Cloud Recognition with cloud visual recognition

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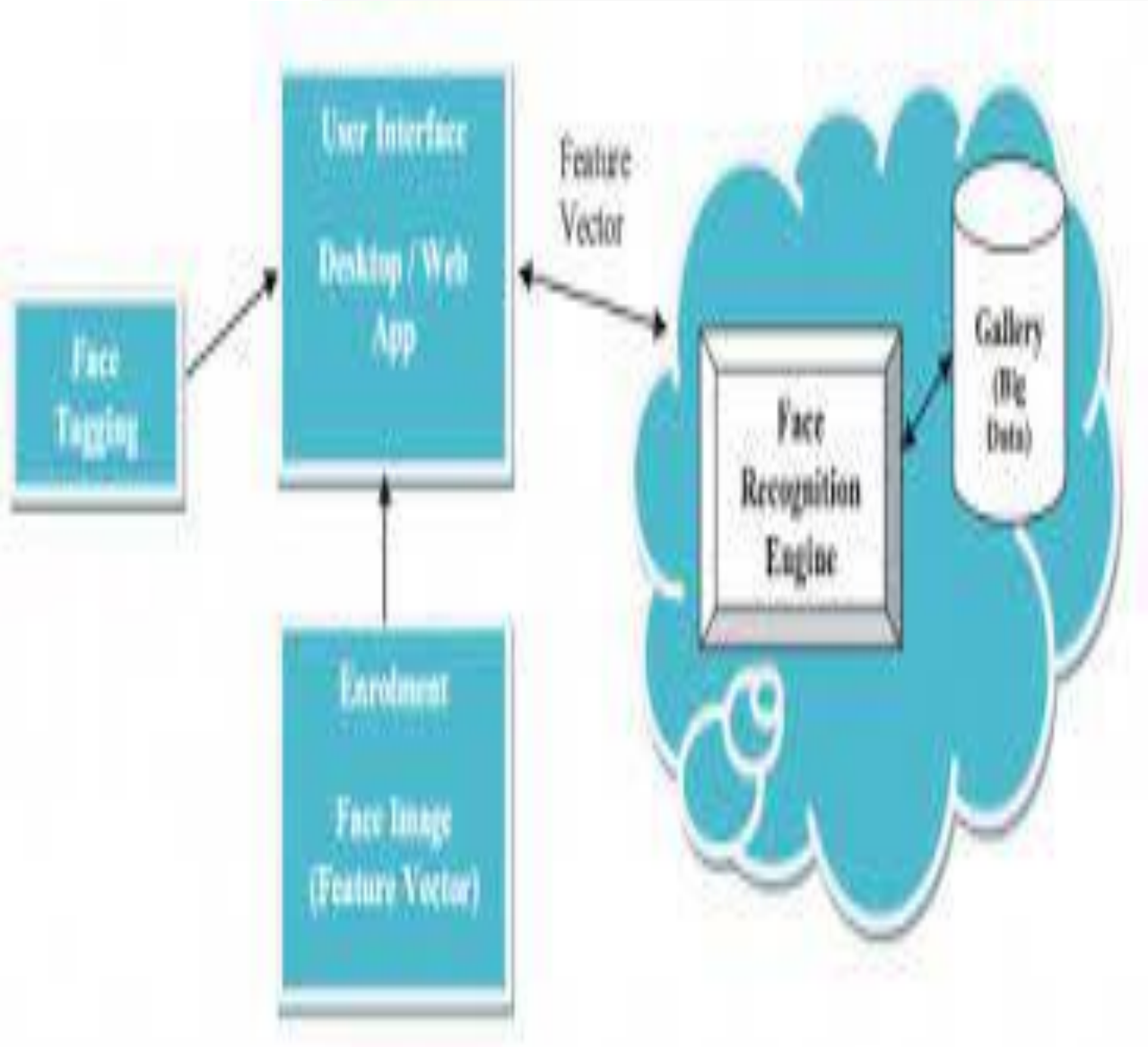
Introduction:

- Image Recognition plays an important role in many fields like medical disease analysis, and many more. In this article, we will mainly focus on how to Recognize the given image, what is being displayed. We are assuming to have a pre-knowledge of Python, MachineLearning ect .

what is cloud recognition ?

- Cloud Recognition service is an enterprise class Image Recognition solution that enables applications to recognize and track millions of Image Targets. Cloud Recognition is available as Cloud and Cloud Plus add-ons. Usage is determined by the total number of image recognitions, or “recos”, per month that your app performs. Each reco is counted when a target is matched.



