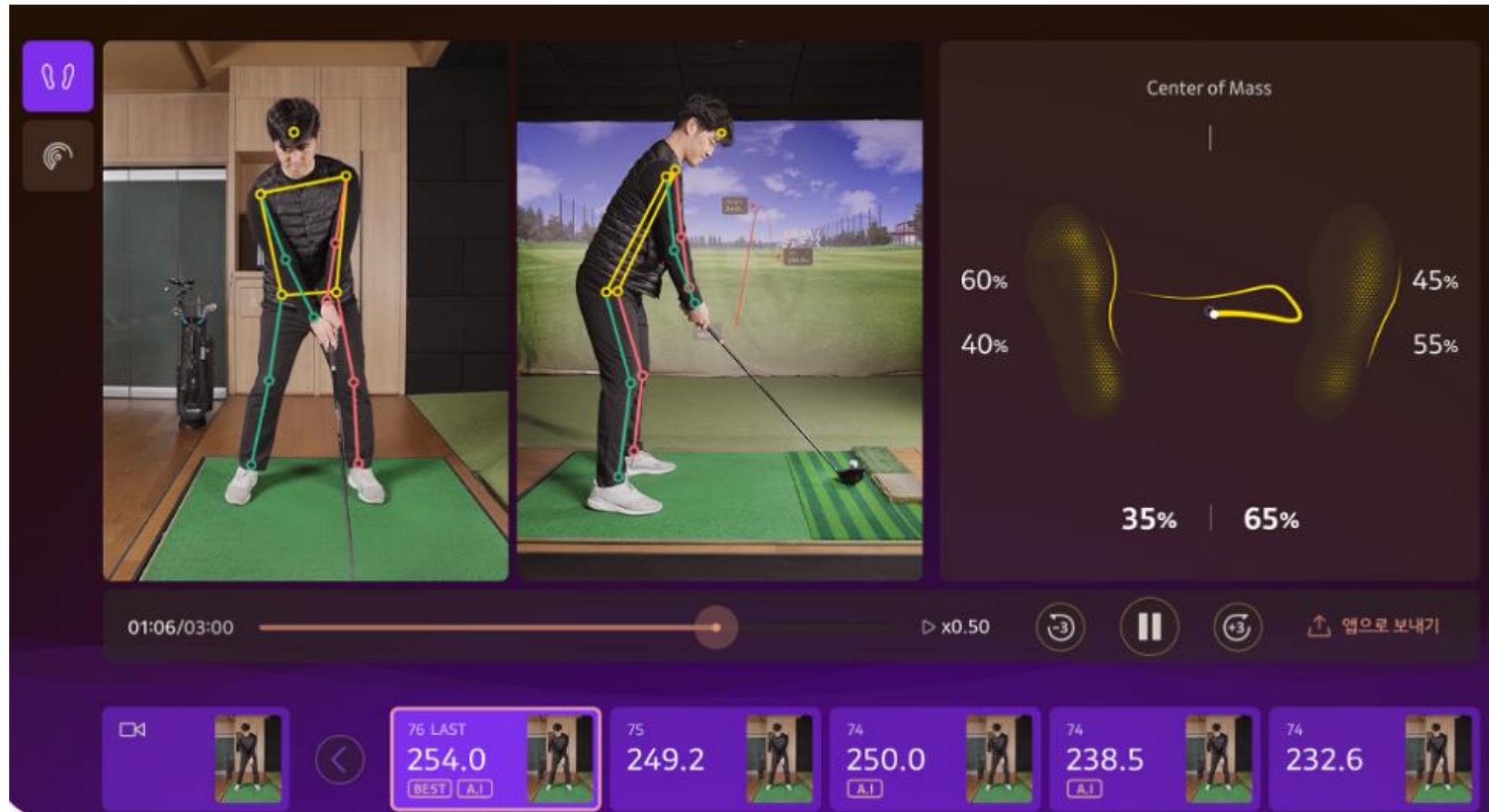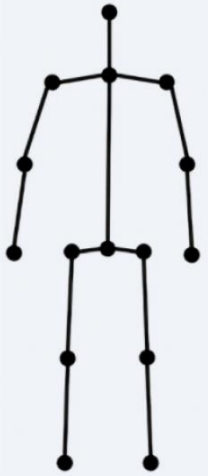# 자세 추정 (Pose Estimation)

