

AGEING SIGN DETECTION PROJECT

USER GUIDE

BATCH - 20
VERZEO - MAJOR PROJECT

Problem Objective

The Major Project mainly focuses on building an Aging Signs Detection Model that can detect and localize the following signs of aging from the facial image of a person – Wrinkles & Dark Spots.

Method of Approach

- Specific folders have been created to store data comprising of pre-trained models, datasets and other important details and information which have been used to train and build the final model for the detection of aging signs.
- The two major Packages that have been installed are – Python and TensorFlow.
- Upon installation of the packages, TensorFlow Object Detection Models are installed.
- The Aging Signs Detection Model is initially built and set up.
- Pre-trained EfficientNet Models that comprise of the codes for the detection of wrinkles, dark spots and puffy eyes are downloaded.
- A Dataset comprising of a combination of Facial Images with a mix of Dark Spots, Wrinkles and Puffy Eyes is introduced for the purpose of analysis, training and testing.
- The following Libraries have been imported:
 - Keras (keras.modules)
 - Numerical Python (NumPy)
 - Open Source Computer Vision (cv2)
 - Python Imaging Library (PIL)
 - System Specific Parameters (sys)
 - Operating System Module (os)
 - Digital Library (dlib)
 - Global Module (glob)
 - Scikit – Image Module
 - Matplotlib

- Model Paths comprising of the code for the pre-trained models, for the detection of Wrinkles and Dark Spots are defined and thus created.
- Deep Learning based Facial Landmark Predictor Model is downloaded, using which specific facial points are marked and are taken into consideration for the Facial Analysis.
- The Facial Analysis process involves the uploading of a facial image onto Google Colab and giving its address as the input, upon which the output is generated which gives information on the localization of Dark Spots and Wrinkles on the given facial image.
- All the cells in the given code have been pre-defined and it is suggested to run them prior to analysis.

USER INSTRUCTIONS

(The user needs to run every cell in the file in order where all the installation of the packages and modules is called)

STEP 1:


Run every cell in the file in order.

All packages & modules are syntactically provided for the user's convenience.

STEP 2:

For providing the input,

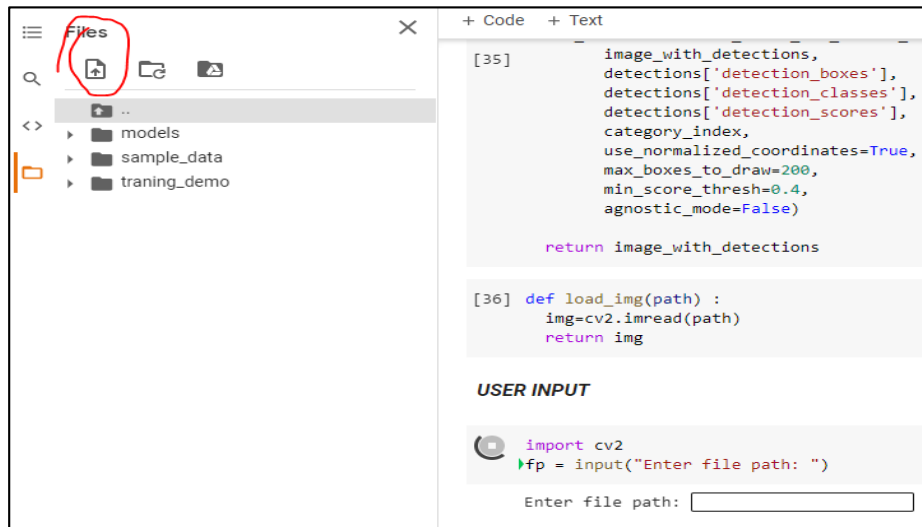
USER INPUT



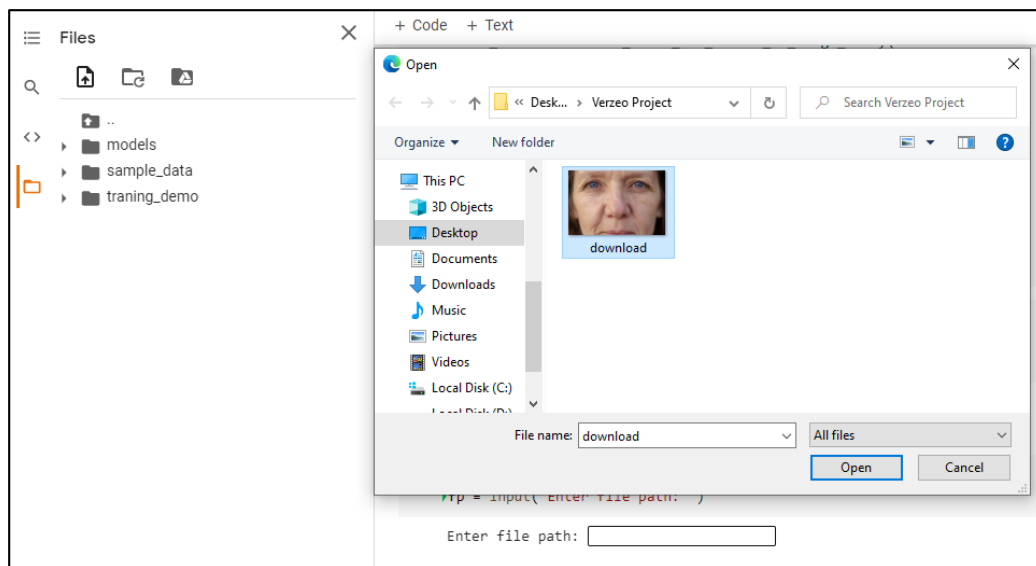
```
import cv2
fp = input("Enter file path: ")
```

Enter file path:

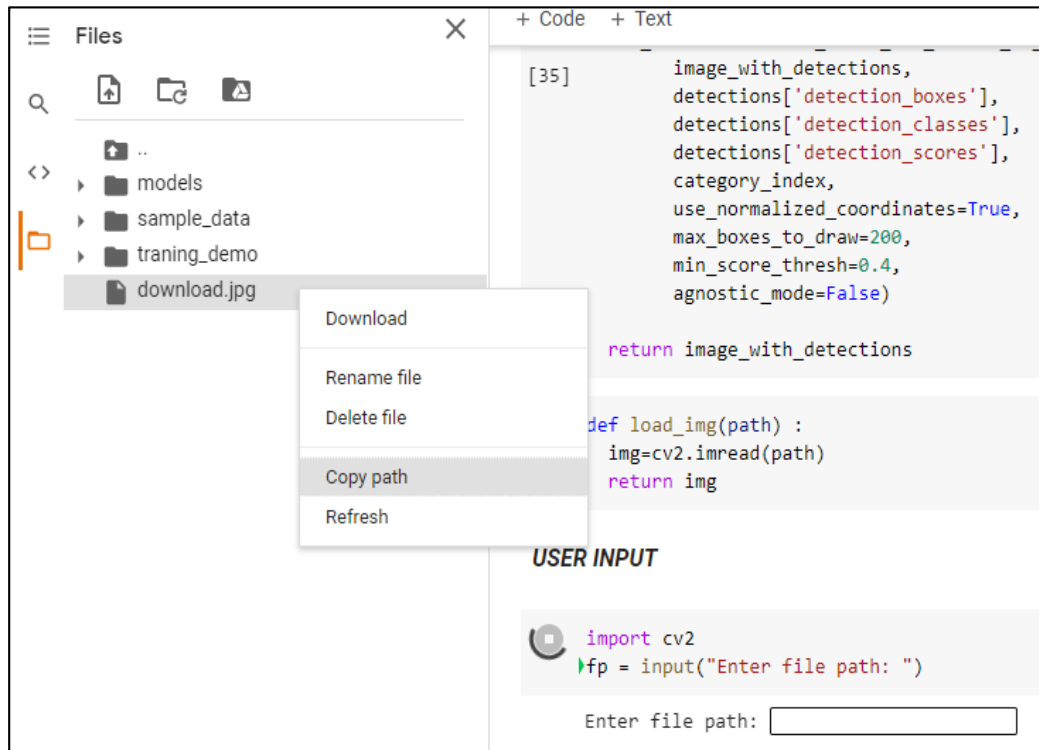
Open folders and click on the Upload icon.



Choose the image to be uploaded.



Copy the file path and paste it in the output.



STEP 3:

Run the next cell and wait for the results.