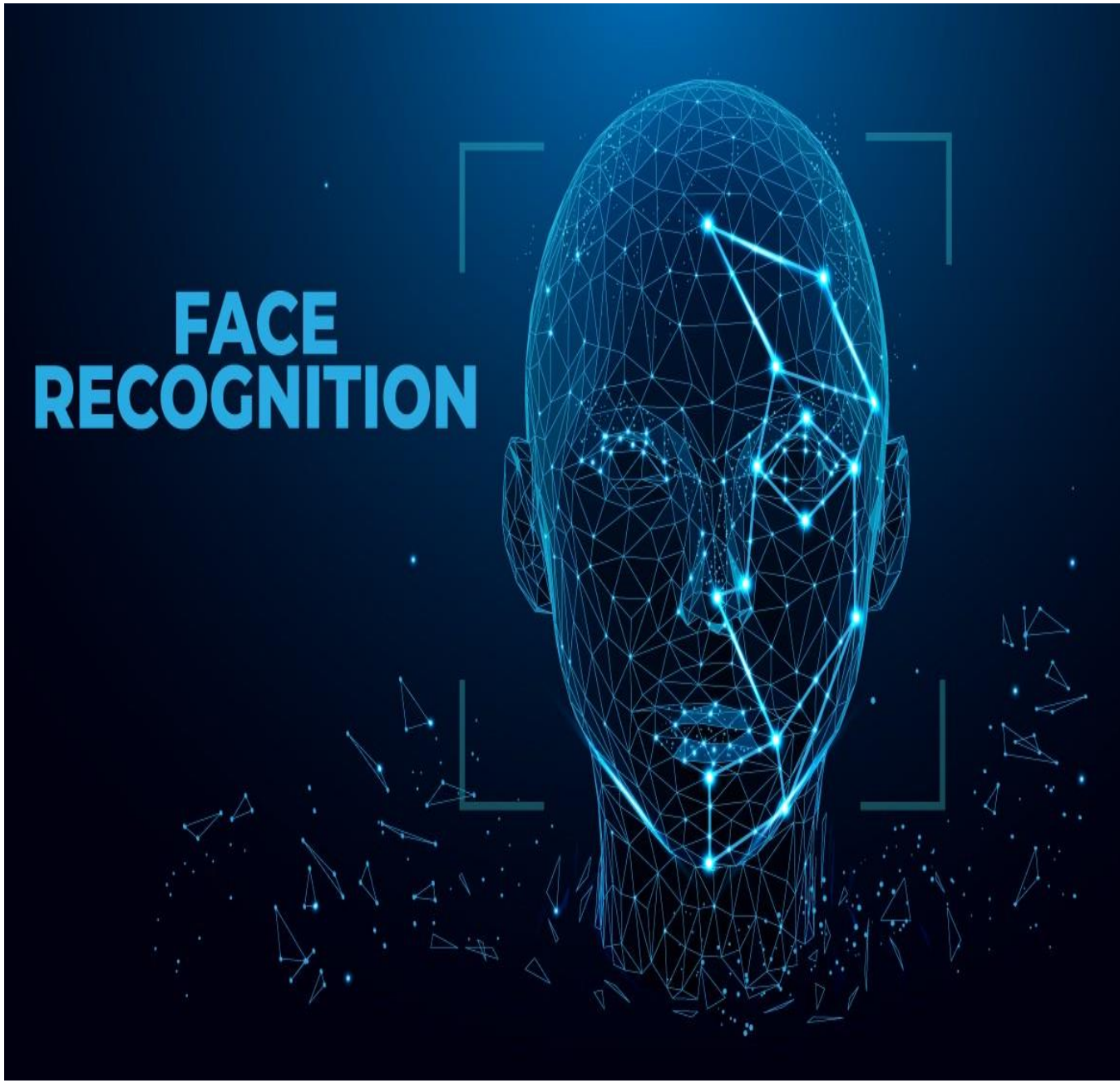
What is the Future of Cloud Computing? - Trends and Predictions

Face recognition?

- Face recognition using Artificial Intelligence(AI) is a computer vision technology that is used to identify a person or object from an image or video. It uses a combination of techniques including deep learning, computer vision algorithms, and Image processing. These technologies are used to enable a system to detect, recognize, and verify faces in digital images or videos.
- The technology has become increasingly popular in a wide variety of applications such as unlocking a smartphone, unlocking doors, passport authentication, security systems, medical applications, and so on. There are even models that can detect emotions from facial expressions.

As a simple example, we can map a “face” into a feature vector which can comprise various features like:

- Height of face (cm)
- Width of the face (cm)
- Average color of face (R, G, B)
- Width of lips (cm)
- Height of nose (cm)



Implementations

- Steps:
- Import the necessary packages
- Load the known face images and make the face embedding of known image
- Launch the live camera
- Record the images from the live camera frame by frame
- Make the face detection using the face_recognization face_location command
- Make the rectangle around the faces
- Make the face encoding for the faces captured by the camera
- if the faces are matched then plot the person image else continue

Disadvantages of Face Recognition :

1. The danger of automated blanket surveillance
2. Lack of clear legal or regulatory framework
3. Violation of the principles of necessity and proportionality
4. Violation of the right to privacy
5. Effect on democratic political culture

Problems and Challenges:

Face recognition technology is facing several challenges. The common problems and challenges that a face recognition system can have while detecting and recognizing faces are discussed in the following paragraphs.

