school of ai

Meet Up #10

Tensorflowjs

Run existing models

Use off-the-shelf JavaScript models or convert Python TensorFlow models to run in the browser or under Node.js.

Retrain existing models

Retrain pre-existing ML models using your own data.

TensorFlow Install Learn API Resources Community Why TensorFlow

PoseNet

A machine learning model which allows for real-time human pose estimation in the browser.

View code

BodyPix

Real-time person and body part segmentation in the browser using TensorFlow.js.

View code

Toxicity

Score the perceived impact a comment might have on a conversation, from "Very toxic" to "Very healthy".

View code

Universal sentence encoder

Encode text into an embedding to be used as inputs to natural language processing tasks such as sentiment classification and textual similarity.

View code

Coco SSD

Object detection model that aims to localize and identify multiple objects in a single image.

View code

Speech commands

Classify 1 second audio snippets from the speech commands dataset.

View code

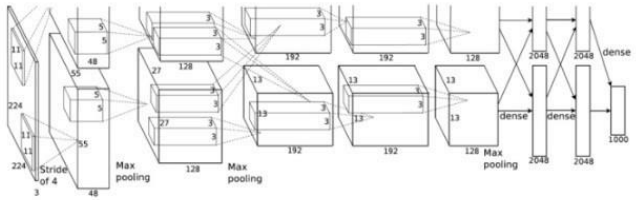
KNN Classifier

This package provides a utility for creating a classifier using the K-Nearest Neighbors algorithm. Can be used

MobileNet

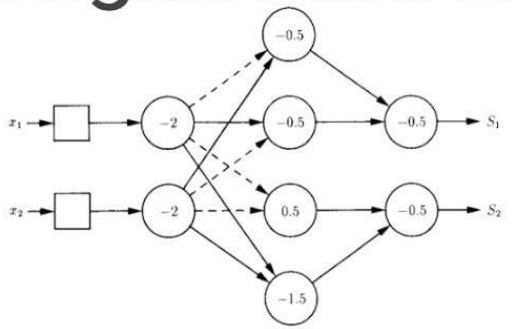
Classify images with labels from the ImageNet database.

