

Facial RECOgnition

Written-Work



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# Introduction

Facial recognition is a biometric tool like fingerprint recognition and iris recognition which uses Big Data and Artificial Intelligence. Facial recognition is a method of identifying or verifying the identity of a person using their face from photos, videos, or in real-time. The identifying, so-called one-to-many consists of determining the identity of one person among N individuals known in a database (1: N). The verifying, so-called one-to-one consists of verifying the identity of the person is the good one. For example, it’s used to unlock the smartphone (1: 1).

Facial recognition is a field of computer vision. Computer vision is an intelligence artificial technology trying to imitate human vision. The goal of computer vision is to understand a real-world scene using images and videos. It can interpret the scene by identifying objects. The different things that can do the computer vision are to identify, track, measure, detect, and classify objects from an image or a video. Facial recognition is only based on the face.

The process of face recognition is based on 3 phases. First, our face is detected and captured with a photo or video or in real-time after that a software is used to create a virtual model that’s very detailed based on all face features like the distance between the eyes, the width of the nose, and so on. This virtual model represents a unique facial signature. That facial signature is then compared to a database of known faces. All the process can happen in a matter of seconds.

The first apparition of facial recognition was in the 1960s. Wilson Bledsoe developed a system that classified photos by manually recording the coordinates of facial features such as the nose and mouth using a graphics tablet. A computer could then automatically compare the distances and return the closed match.

In the 1990s the Defense Advanced Research Project Agency (DARPA) and the Army Research Laboratory (ARL) designed a face recognition program that led to more sophisticated face recognition technology. The first version of this technology was tested by law enforcement agencies at the 2002 Super Bowl to found criminals. But this test was not conclusive, it gave a lot of false positives.

Due to the rapid development of artificial intelligence facial recognition technology is getting faster and more accurate.

Nowadays there are a lot of facial recognition applications. The main application of facial recognition is in the area of safety and security. The law enforcement agencies use it to fight against crime, prevent terrorist attacks, help locate missing people, and so on. Security checkpoints in airports around the world are increasingly using this technology to protect flyers and identify criminals. The second main application of facial recognition is in the area of police surveillance to identify criminals that are wanted.

Facial recognition can also be used on Social media to identify someone in a picture. In 2017s, Apple introduces Face ID that allows using facial recognition to authenticate a user on the smartphone.

The bigger argument against facial recognition technology, it’s the privacy of individuals. Some cities across the world can collect the facial data of people and store them without any permission.

The reason that I choose facial recognition it’s because we are living in a strange world since the pandemic and I wanted to know what the impact of the mask on facial recognition was. Facial recognition is growing so fast we can use it on a recent smartphone to make a bank transaction or other things.