

Facecrime, Emotion Recognition

Introduction

Our work deals with the dystopian novel by George Orwell "1984". Nineteen Eighty-Four depicts as a dystopia the gloomy vision of a totalitarian surveillance state. We approach the topic of facecrime. In the book, facecrime and telescreen plays an important role. We want to take a closer look. We will draw comparisons with today and the future. In the future it is possible not only to hear and see people, with artificial intelligence it should be possible to recognize people's feelings. Wouldn't such a machine be practical? You meet someone, your smartwatch camera picks them up, and a facial emotion recognition program reports, "He looks like trouble."

1. Reference to 1984:



The book is about the consequences of mass surveillance and totalitarianism. George Orwell created the telescreen in the novel as a tool to symbolize the constant surveillance by the Thought Police and the Party. Winston, the main character of the novel, appears dark and hopeless in response to the telescreen. Facing the

telescreen, his facial expression is one of quiet optimism, as it can be dangerous to let one's mind wander in public places. The telescreen also checks to see if Facecrime is being committed.

Facecrime is a crime against the authoritarian government in which the citizens express through facial expressions that they disfavor the activities of the state. When a character commits a facecrime, their face shows emotions that can be read by the Thought Police. An example of a facial crime would be showing affection for another party member that is inappropriate, such as flirting with one's eyes. Another facial crime might be showing contempt or anger toward Big Brother when he speaks to people on the big screens. This might include wincing or frowning at the news of a war, or at the thought of someone being vaporized.

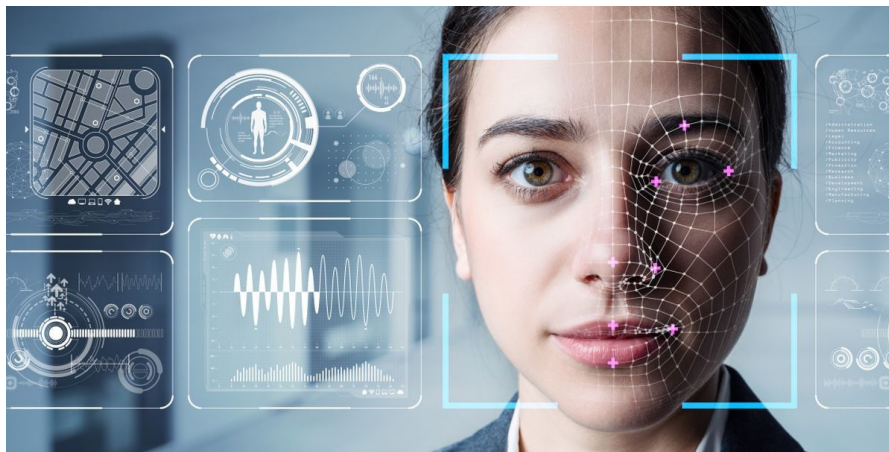
People who commit Facecrime are treated as serious criminals and are sometimes vaporized themselves. This happens when you have a facial expression that indicates you have subversive thoughts about the party. Even the slightest twitch in the face can be interpreted as a sign that one is an enemy of the state. In this authoritarian state, it's not just what you say or think that can get you vaporized.

Orwell's definition of face crime was, "It was terribly dangerous to let your thoughts wander when you were in any public place or within range of a telescreen. The smallest thing could give you away. A nervous tic, an unconscious look of anxiety, a habit of muttering to yourself – anything that carried with it the suggestion of abnormality, of having something to hide. In any case, to wear an improper expression on your face (to look incredulous when a victory was announced, for example) was itself a punishable offence.

2. Reference to today:

Nowadays, our cell phone can be unlocked with facial recognition. When you launch the Photos-App, the app scans your media library to identify people pictured in photos. After this scanning process is complete, you can open the people album, view photos by the faces (people) in them, and assign names to the people found in the photos. The technology has already reached the point where you can scan a stranger and use it to identify them (find out their details).

To analyze people's reactions to certain events in real time, facial recognition can be used. Many faces can be identified from available datasets of billions of tagged photos. By measuring video sentiment on contentious issues, one could find out much more about their general attitudes and preferences. Initial sketches could also be expanded with insights from other public data, such as from other public events. Organizers already controlled their crowds. Organizers could simply analyze footage during and after rallies to find out who their most enthusiastic supporters are and who they are not.

