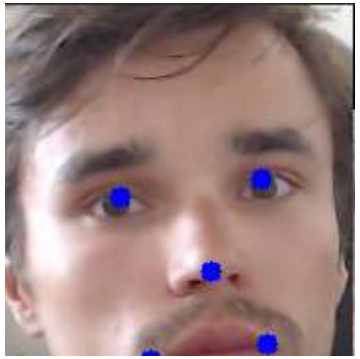
landmarks-regression-retail-0009

Use Case and High-Level Description

This is a lightweight landmarks regressor for the Smart Classroom scenario. It has a stacked 3x3 convolutions, batch normalizations, PReLU activations, and poolings. Fi global depthwise pooling head and FullyConnected layers. The model predicts five fa and two lip corners.

Example



Specification

METRIC	
Mean Normed Error (on VGGFace2)	
Face location requirements	
GFlops	
MParams	
Source framework	PyTorch*

Normed Error (NE) for i^{th} sample has the following form:

$$\epsilon_i = \frac{1}{N} \sum_{k=0}^{N-1} \frac{\left\| \hat{\vec{p}}_{i,k} - \vec{p}_{i,k} \right\|_2}{d_i}$$

Tools

Intel Pre-Trained Models

Object Detection Models

Object Recognition Models

age-gender-recognition-retail-0013

head-pose-estimation-adas-0001

license-plate-recognition-barrier-0001

vehicle-attributes-recognition-barrier-0039

vehicle-attributes-recognition-barrier-0042

emotions-recognition-retail-0003

landmarks-regression-retail-0009

facial-landmarks-35-adas-0002

where N is the number of landmarks, *p*-hat and *p* are, correspondingly, the prediction and ground truth vectors of k^{th} landmark of i^{th} sample, and d_i is the interocular distance for i^{th} sample.

Performance

Inputs

Name: "data" , shape: [1x3x48x48] - An input image in the format [BxCxHxW], where:

- B - batch size
- C - number of channels
- H - image height
- W - image width

The expected color order is BGR.

Outputs

1. The net outputs a blob with the shape: [1, 10], containing a row-vector of 10 floating point values for five landmarks coordinates in the form (x0, y0, x1, y1, ..., x5, y5). All the coordinates are normalized to be in range [0,1].

IN THIS DOCUMENT

Legal Information

[*] Other names and brands may be claimed as the property of others.

Tools

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