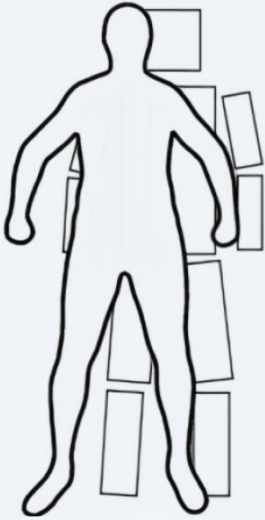박 경 규

자세 추정 (Pose Estimation)

자세 추정 (Pose Estimation)

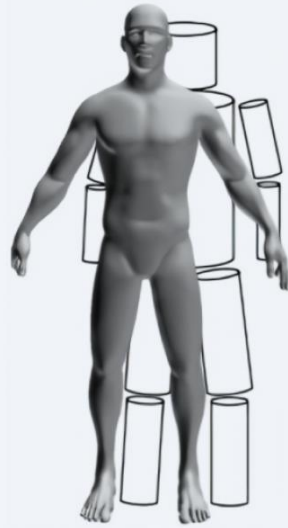**Human Body Models**

Skeleton-based model

Contour-based model
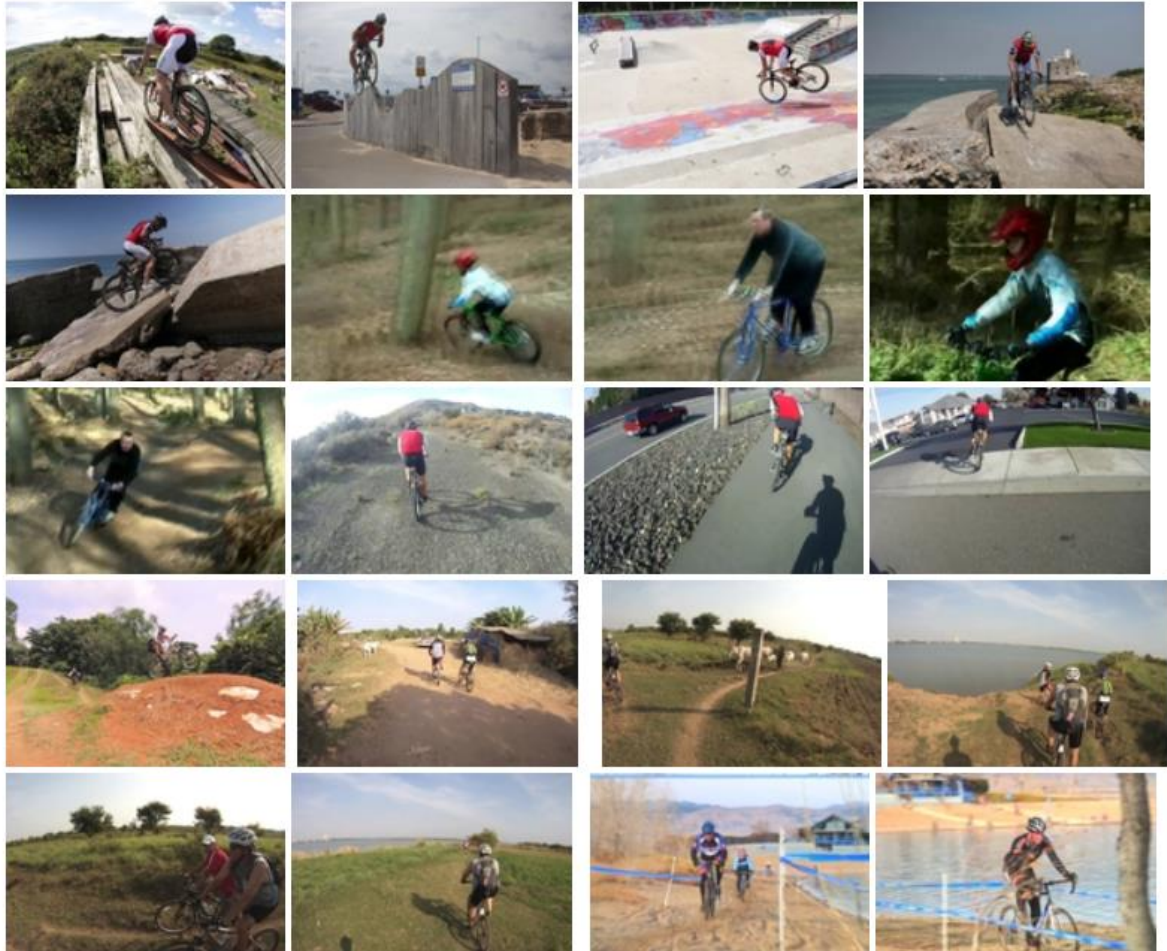
Volume-based model

MPII Model

Activity Categories	Activities
bicycling	bicycling, BMX (112) - 454
conditioning exercise	bicycling, general (75) - 841
dancing	bicycling, mountain (255) - 840
fishing and hunting	bicycling, racing and road (186) - 842
home activities	unicycling (34) - 200
home repair	
inactivity quiet/light	
lawn and garden	
miscellaneous	
music playing	
occupation	
religious activities	
running	
self care	
sports	
transportation	
volunteer activities	
walking	
water activities	
winter activities	

