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**Facial recognition**

Facial recognition, as it's implied on the name, is used to recognize a human face. This is done with a technology known as biometrics, which maps the facial features from a photo or video and then compares them to known faces in a vast database. From faceID used to unlock your phone to eye, retina, or iris recognition. Facial recognition is everywhere and is increasingly being implemented in many more areas that the human eye could never detect.

A camera detects a face either in real time via surveillance cameras or from images. The quality and angle are important because poor-quality images can be less accurate. After that, the face has to be the only thing being scanned by a deep learning system using neural networks to process all the data. The capture process transforms the face into a set of mathematical information commonly called a faceprint, which is then uploaded to a database based on the features of the person. Just like all fingerprints are unique, all faces have unique fingerprints.

The faceprint is then compared back-to-back against a database of similar faces. The deep learning system calculates the matches between the new faceprint and those in any public or private databases containing millions, if not billions, of images. The recognition result is used by the system to generate an output. The system may unlock a device, log the person's admission into a location, or provide access to a secure area if the face is recognized or authenticated.

This magnificent, not fully understood technology has its pros and cons. Before all, in order to improve security and lower the possibility of identity fraud, airports utilize face recognition technology to compare the identities of travelers with their passports. As well as in law enforcement, criminals can be recognized through CCTV coverage, leading to an arrest without a confession being needed. Not to forget, it increases the security on your phone while at the same time making it a quick way to unlock smartphones, replacing forgetful PINs and passwords.

However, relying solely on facial recognition can lead to falsely identifying suspects. Facial recognition, as of today, is not always accurate and is prone to errors, leading to discrimination against certain groups. With your faceprint now in a vast database, there is a high chance that it could be hacked or leaked for identity theft, an error that cannot be easily changed. As you get older, faces tend to change, making facial recognition less accurate, not including if you’re wearing a mask, sunglasses, or make-up. This can also affect efficiency.

Facial recognition is most likely to become more integrated into daily life, used in personal devices for public services, payments, transportation, in the workforce, attendance, and security. I see a particular device relating to psychology being used with facial recognition. In a future not so long, facial recognition is going to be paired with a monitor to approximate your emotions based on your expressions and heart rate. Acting as a personal motivator, cheering and providing steps to relax. This could have a positive impact on people because it would get them in touch with mental health and focus on relieving stress.

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