- Latihan deteksi objek menggunakan Roboflow API

https://cit.to/STEMWorkshop/YOLO

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https://cit.to/FEEDBACK/AYC

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Terima Kasih
Tuhan Memberkati