Model file



The architecture of your model

Weights manifest



Where to find the weights

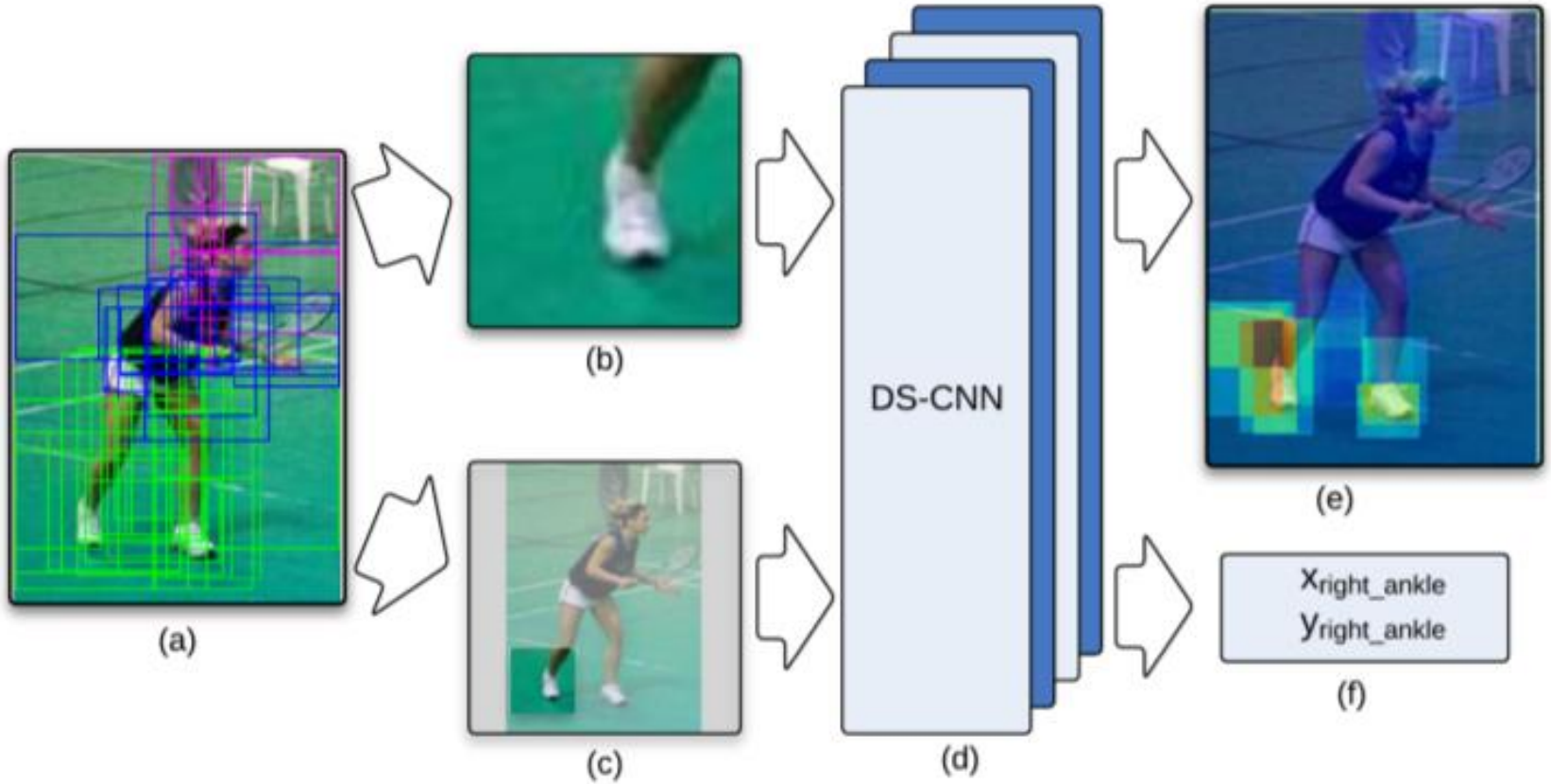
```
import * as tdc from '@tensorflow/tfjs-core';
import { loadFrozenModel } from '@tensorflow/tfjs-converter';
import { IMAGENET_CLASSES } from './imagenet_classes';
const MODEL_URL = '/models/mobilenet/optimized_model.pb';
const WEIGHTS_URL = '/models/mobilenet/weights_manifest.json';
const INPUT_NODE_NAME = 'input';
const OUTPUT_NODE_NAME = 'MobilenetV1/Predictions/Reshape_1';
const PREPROCESS_DIVIDOR = tfc.scalar(255 / 2);
export defualt class MobileNet {
async load () {
this.model = await loadFrozenModel(MODEL_URL, WEIGHTS_URL);
```

POSENET DEMO

- https://storage.googleapis.com/tfjs-models/demos/posenet/camera.html

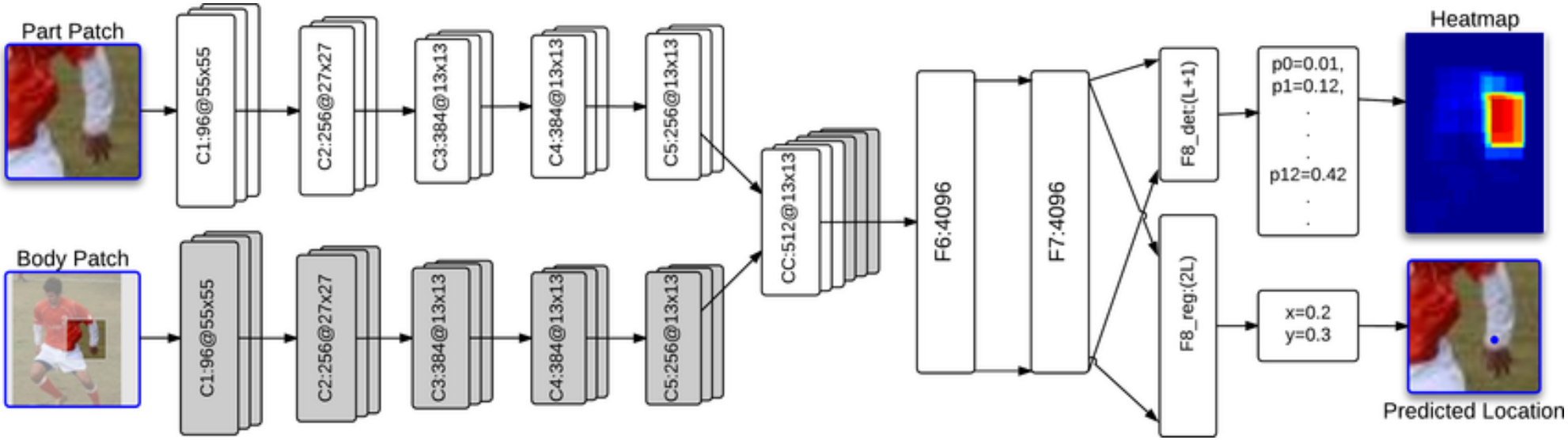
BODY-PIX

https://storage.googleapis.com/tfjs-models/demos/body-pix/index.html



Combining Local Appearance and Holistic View: Dual-Source Deep Neural Networks for Human Pose Estimation

