Fashion meets privacy for the age of surveillance | Cybernews

Justinas Vainilavičius Senior Journalist ⋮ 7-8 minutes ⋮ 4/11/2023

From do-it-yourself hoodies to high-fashion designs, these articles of clothing will protect you from the elements – and the watchful eye of mass surveillance.

Anti-surveillance fashion has been a growing trend for the past several years, accelerated by both increasingly widespread biometric monitoring and rising awareness among the public about its potential for misuse.

It can take many forms, including clothing that incorporates complex patterns or designs that confuse software algorithms, or strategically applied conventional cosmetics that render the wearer unrecognizable to machines.

Although technologies like facial recognition can have benign applications, such as unlocking a phone or tagging individuals on social media, it has also been used to log people's biometric information into vast databases without their knowledge or consent.

Clearview, a facial-recognition firm that has been fined millions of dollars in Europe and Australia for breaches of privacy, has run nearly a million searches for US police, according to a recent report by BBC. It said it had 30 billion images scraped from social media platforms like Facebook, taken without users' permission.

A study in 2016 by researchers at the Center on Privacy & Technology, a thinktank affiliated to Georgetown University, showed that half of adult Americans had their faces logged in law-enforcement databases. The use of surveillance technologies is often justified by those in favor of them by citing public-safety concerns.

For example, the New York police department (NYPD) relies on a network of more than 15,000 cameras to track people using facial recognition in Manhattan, the Bronx, and Brooklyn, according to a research by Amnesty International. Privacy advocates say that such surveillance systems amplify racially discriminatory policing and threaten personal freedoms like the right of peaceful assembly.

The UN Human Rights Council has recently been warned that high-risk surveillance technologies were being deployed around the world without due regard to the rule of law, governance, and human rights.

The pandemic has worsened the situation, and advances in artificial intelligence (AI) are expected to exacerbate it further. The surveillance technology market is projected to almost double from $114 billion in 2021 to $213 billion in 2026.

There has been some pushback against the trend – with public outcry in France over the government's plans to deploy an AI-driven crowd monitoring system at the 2024 Olympic Games in Paris.

In the end, it may fall to individuals to safeguard their own privacy rights, and a new generation of clothes designed with that aim in mind are available.

Cap_able

Image by Cap_able

Can you put a price on privacy? With its best-selling hoodie at €560 ($610) and a pair of joggers at €370 ($400), the Italian brand Cap_able caters to the higher end of the market. Its self-styled Manifesto Collection includes knitted streetwear garments that are "practical and comfortable" as well as durable, according to the label.

Most importantly, people wearing its funky garments are not recognized as such by facial recognition software, thanks to a patented fabric technology used to create the collection: the machine sees dogs, zebras, or giraffes instead.

"The Manifesto Collection was created to create awareness of the risks associated with the improper use of facial-recognition technology," said Cap_able, adding that neglecting the problem "could freeze the rights of the individual, including freedom of expression, association, and free movement in public spaces."

Cap_able is careful to note that its clothes are not an "invisibility cloak" that could jeopardize security, stressing that its designs are ineffective against video cameras and metal detectors.

Camera-Shy Hoodie

Those who would rather not splurge on clothes can opt for a do-it-yourself privacy update of their wardrobe. Engineer and privacy advocate Marc Pierce has released a free tutorial for his "Camera-Shy Hoodie" that turns the key element of night-vision security cameras against them.

The Camera-Shy Hoodie uses 12 high-powered infrared LEDs, clipped onto the inside of the garment, to "blind" night-vision cameras. The design utilizes the same wavelength of infrared light commonly used by security cameras at nighttime, keeping the wearer's face out of their recordings.

"By pointing the LEDs back at the camera and setting them to a tuned strobe, the security camera's capture becomes overexposed, significantly losing definition of the scene," the tutorial explained.

"With the advance of surveillance technologies, even darkness is no longer the refuge it used to be," it said. The hoodie only works against infrared-sensitive equipment, and its effects are imperceptible to human eyes.

Incognito

Image by Goodman Gallery

For more regal looks, there's *Incognito* by award-winning Polish designer Ewa Nowak. Being the one-off work of conceptual art that it is, this piece of face jewelry is for truly special occasions. Gold-plated and made of polished brass, it is a fabulous way to go, as the name of the work suggests, incognito.

The arrangement hangs on the face like a pair of sunglasses, with two circles covering the cheekbones and another piece extending up the forehead.

In so doing, it disturbs the characteristic features of the human face, making it difficult for facial-recognition software to identify it, according to a description of the work at Johannesburg's Goodman Gallery, where it was exhibited in 2020.

For the design to work, however, it has to be molded to a wearer's face, making it difficult to mass-produce. According to Nowak, the object is speculative, but "it can be assumed that in the future it could be a kind of commonly worn jewelry."
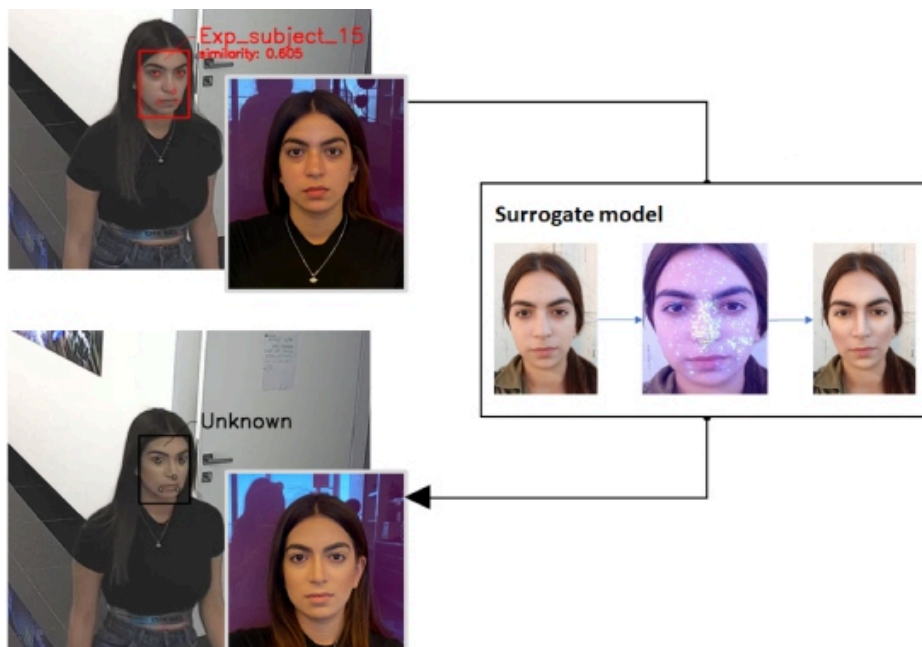
Software-generated makeup patterns

Image by Ben-Gurion University of the Negev

There's also an off-the-shelf way to trick facial-recognition software – by using conventional makeup, a study by Ben-Gurion University of the Negev in Israel found in 2021. Research showed that applying makeup in a specific way renders the face unrecognizable to the machine, with a success rate as high as 98%.

Researchers tasked a selfie app called YouCam Makeup to generate makeup patterns on a face based on a heatmap of the most identifiable facial features. A makeup artist then recreated computer-generated patterns in real life.

The experiment included 20 volunteers divided into three groups. One group wore makeup based on a digital pattern and were correctly identified by the facial-recognition system only 1.22% of the time. Those who wore makeup randomly were identified 33.73% of the time, and those with no makeup at all, 47.57%.

The study used neutral-color palettes and conventional makeup techniques that made the face look natural to other humans, but not the machines.