MPII Model

224 x 224 x 3   224 x 224 x 64

112 x 112 x 128

56 x 56 x 256

28 x 28 x 512

14 x 14 x 512

7 x 7 x 512

1 x 1 x 4096   1 x 1 x 1000

1,2

3,4

5,6,7

8,9,10

11,12,13

14   15   16   softmax

convolution+ReLU
max pooling
fully nected+ReLU
softmax
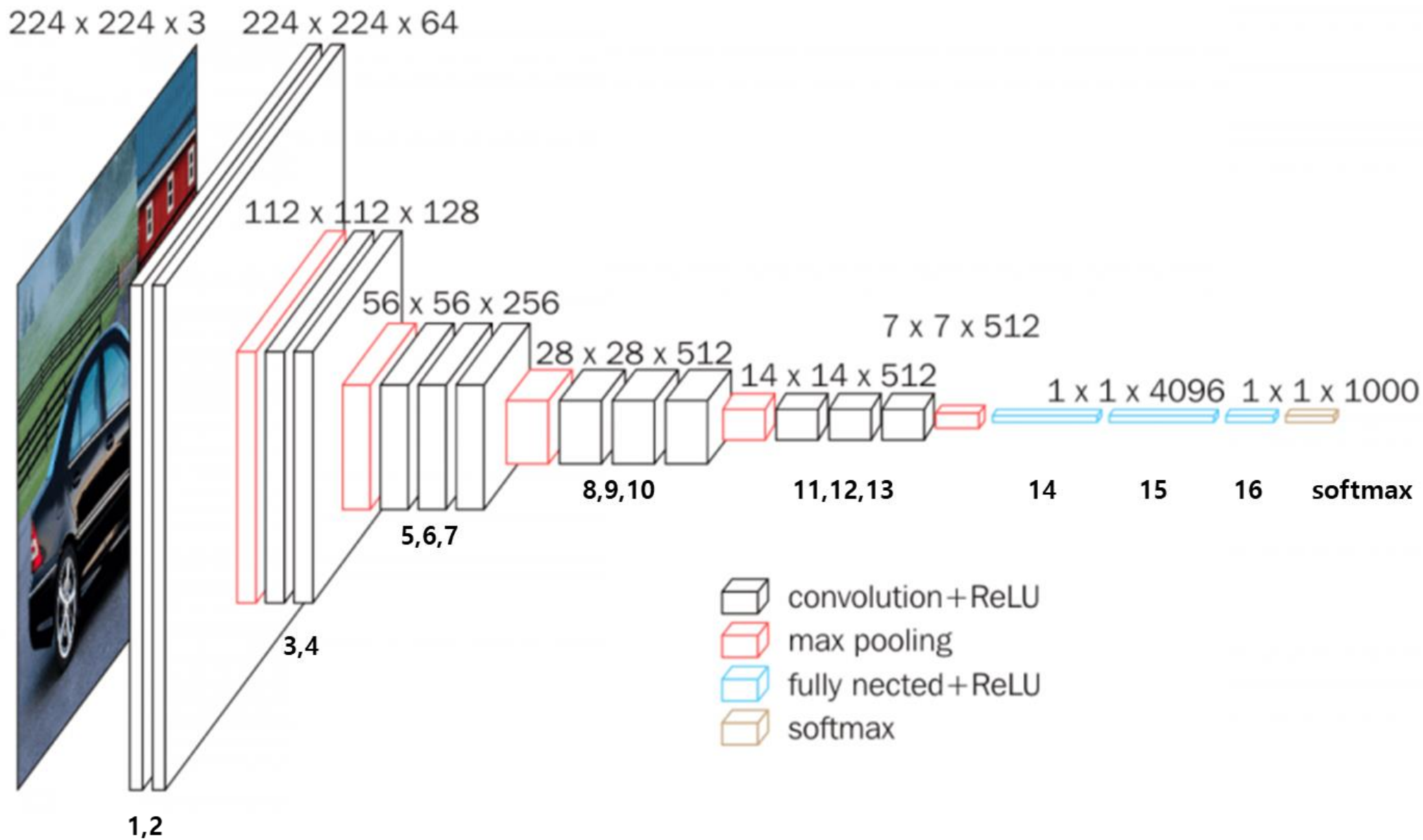