Xiaochuan Fan, Kang Zheng, Yuewei Lin, Song Wang https://arxiv.org/abs/1504.07159



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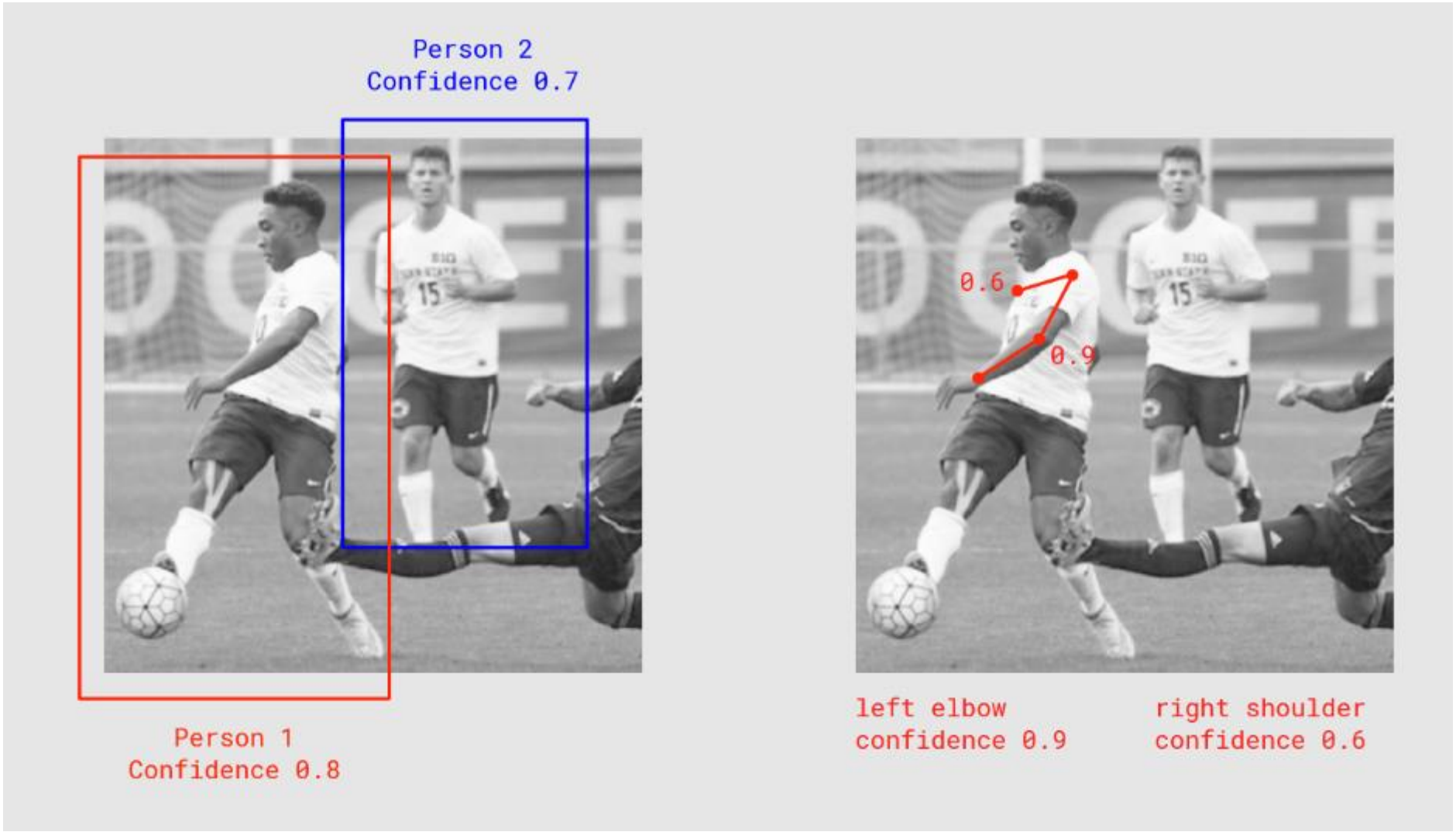
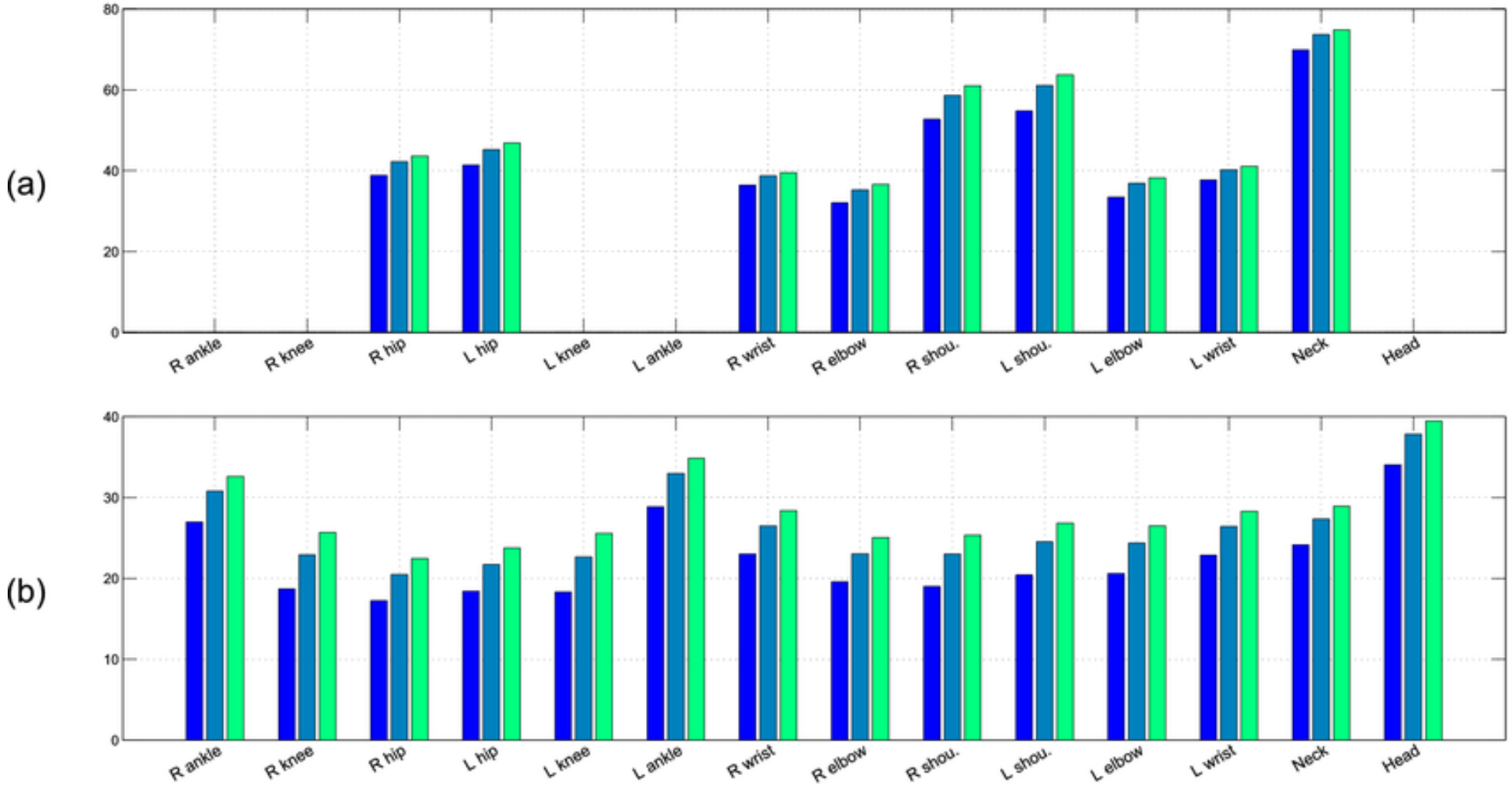