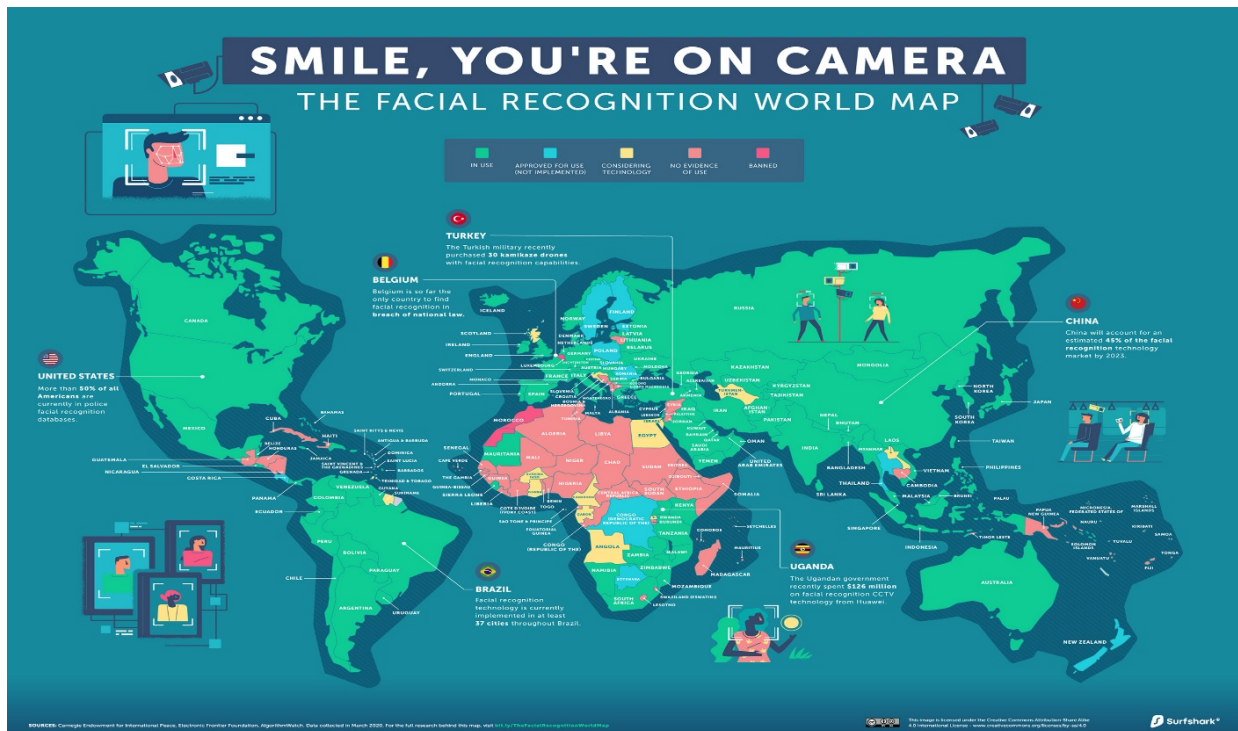


With rudimentary social network analysis, bearers of unacceptable sentiments could be "outed" to families, friends, and colleagues. Employers could evaluate the moods and actions of their employees, both in the workplace and in other filmed environments.

Area-wide surveillance and facial recognition using Big Data and artificial intelligence are part of everyday life in China. About 600 million cameras are said to be installed in the country, which is about 1 camera for 2.3 people. There is a recent example in China where a "smart eye" system monitors student engagement and emotions in the classroom. Technology is advancing all the time - and so are the applications. Since December, for example, Chinese people have also had to have their faces scanned when they sign a cell phone contract. Now Chinese companies working on corresponding facial recognition software have reported a breakthrough - they can now recognize faces covered by masks.

The conventional cameras can't tell police anything yet, they just record. The government needs cameras that can do more. That tell where the criminal is, for example. The Chinese government uses technology to protect such summits. Criminals don't stand a chance. When they approach, the scanner gives the warning.

But the Chinese state has another interest. It also uses the data for a gigantic social credit system. The idea behind it: The state collects data on its citizens and evaluates it. Everyone gets a points account. And on this basis, the state can then evaluate, reward or even punish. Monitoring by smart cameras is central to this: Everything that people do or don't do in everyday life can influence the evaluation. And there are already blacklists: Almost 10 million people have already been temporarily excluded from buying tickets for fast trains or airplanes.



YELLOW:	considering technology
ORANGE:	no evidence for use
RED :	banned
GREEN :	in use
BLUE:	approved for use (not implemented)

3. Reference to 2084 :

In the year 2084, facial recognition is used to query the mood of the cell phone owner and connect him or her to a counseling hotline in case of emergency. This is the merit of affective computing, Affective computing, usually referred to as artificial emotional intelligence, or emotional AI, can recognize, interpret, process and simulate human affect.

As a result, facial recognition apps will have been developed in the future that register an owner's emotional state every time they look at their phone. With the help of this technology, depression can be detected even before it occurs.

Another application is in psychotherapy for traumatized war veterans. The tough guys, who have trouble opening up to people, sit in front of a screen and chat with an animated avatar. The avatar, like a real therapist, carefully feels its way toward the patients. Cameras and microphones record the gestures, facial expressions and voice of the traumatized person, from which the program calculates their respective emotional state and adapts the avatar's behavior.

Facial recognition software will also be even more advanced in public buildings in 2084, because the data generated by facial recognition software will open more than just doors or locks in the future: Knowing how many people are currently in the building, for example, will allow for more targeted air conditioning of office spaces or more efficient evacuation of everyone present in the event of an emergency.

Facial recognition capabilities will be used even more widely in 2084, creating an environment where law enforcement is partially automated. Whenever a person misbehaves, the software can register a name and store the incident in a database. The fines incurred for this are automatically sent to the citizens.

4 Conclusion:

As responsible citizens, however, we still ask ourselves the following questions:

1. Do we want to be constantly identified by untested and possibly inaccurate or biased algorithms?
2. Do we want authorities recording every step we take, every place we visit, and every person we meet?
3. Do we want the police to be able to find out the names of everyone attending a demonstration or religious event?
4. Do we want to grant our authorities unlimited power to monitor everyone everywhere, all the time?

It is important to discuss these issues **TODAY** in society and to define precisely the points of application of facial recognition and AI, not to have schizophrenic surveillance states all over the world whose citizens are spied on, have no privacy anymore and are at the mercy of technology forever !

Sources :

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