REAL OR FAKE FACE DETECTION

Introduction

Facial recognition is an extremely powerful tool for user authentication. But often this system is compromised by hackers using the fake images of the user. This application aims to determine whether the captured face is real or fake. This is achieved using the concept of AI (Artificial Intelligence). Now-a-days AI is a buzzing technology which bears a bright future. To implement this model, we have gone with Python. It is widely pronounced to be the best platform for data-analysis.

Objectives of Research

The main objective of this research is to make an attempt towards the better enhancement of the present facial recognition system currently available in the market. As an extension to detect it as real or fake. In order to increase the security.

Problem of Statement

Spoof-detection in facial recognition system is the most common problem we are facing in the current scenario. In cases of attendance system and verification system.

Review of literature

In the recent times, there have been some significant advancements in the field of facial recognition. The algorithms used today are much faster and adaptive then they used to be. But even then, none of them can provide a precise distinction between true user and spoofed one.

Although, with the recent marvels in the hardware department. The gateway to a more secure facial-recognition system is opened, through the use of techs like: Thermal Cameras, 3D Sensors etc.

But none of them is the algorithmic implementation of the same. Here is our approach to it.

Data Collection

In our sample, we have used the images of the team-members as the data input for our C.N.N(Cognitive Neural Network).Also, we have applied for the “Replay-Attack” dataset from “Idiap” and “FERET” dataset from “NIST” which are eagerly awaited by our team.

Methodology

Exploratory Data Analysis

Data Modelling

First we performed the image processing with the image and stored in the form 2 dimensional 64x64 pixels. We analysed the data using simple cognitive Neural Network Algorithm for detecting the face.

Findings and Suggestions

With the availability of sufficient datasets, our model can be trained to obtain better results.

Also, it can also be developed more efficiently by recording the motions and expressions of the user as said by the application using AI by differentiating each motion to the users.

Conclusion

This application is the better version of existing facial recognition application as it overcomes the issues of bluffing by detecting it as real or fake.

Hence this application can be said as better enhancement of the present existing system.