ALL necessary Links for Object detection, classification and segmentation:

* <https://github.com/roboflow/notebooks>
* <https://github.com/fcakyon/content-moderation-deep-learning#movie-and-content-moderation-datasets>
* <https://github.com/iamshaunjp/flutter-beginners-tutorial> (This is Flutter tutorial not related that much)
* <https://github.com/Hyuto/yolov8-onnxruntime-web> (YOLO v8 object detection application live on browser powered by onnxruntime-web)
* <https://teachablemachine.withgoogle.com/train/image> (Online model just have to annotate the picture and the model will automatically detect class)
* <https://github.com/GoogleCloudPlatform/cloud-vision/tree/master/python> (Google Cloud Platform / cloud Vision)
* <https://github.com/ultralytics/yolov5/> yolov5 github . All the information and code and models available to train test and validate yolov5 models in notebook
* <https://iq.opengenus.org/yolov5/> yolov5 architecture description (Read this to learn about the internal structure of the single stage object detector models like YOLO, SSD etc. models)
* <https://docs.ultralytics.com/datasets/detect/coco/#usage> this is ultralytics coco dataset yaml file
* <https://flask.palletsprojects.com/en/3.0.x/> Flask documentation
* <https://github.com/ultralytics/ultralytics> For YOLOv8 this is the github repo
* <https://www.youtube.com/watch?v=fhzCwJkDONE&t=73s> This is a youtube link for yolov8 object detection on custom dataset
* <https://github.com/HasanChamok/Talent-Pro---Hasan.git> this is my github repositories and I have merged all the files into this github repository
* <https://github.com/facebookresearch/segment-anything> This thing will segment any object from images. As we are working on videos so we can use this in our API as well.
* <https://www.youtube.com/watch?v=aYP4ujUsGdk&ab_channel=RajKapadia> This video is about how we can use this image segmentation.

2-10-2023 🡪 Monday: Introduction

3-10-2023 🡪 Tuesday: Analyzing the fanfare app and finding out the AI-based improvements.

4-10-2023 🡪 Wednesday: Ai suggestions presenting to sir and initially working with images.

5-10-2023 🡪 Thursday: studying the image content moderation apps and APIs and ml models

6-10-2023 🡪 Friday: building and image object detection apps by ML model YOLO.

9-10-2023 🡪 Monday:

* Studying API and how it works in a real scenario.
* Getting stuck with an error and trying to solve it to download dependencies and libraries.

10-10-2023 🡪 Tuesday:

* Learning about how to deploy ML models as an API in Python
* Deploying ML models as public API using ngrok library
* Initially learning about YOLO to detect object

11-10-2023 🡪 Wednesday:

* YOLO Object Detection Using OpenCV And Python || Python Project
* Getting stuck with an error
* Learning the basic of the YOLO model
* Converting the image file into text file format so that it can take the input for the model

12-10-2023 🡪 Thursday:

* Working on the same topic as previous one
* Trying to build dataset using annotation and xml file
* Running the model it will take almost 3 hours to run the model

13-10-2023 🡪 Friday:

* Trying to learn how to convert a model into API
* trying to build normal API using python flask or fast API (Both works)
* Main challenge is getting the image file and then converting the image file into text file for input
* How To Deploy Machine Learning Models Using FastAPI-Deployment Of ML Models As API’s

16-10-2023 🡪 Monday:

* Learning more about the api and how to save the image into the API
* Trying to host the API and finding and also solving the errors in the API
* Api done using Flask but public host not done

17-10-2023 🡪 Tuesday:

* Changing into API and html file
* 2 git repository created for this API one that renders on index.html (link: https://github.com/HasanChamok/ImageDetectionToAPI) file another for direct data fetching(Image) from post man (<https://github.com/HasanChamok/MyBuildDetectionAPI>)
* Trying to do this for videos
* Learning node and express for better output result
* 3 ways to build an API : Flask , Fast Api and pickle (currently I’m using Flask later I will try to use Fast Api and pickle to compare the results)
* Image and Video object detection learning done
* Successfully detected objects from image and video

18-10-2023 🡪 Wednesday:

* Trying to deploy the API into docker and use it on another PC.
* Trying to deploy into Heroku but not possible as it has become paid.
* Trying other available web API key services to use the API on another machine.

19-10-2023 🡪 Thursday:

* Saving all the frames of the image into a ‘saved’ folder   
  code is uploaded in the git hub.
* Learning about yolov8 and its architecture and how it works
* Comparing different models and checking the accuracy and speed of object detection

20-10-2023 🡪 Friday:

* Learning about the internal structure of YOLO to find out the best possible output from dataset
* Trying to run the app in the lower version of python for better performance

23-10-2023 🡪 Monday:

* Python lower version error solved
* Gathered knowledge about environment
* Create an environment before doing any flask project
* Then write this command “pip freeze >> requirements.txt” this command will save all the necessary libraries into the txt file and later it can be used to push the code into github and also no need to push the environment to the repository.

