HIGH QUALITY FACIAL RECOGNITION SYSTEM

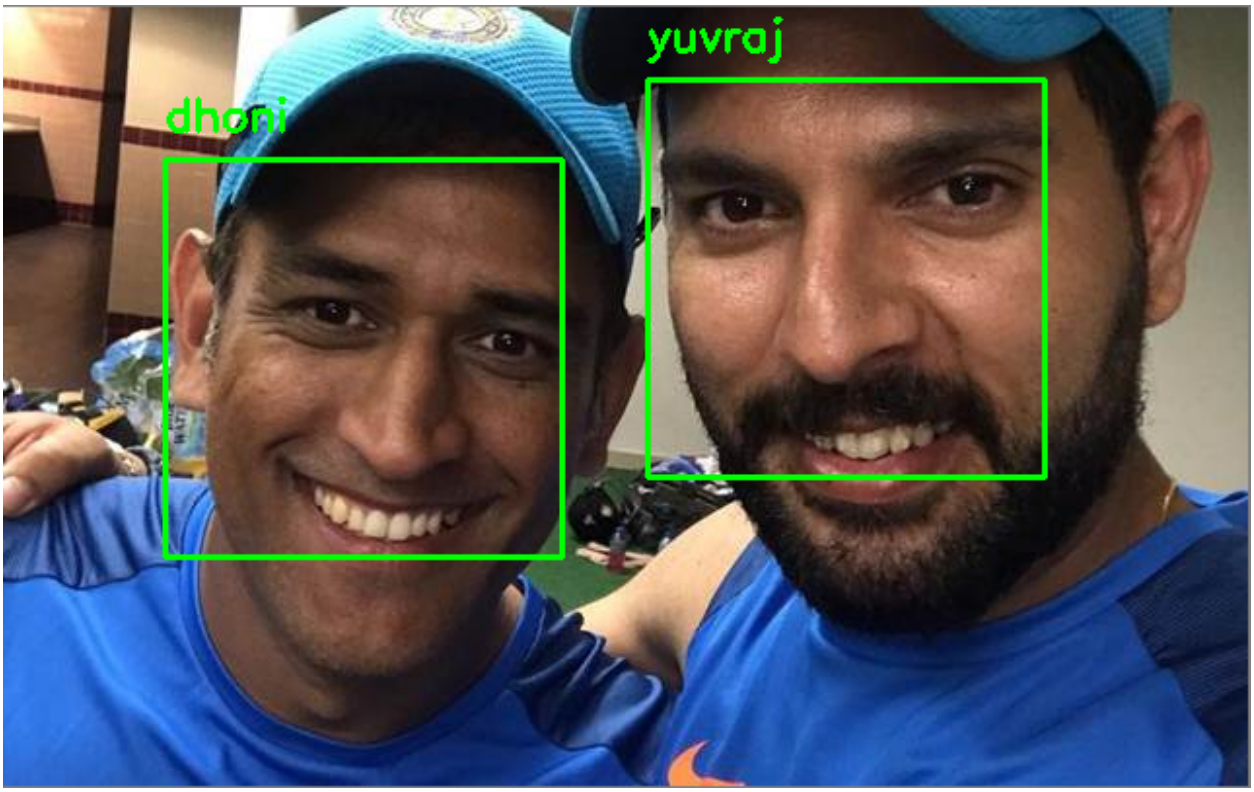
INTRODUCTION:

Overview: In this project I have build a web application for face recognition in images using:

- Open CV
- Python
- Deep learning

In this project you will learn how to perform facial recognition using OpenCV, Python, and deep learning.We'll start with a brief discussion of how deep learning-based facial recognition works, including the concept of "deep metric learning".Finally we'll implement face recognition for images.

Purpose: Facial recognition is a way of recognizing a human face through technology. A facial recognition system uses biometrics to map facial features from a photograph . It compares the information with a database of known faces to find a match. Facial recognition can help verify personal identity.



APPLICATIONS:A lot of people and organizations use facial recognition and in a lot of different places. Here's a sampling:

- **Government at airports**. Facial recognition systems can monitor people coming and going in airports. The Department of Homeland Security has used the technology to identify people who have overstayed their visas or may be under criminal investigation. Customs officials at Washington Dulles International Airport made their first arrest using facial recognition in August 2018, catching an impostor trying to enter the country.
- **Mobile phone makers in products**. Apple first used facial recognition to unlock its iPhone X, and continues with the iPhone XS. Face ID authenticates it makes sure you're you when you access your phone. Apple says the chance of a random face unlocking your phone is about one in 1 million.
- **Colleges in the classroom**. Facial recognition software can, in essence, take roll. If you decide to cut class, your professor could know. Don't even think of sending your brainy roommate to take your test.
- **Social media companies on websites**. Facebook uses an algorithm to spot

faces when you upload a photo to its platform. The social media company asks if you want to tag people in your photos. If you say yes, it creates a link to their profiles. Facebook can recognize faces with 98 percent accuracy.

- **Businesses at entrances and restricted areas**. Some companies have traded in security badges for facial recognition systems. Beyond security, it could be one way to get some face time with the boss.

CONCLUSION: This is a basic project probably it cant be used in real time but it helps to learn the skills required to built a real time application.In this we also used Histo gram Oriented Gradient(HOG) for better and fast recognition.This facial recognition is being used in many areas like commercial and non-commercial places.

FUTURE SCOPE:Today, one of the fields that uses facial recognition the most is security. Facial Recognition is a very effective tool that can help law enforcers recognize criminals and software companies are leveraging the technology to help users access their technology.