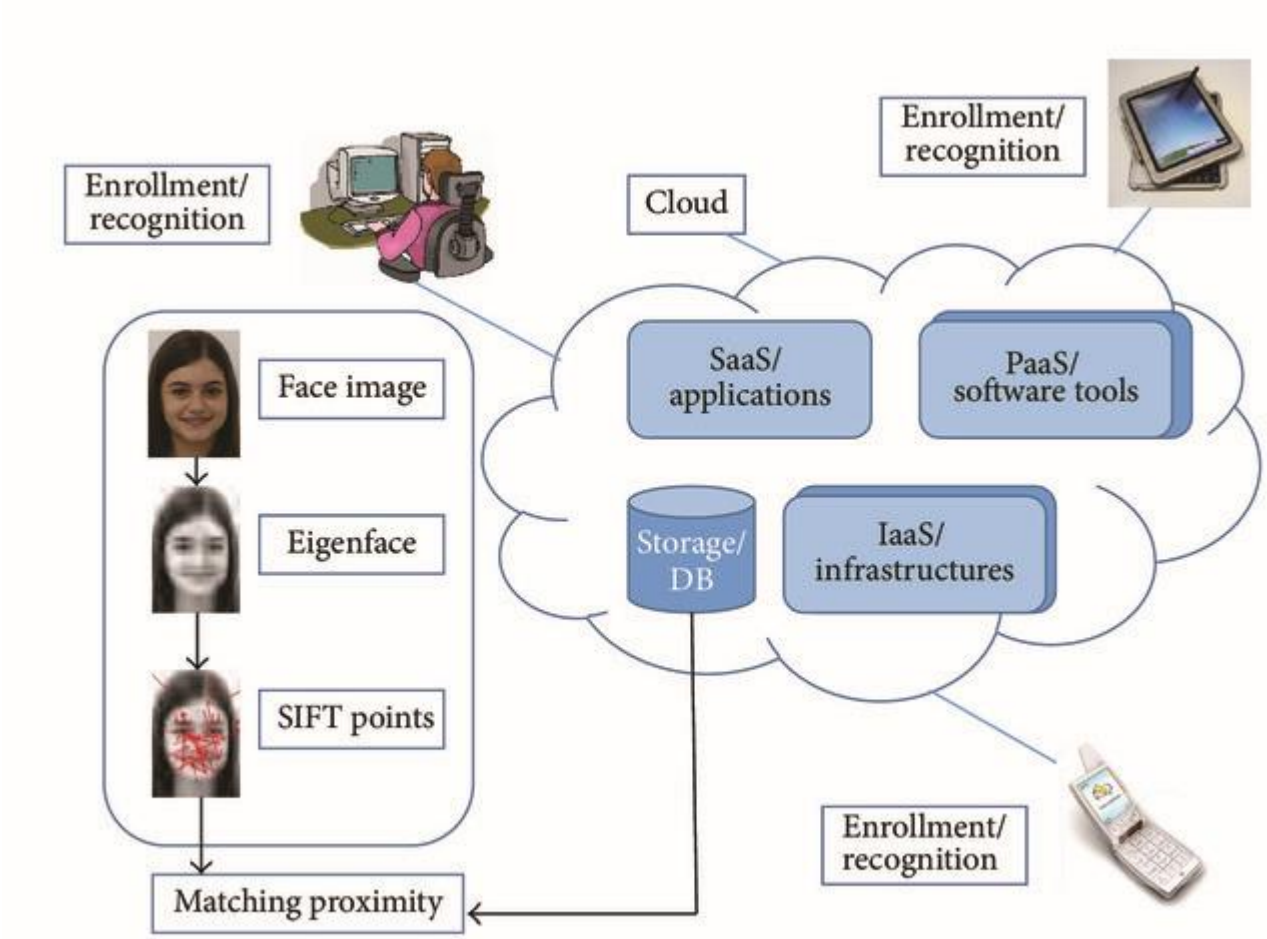
- ***Pose:*** A Face Recognition System can tolerate cases with small rotation angles, but it becomes difficult to detect if the angle would be large and if the database does not contain all the angles of the face then it can impose a problem.

- ***Expressions:*** Because of emotions, human mood varies and results in different expressions. With these facial expressions, the machine could make mistakes to find the correct person's identity.

- ***Aging:*** *W*ith time and age face changes it is unique and does not remain rigid due to which it may be difficult to identify a person who is now 60 years old.

- ***Occlusion:*** Occlusion means blockage. This is due to the presence of various occluding objects such as glasses, beard, mustache, etc. on the face, and when an image is captured, the face lacks some parts. Such a problem can severely affect the classification process of the recognition system.

- ***Illumination:*** Illumination means light variations. Illumination changes can vary the overall magnitude of light intensity reflected from an object, as well as the pattern of shading and shadows visible in an image. The problem of face recognition over changes in illumination is widely recognized to be difficult for humans and algorithms. The difficulties posed by illumination condition is a challenge for automatic face recognition systems.



CONCLUSION

In conclusion, now the world becomes more and more better because of the advance in science and technology, so face recognition is slowly recognized by people, and we also began to use it in different fields. Face recognition is the use of human facial features to complete identification.

Thank You