24-10-2023 🡪 Tuesday: (Vacation)

25-10-2023 🡪 Wednesday:

* Used the pre trained yolov8 model named as yolov8n.pt to test data and also building a new api that will do the task in fewer time and in lower version of the python
* <https://github.com/HasanChamok/Video-Detection.git> This is the repository where the codes are saved

26-10-2023 🡪 Thursday:

* Completing the previous and trying to deploy it into public host like zeet or Heroku or render or vercel (Failed to deploy it in the newer version of python that’s why trying the older version of python )
* Learning about neural network which is used to build the yolo models and it will help to understand the yolo model and also optimize the model if necessary.

27-10-2023 🡪 Friday:

* Trying to learn about image classification and building an api for gender and age detection.
* Learning more about Neural Networks and connecting databases to Flask API.

30-10-2023 🡪 Monday:

* Planning for a new project and building a schema.
* Cant do any task due to network issue (No internet and cannot run any file in the google colab because of getting disconnect all the time)

31-10-2023 🡪 Tuesday: Took a leave

1-11-2023 🡪 Wednesday:

* Created own dataset for gender detection as the previous model was very week at detecting genders
* Downloaded more than 1800 images and annotated them

2-11-2023 🡪 Thursday:

* Training done for gender detection model
* It took a lot of time to train the model as it is working with images and needs a good GPU.
* Used online platform like google colab to train the model
* The has a very good accuracy

3-11-2023 🡪 Friday:

* Building an API using the custom dataset trained model from yolo model which was saved to weights folder and the model was named as best.pt
* Trying to use that model to detect male and female gender in images and videos but it is not working again
* Need to find another way of building the API again to make it work
* Also tried to learn about Nest js so that the API can be used with the python api for further use

6-11-2023 🡪 Monday: (Worked from home)

* Tried to do the gender detection on my laptop that was not working in the office laptop
* Worked properly on my computer

7-11-2023 🡪 Tuesday:

* Reseted the laptop and again downloaded all the necessary files again
* Finally the gender detection worked for front face and for both in videos and images

8-11-2023 🡪 Wednesday:

* Preparing dataset for the nudity detection and as this is a classification type detection so I have to do full code from the beginning
* Also downloading other necessary libraries that were deleted during the resetting process of the laptop

9-11-2023 🡪 Thursday:

* Learning web scrapping for downloading image and dataset from web pages that will be necessary for the Nudity detection from Videos.
* Using scrapy which is a build in python library for web scrapping
* First, we have to install the library by the following command
* pip install scrapy
* <https://www.youtube.com/watch?v=mBoX_JCKZTE&ab_channel=freeCodeCamp.org> This is the link for learning scrapy from videos

10-11-2023 🡪 Friday:

* Git cloned all the git repositories and put them into a folder
* Created a new git repo and pushed all the files into that repo so all of my codes are in one repositories now.
* <https://github.com/HasanChamok/Talent-Pro---Hasan.git> this is the GitHub repositories that all the files have been merged to.
* Continuing to learn the scrapy web scraping to collect dataset from web for Nudity detection.

13-11-2023 🡪 Monday:

* Fixing bugs in the codes.
* Presented the full code to Abbas Sir.
* Learning Web scraping for collecting images and dataset for nudity detection and gender proper model and increasing accuracy.

14-11-2023 🡪 Tuesday:

* Prepared the previous gender detection code and all detection code in ‘Gender-Web-Site’ folder.
* Also furnished the API code for both codes.

15-11-2023 🡪 Wednesday:

* Learning about mongo db and how to connect mongo db to flask so that the data can be stored and fetched from the dataset and Do the CRUD operation later.

16-11-2023 🡪 Thursday:

* Skipped learning mongo DB as it is not that much important to store data in mongo DB but it can also be saved in local storage
* Learning web Scraping to scrape data for gender detection of humans (male or female)

17-11-2023 🡪 Friday: (Took a leave due to health issue)

20-11-2023 🡪 Monday:

* Searching for dataset that can be used for Bengali people or the Indian people.
* Prepared the presentation file for presenting to sir.

21-11-2023 🡪 Tuesday:

* Downloaded new Bengali people image of almost 500 data.
* Used web scraping to download the data.
* Created New GitHub repo with final codes, files, website and APIs.
* <https://github.com/HasanChamok/Gender-Deploy.git> This is the Final Repository.

22-11-2023 🡪 Wednesday:

* Training the model with different data cannot do the full data processing with roboflow.
* So installed python library ‘iPython’ and ‘lablelImg’.
* We can label images using labelImg and it is free of cost, but we cannot do augmentation or any preprocessing.

23-11-2023 🡪 Thursday:

* Found out about the SAM model which is segment anything model. We can detect person from a website and then it will help to determine the segmented object from the image or videos. This can be used in various ways in videos as filter.
* Made screen presentation again today.
* Learning about segmentation.