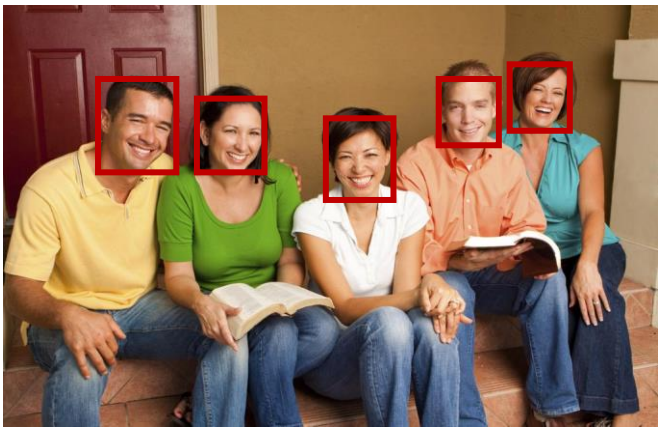
MODEL CARD

Face Detection

Model Details

The model has approximately 1.8 MB parameters. It is a facial detection model trained using YOLOv5, specifically designed for a single class – "Face." The model is capable of real-time inference, capturing images from a webcam and providing inference. On the VA8801 device, the inference time is about 160 ms, equivalent to 6.25 frames per second (FPS), with an accuracy exceeding 90%



Detection of multiple facial regions within red boxes.

Model Specifications

Model Type : Convolutional Neural Network

Model Architecture : Yolov5n with customized backbone for VA8801

Input : 3*320*320

Output : [class,x0,y0,x1,y1]

Class : Face

Application

Facial detection products: Computer anti-spy system, smile detection, and beauty retouching.

Application example: Faces can be extracted from images and input into models such as smile detection or beauty retouching.

Limitation

(1) According to commercially available lenses with a diagonal field of view (dFoV) ranging from 70 to 80 degrees, the distance should be within 1 to 4 meters.

(2) Illumination levels below 30 lux are not supported, and exposure may impact image recall.

(3) Pose (yaw) : Supports profile faces up to a 60-degree angle.

(4) Pose (pitch) : Supports a pitch angle ranging from -20 to +20 degrees.

(5) Pose (roll) : The head can tilt up to 15 degrees to the left or right.

(6) Unclear facial features or obscured eyes may hinder detection.

Training Data

COCO-human and Fitipower Face Data with GC0308

Total : about 600 images

- Reference

  https://cocodataset.org/#home

  https://clipart-library.com/groups-of-people.html