PROJECT OBJECTIVES

Team ID	PNT2022TMID34120
Project Title	AI-based localization and Classification of skin disease with erythema

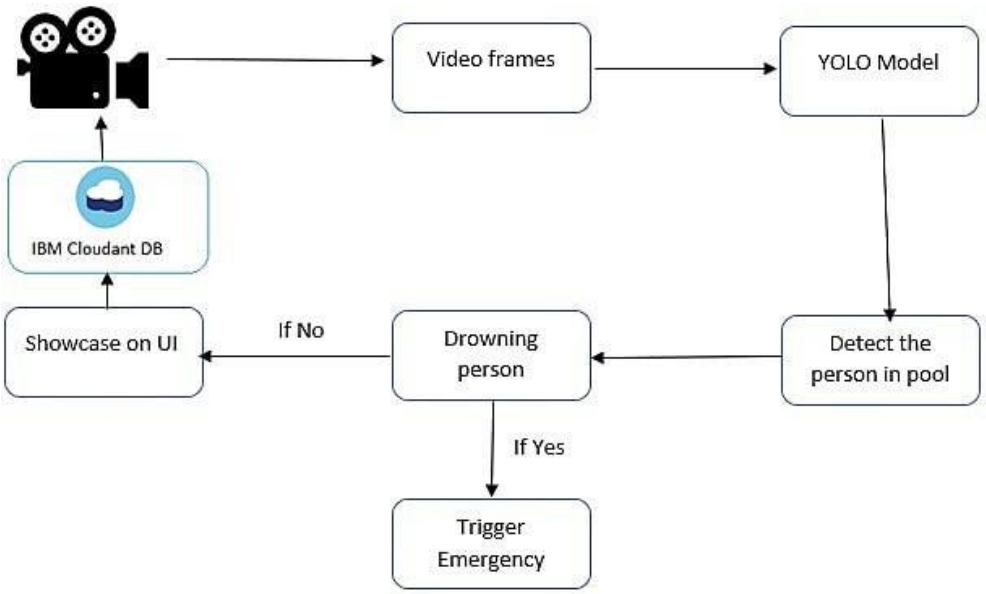
Abstract:

Now a day's people are suffering from skin diseases, More than 125 million people suffering from Psoriasis also skin cancer rate is rapidly increasing over the last few decades especially Melanoma is most diversifying skin cancer. If skin diseases are not treated at an earlier stage, then it may lead to complications in the body including spreading of the infection from one individual to the other. The skin diseases can be prevented by investigating the infected region at an early stage . The characteristic of the skin images is that the diversified so that it is a challenging job to devise an efficient and robust algorithm for automatic detection of skin diseases and its severity. Skin tone and skin color play an important role in skin disease detection. Color and coarseness of skin are visually different. Automatic processing of such images for skin analysis requires quantitative discriminator to differentiate the diseases.

To overcome the above problem we are building a model which is used for the prevention and early detection of skin cancer, psoriasis. Basically, skin disease diagnosis depends on

the different characteristics like color, shape, texture etc. Here the person can capture the images of skin and then the image will be sent the trained model. The model analyses the image and detect whether the person is having skin disease or not.

Technical Architecture:



Project Objectives:

How to train a YOLO model in the windows environment?

1. Image Collection.
2. Image Selection (How to choose a proper set of images to train YOLO)
3. Annotate Image.
4. Download the pre-trained YOLOv3 weights and convert them to the Keras format.
5. Create Train and Test Data to train YOLO model

6. Compile the pre-trained YOLOv3 weights on Windows
7. Train YOLO custom object detection model in Windows
8. Test YOLO model for image and video

How to annotate images using Microsoft's Visual Object Tagging Tool (VoTT)?

1. Create a new VoTT Project
2. Download VoTT (Visual Object Tagging Tool).
3. Open VoTT and select New Project.
4. VoTT Home Screen
5. In Project Settings, change the Display Name to the name of your choosing.
6. Change the Security Token to Generate New Security Token.
7. Next to Source Connection, select Add Connection.
8. In Connection Settings, change the Display Name for the source connection to a name of your choosing, and select Local File System as the Provider. For the Folder Path, select the folder that contains the training images, and then select Save Connection.
9. In Project Settings, change the Source Connection to the connection you just created.
10. Change the Target Connection to the same connection as well.
11. Select Save Project.

How to use Keras and TensorFlow for building models