Policing by Camera? The development and use of Live Facial Recognition within the police service.

Policing itself has moved on from the comforting 'bobby on the beat' portrayal of PC Dixon in Dixon on Dock Green, where your first two years of probation were spent walking the beat and meeting your community. The invention of patrol and area cars have moved us away from this community visible approach, with officers now able to reach wider and respond quicker.

We moved from handwritten statements to typed scripts that can actually be amended without a further statement and read by all, even if your own handwriting is poor. Although basic, these are two examples of where technology has advanced frontline policing, and there are many more examples within equipment, software, control rooms, intelligence too.

Before joining UWE in 2018, I was a serving police officer with roles involving community policing, problem-solving and proactive investigations. Within that time, I was lucky enough to spend time on an external secondment with a local ThinkTank researching this very topic. I got to witness some of these technological advancements, and I definitely got to experience their benefits.

It is clear that technology has infiltrated many aspects of policing, can we expect the advancements in Artificial Intelligence (AI) to behave any differently?

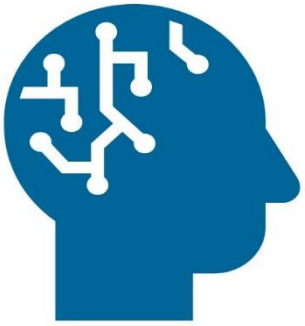
AI is being called 'one of the most transformative technologies of the last decade' (Brown, 2019). In fact, back in October 2023, the policing minister Chris Philip MP wrote an open letter to the 43 Chief Officers and Police Crime Commissioners of England and Wales, his message was simple – continue to use AI within policing.

Let's explore the debate surrounding its current use...

The recent and continued development of AI begs the question – how are public services planning on utilising the explosive and growing capabilities of such technology?

With free and accessible AI software available to all with a digital device, I remain particularly interested in how police services around the country will utilise a specific element of AI software called Facial Recognition technology. This blog is a short exploration of some factors surrounding the topic.

The development of Facial Recognition can be traced back to the 1960s, where its creation is largely credited to American mathematician and computer scientist Woody Bledsoe, who taught his computer to recognise and compare facial features (Raviv, 2020). The concept has since been developed by others, as increased processing powers of computers has allowed for more complex software and technologies over time.



Fast forward to August 2016 at the Notting Hill Carnival, where the Metropolitan Police Service (MPS) were the first British police service to trial Live Facial Recognition (LFR). They were joined by South Wales Police (SWP) in 2017 (ICO, 2019).

Some Definitions:

Before looking into the considerations for LFR's use, I first want to clear up some definitions.

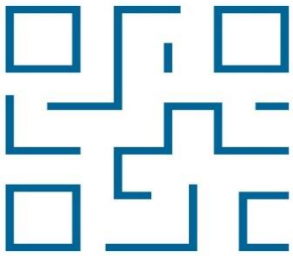
Law enforcement have categorised the use of Facial Recognition technology in three ways:

- Retrospective Facial Recognition (RFR) – images or videos (from CCTV or provided by the public) are compared against a database.
- Operator Initiated Facial Recognition (OIFR) – images taken on an officer's phone during a live incident are compared to a database to identify the person in real time.
- **Live Facial Recognition (LFR) – cameras scan the faces of those present within a public area. These live feeds are compared to a pre-set 'watchlist', it is the decision of a 'human operator' – a police officer to you and I – whether to speak to the person identified as a potential match.**

– A ‘watchlist’ is a pre-determined collection of images that the police create for persons of interest. This includes those wanted by the police or courts, linked to suspected offences or for intelligence purposes (Bridges (2020), p.77).

Whilst all three of these categories of this technology are expanding, this blog will focus on the debate around the police’s use of Live Facial Recognition software only.

Technological Advancements



Some of you will recognise the increased access to AI within private sectors already. You have been able to unlock your phone using biometric data for years. In fact, it is already a security requirement for some apps. FRT is being used by private companies to track shoppers and their habits in store (TechHQ, 2020). It is starting to effectively diagnose diseases within the health sector, with some positive cases already reported in practice (Qiang *et al.*, 2022).

Whilst some private sectors have removed LFR software from their products following backlash (Meta, 2021) – its use is likely to continue to grow. Should those within the Criminal Justice System (CJS) have access to these advancements too?

Modernisation and Efficiency

Anyone that has been exposed to the CJS will understand the need for it to modernise and become more efficient. The NPCC’s National Policing Strategy 2020-2030 (2020), as well as their Policing Vision 2025 (2016) and 2030 (2023), detail the necessity for services to become increasingly digital to keep up with the current modern world.

Commissioner of the MPS, Mark Rowley, has highlighted the need for police services to become more efficient now that the MPS is effectively working with 28% less funding in real terms than 10 years ago (Rowley QPM, 2023). Professor

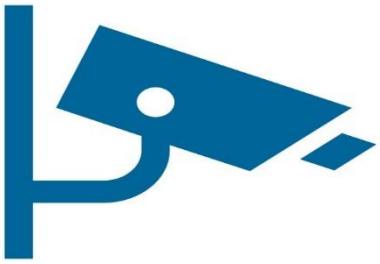
Sherman, founder of evidence-based policing and current Chief Scientific Officer for the MPS, has also recently discussed the need for police services to work more effectively with what they have (Sweetland, 2023).