MPII – Body Points

0	Head
1	Neck
2	Right shoulder
3	Right elbow
4	Right wrist
5	Left shoulder
6	Left elbow
7	Left wrist

8	Right hip
9	Right knee
10	Right ankle
11	Left hip
12	Left knee
13	Left ankle
14	Chest
15	Background
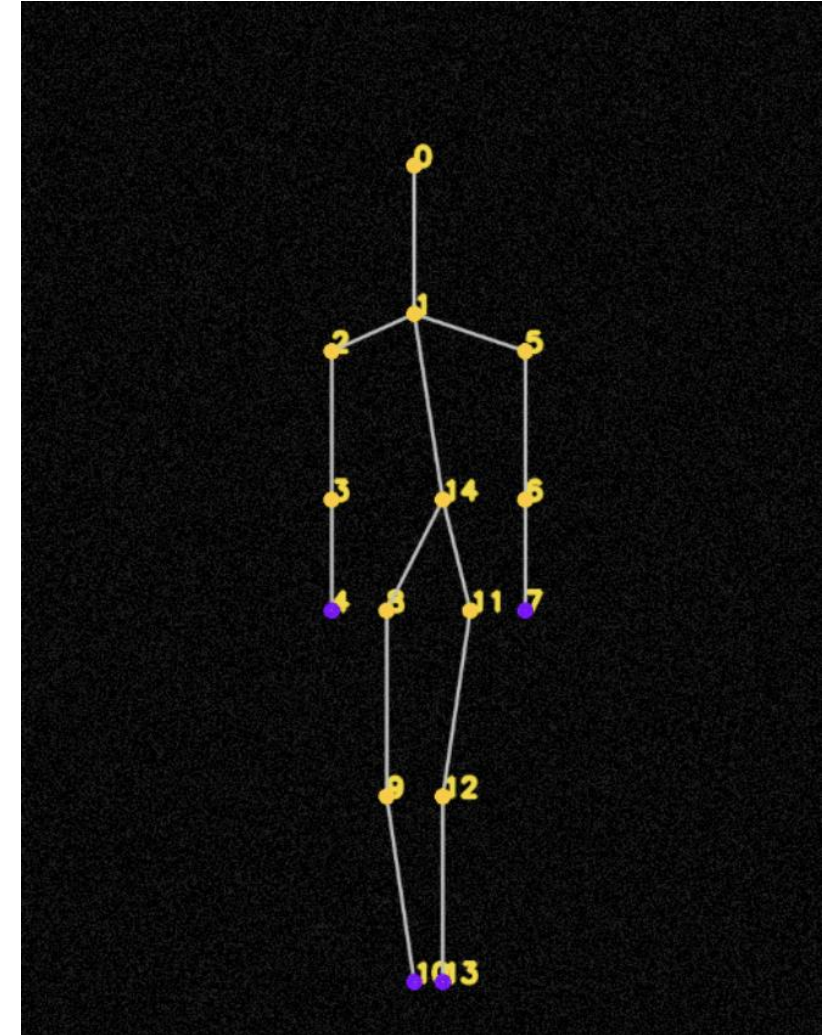
자세 추정 실습

