Project 1

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APP 1

- Number Predictor

Develop an app that can tell easily a combination of handwritten number images

Train dataset from digits.png using KNN
k = 4
Accuracy: 93.94%

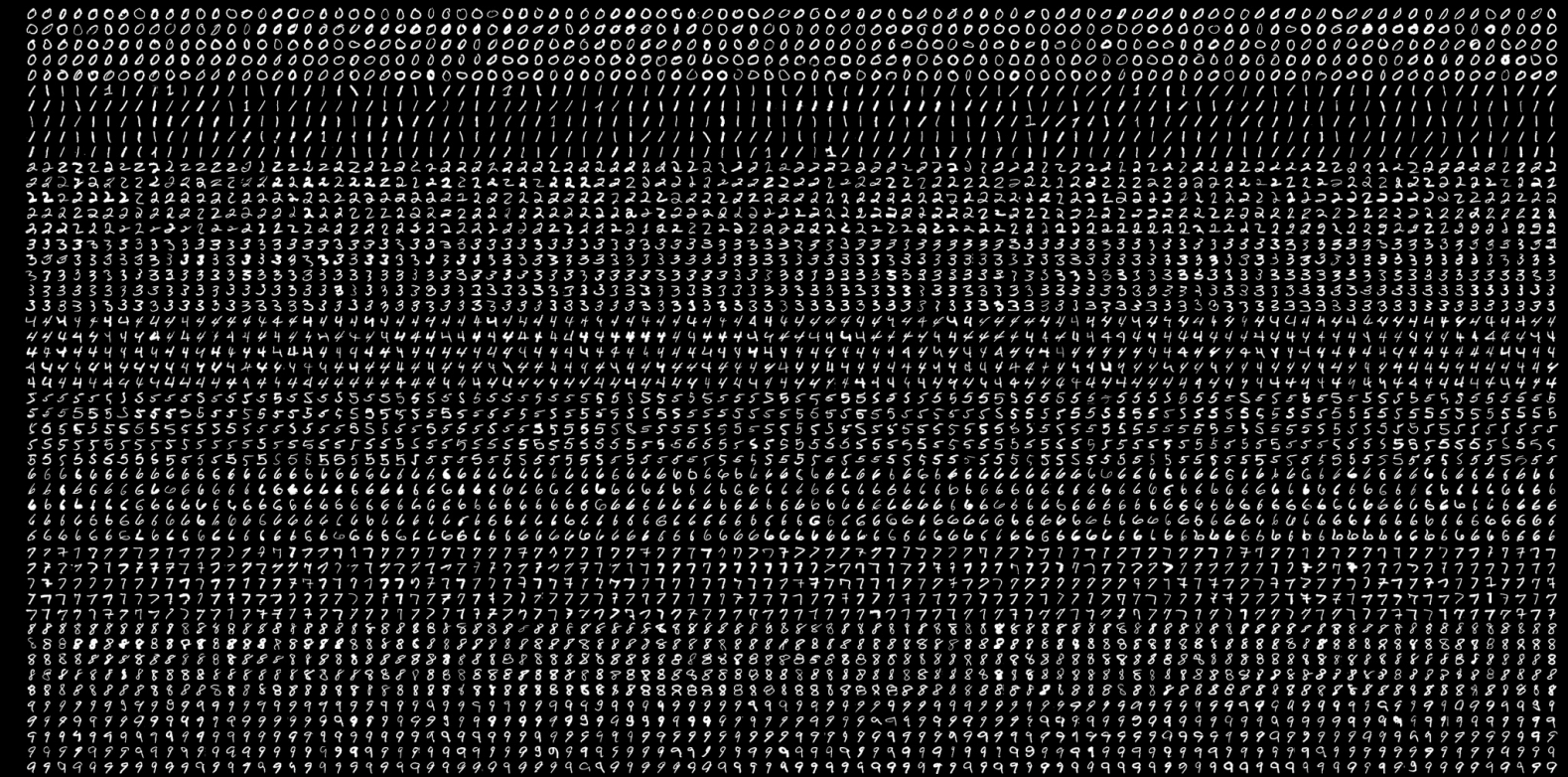
Getting input number from user (range 2-4)