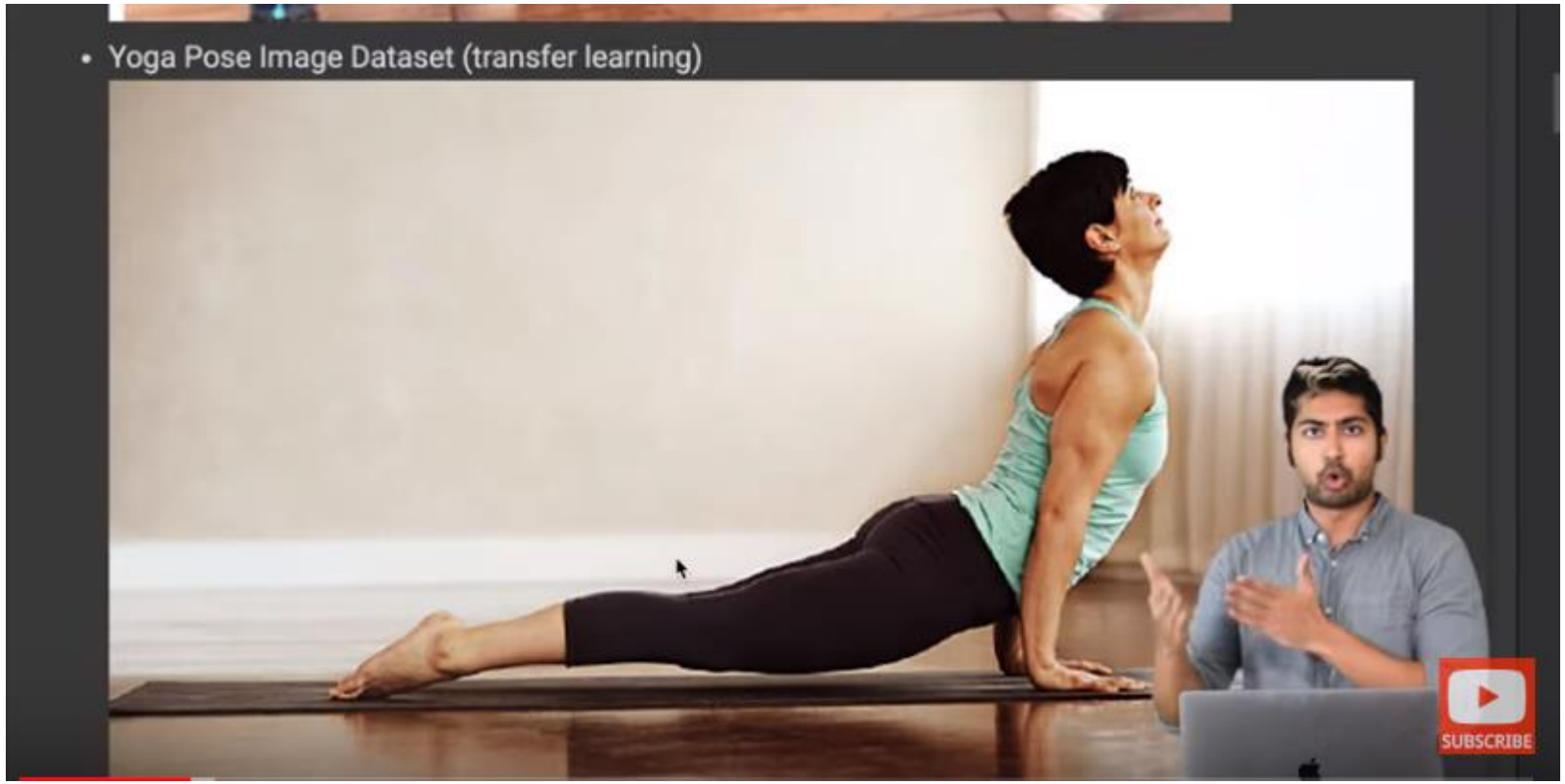

Person 2
Confidence 0.7
Person 1
Confidence 0.8
0.6
0.9
left elbow
confidence 0.9
right shoulder
confidence 0.6


(a)
80
60
40
20
0
R ankle
R knee
R hip
L hip
L knee
L ankle
R wrist
R elbow
R shou.
L shou.
L elbow
L wrist
Neck
Head
(b)
40
30
20
10
0
R ankle
R knee
R hip
L hip
L knee
L ankle
R wrist
R elbow
R shou.
L shou.
L elbow
L wrist
Neck
Head

YOLO

https://modeldepot.github.io/tfjs-yolo-tiny-demo/



https://www.youtube.com/watch?v=b8xlCNzkX5w