pose_estimation.ipynb

MediaPipe

HUMAN POSE ESTIMATION
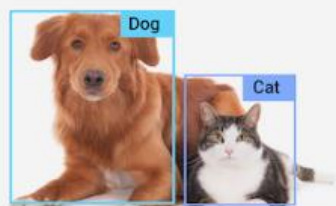
YOLOv7   FPS : 6.71

MediaPipe FPS : 9.02

VS

LearnOpenCV.com
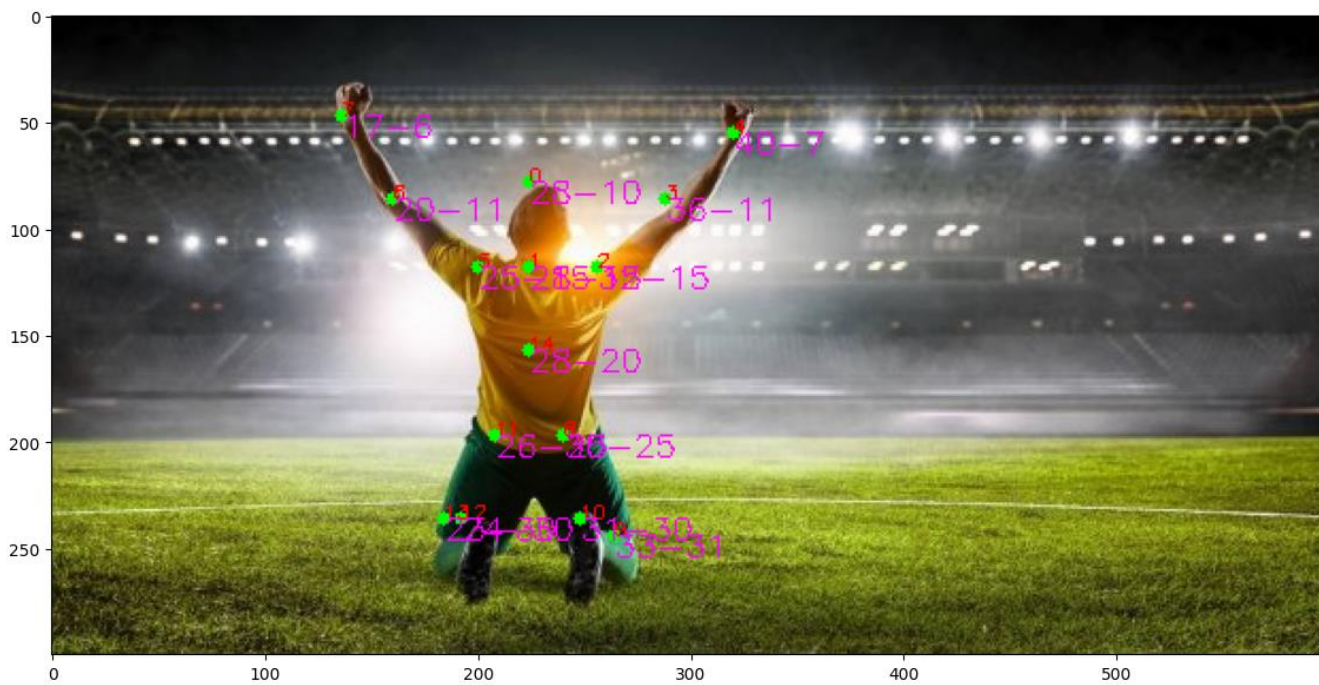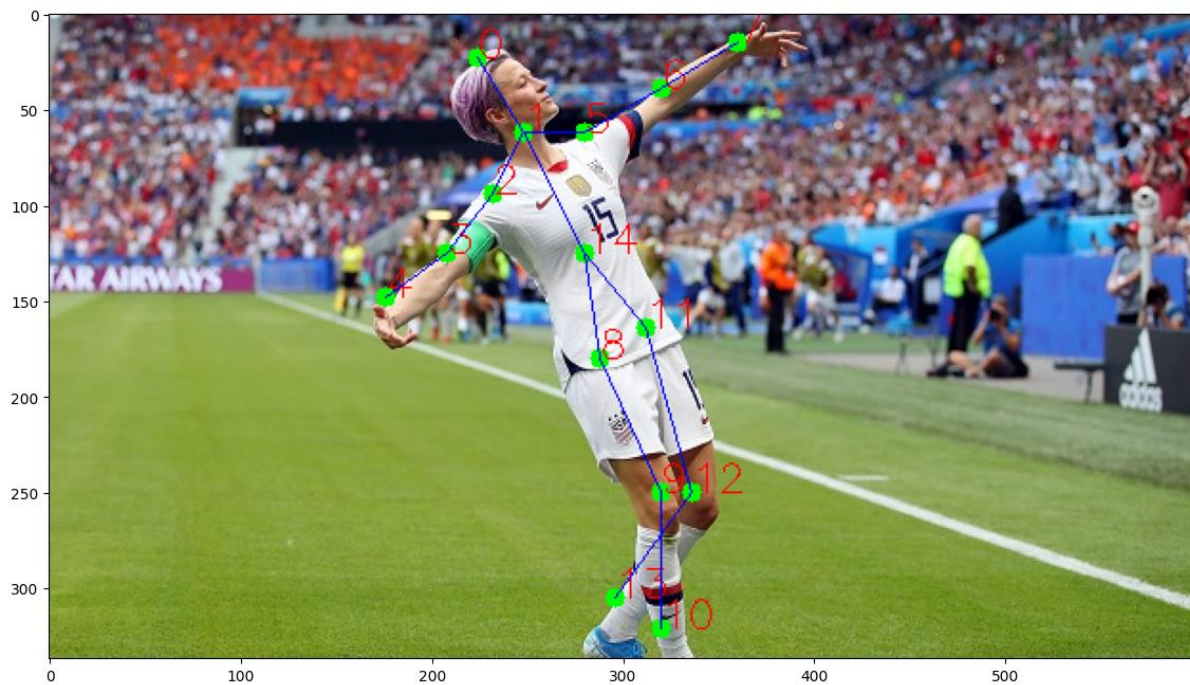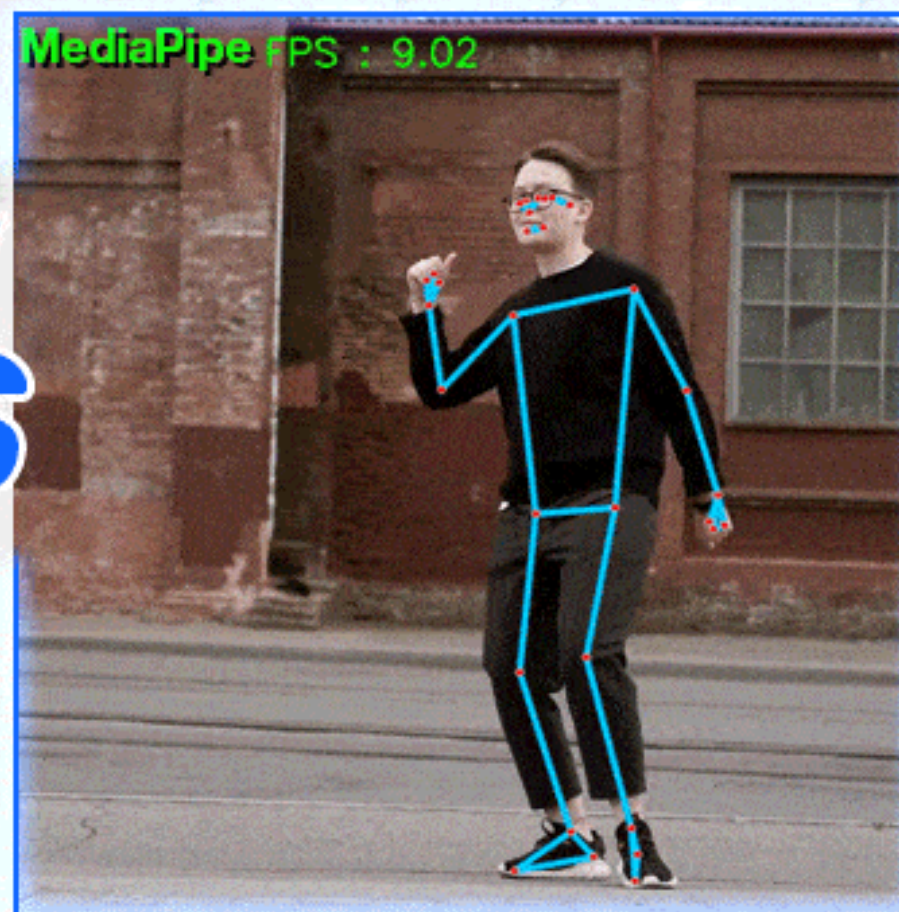
MediaPipe