Generate new image based on user input

Predict the accuracy of user input based on KNN model

Result

- Most of the time the model has 100% accuracy



APP 2
- Face Recognition

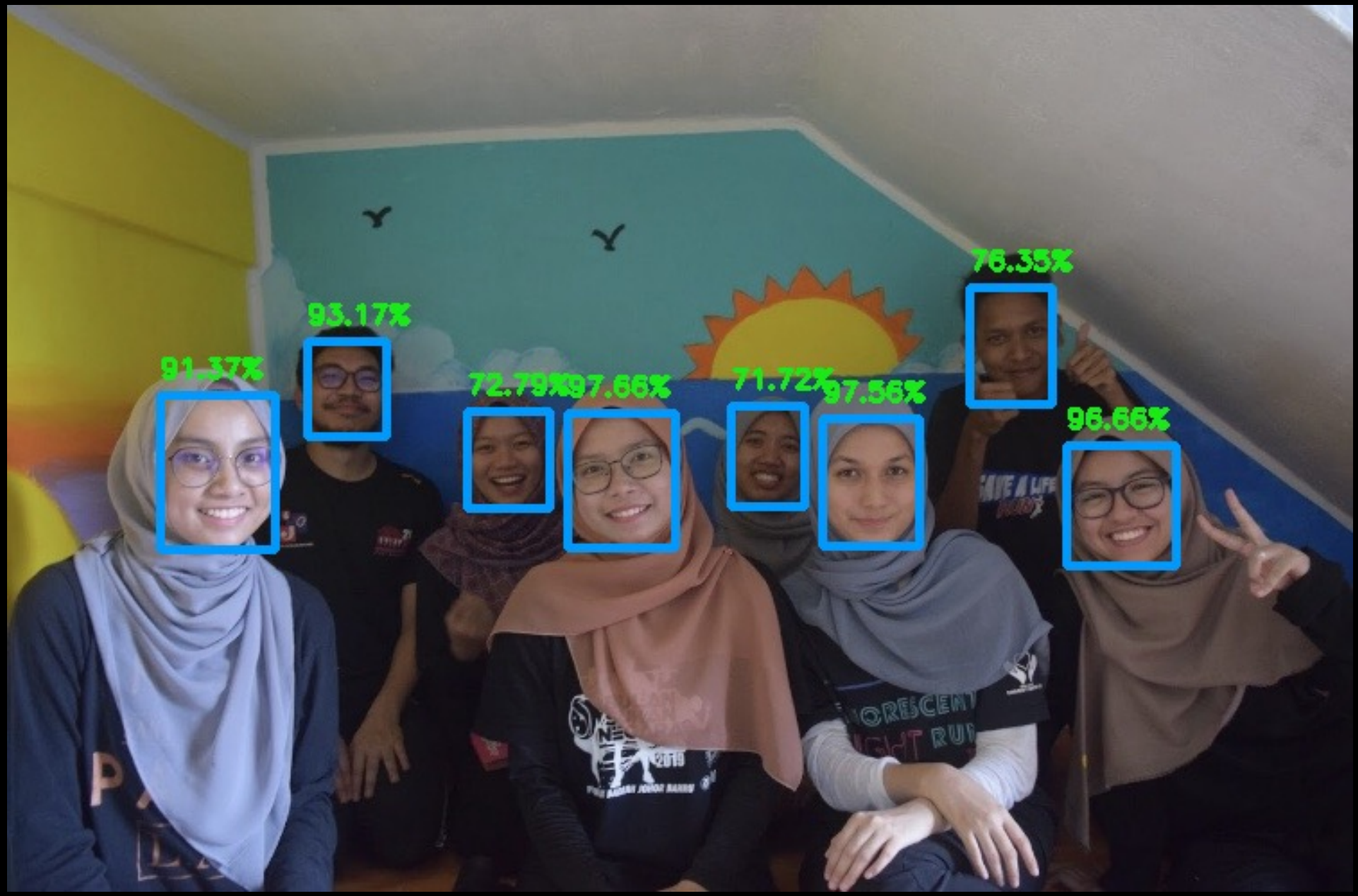
Part 1: Face Recognition based on image

Load image

Apply tensorflow model on image for face recognition

Use confidence threshold of 0.7

Save the image


91.37%
93.17%
72.79%
97.66%
71.72%
97.56%
76.35%
96.66%

Part 2: Face Recognition based on saved video

Load a video

Load sample images to let the model recognizes each face in video

Apply the face_recognition module function for face_encoding

Save video

Result

- The model can hardly recognizes faces when the person is moving or their faces is covered even slightly

Part 3: Face Recognition based on webcam

Send filepath to webcam

Load Haarcascade model for face detection and eyes detection

Apply face_landmark 68 function from face_recognition module

Save the video

Result

- Face sometimes cannot be detected when some part of the face is covered
- Able to detect eyes with glasses on