Object Detection
Track and label objects in images.

See demo | Customize

Image Classification
Identify content in images.

See demo | Customize

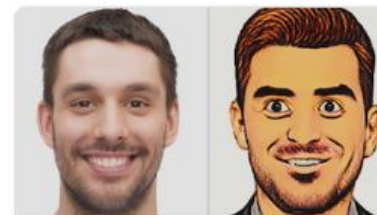**Image Segmentation**
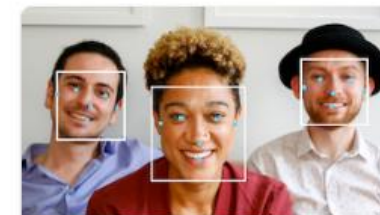Locate objects and create image masks with labels.

See demo

Image Embedding
Convert images into embedding vectors.

See demo

Face Stylization
Stylize faces in an image.

See demo

Face Detection
Detect faces in real time.

See demo

Interactive Segmentation
Segment the object of interest in an image.

See demo

Gesture Recognition
Identify and recognize hand gestures.

See demo | Customize

Hand Landmark Detection
Detect hand landmarks.

See demo

Face Landmark Detection
Detect face landmarks and blendshape scores in real time.

See demo

Pose Landmark Detection
Identify key points on the body in real time.

See demo

THANK YOU

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