LFR could be an attractive option for police services in the wake of reduced resources, given it is contactless and biometric data is difficult to alter, it may successfully identify individuals using less officer time and administration.

Detection Rates

The Information Commissioner (2019) notes that the main criteria for success should be centred on public benefits, rather than arrest numbers and the ratio of positive and false matches. It is difficult to know what police, and more importantly the public they serve, consider 'public benefits' to be.

In terms of actual data, which is usually what these systems are judged upon, the figures around their use remain vague and difficult to find. Those figures shared from 2023 indicate that "at least" 9 arrests were made using LFR (Home Office, 2023). SWP deployment the software over 50 times which resulted in "arrests or disposals in over 50 cases" (Home Office, 2019).



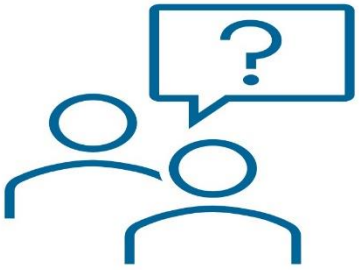
The language used around these figures, and the lack of transparency in their publishing, makes it difficult to judge such systems in a meaningful way.

Ethical Considerations

Whilst biometric data is difficult to alter, it is also "intrinsically private" to the owner and the accessing of it raises the question of balancing crime prevention concerns against Article 8 rights of privacy (Bridges, (2020), p.57; HRA, 1998). SWP have already been found to breach privacy and equality law due to their deployment of LFR (ibid).

I see the similarities between the development of LFR to that of DNA and forensic capabilities, however DNA is either collected with consent or because someone is suspected of a criminal offence.

The difference here is that the overwhelming majority of those subjected to LFR will be entirely innocent of any wrongdoing and the collection relies on the 'informed consent' gained by them entering a public area. Given the lack of legislation, confusing algorithms and secrecy surrounding LFR, do police explain this well enough to gain consent?



Police use of LFR is still in its infancy and yet there is already growing concerns around the 'slippery slope' of its use. There are already discussions about increasing the database pool to include all images held by the DVLA and Passport Office, rather than just comparing them to police custody images.

Furthermore, there are discussions around loading the software into installed and pre-existing CCTV and also within police body-worn video (BWV) cameras. Given London is the 9th most surveilled city in the world outside of China (Bischoff, 2023) and BWV cameras are being assigned to most frontline officers, the scope of use would shift cataclysmically.

Whilst there are potentially vast crime solving opportunities available through a quick database search, innovative technologies do not occur in vacuum, and they demand the consideration of ethical issues. Such ethical issues should be reconsidered as the scope of LFR's use increases.

Bias

Whilst it is tempting to believe that, because it is formed on data, the software is unbiased but that would be a form of tech washing, an over confidence in technology. LFR technology relies on machine-learning, they are shown sets of labelled images in a process called training, and therefore can only 'recognise' faces to the extent on which they have been trained (Biometrics and Forensics Ethics Group Facial Recognition Group, 2019).

There are already concerns around the effectiveness of these systems, and the Police's openness around this. For example, the MPS claimed a 70% success rate for their systems when independent researchers employed to complete this analysis state it was only 19% (Fusey and Murray, 2020).

There's also concerns about the racial and gender bias within LFR systems (Buolamwini & Gebru, 2018), with an error rate of up to 35% when identifying Black Women (University of Calgary, 2023). The courts recognised that SWP did not consider these potential biases before deploying the software (Bridges, (2020)) and such concerns continue as LFR advances.

If not developed properly, LFR has the potential to create a feedback loop which perpetuates rooted harmful outcomes, further impacting public confidence. Research suggests that people find it easier to recognise faces from the same race as their own (known as the other-race effort) (Zhou, Burton and Jenkins, 2021). Even with the safeguard of a police officer making the final decision on a 'match', years of failing to attract a diverse range of recruits creates the potential for a 'Blue Watchlist' where this harm is extended (Sampson, 2022).

Transparency and Oversight

The use of LFR is a complex topic, sometimes shrouded in secrecy and complicated algorithms. That secrecy is even maintained within court proceedings where the software and algorithms are protected on the grounds of 'commercial sensitivity' (Bridges (2020)). It begs the question – how much do we know about these systems and their ability to improve on the issues raised?

There is no standalone piece of legislation governing the use of LFR. Police services continue to implement LFR under legislation created before LFR was developed, and with little outside consultation (ibid). There have already been calls to legislate so that police services can better use this software, and to make it easier for members of the public to find and understand the scope and limitations of its use.

It is clear that LFR will be used for 'low level' offences and, although the courts recognise the broad discretion afforded to police in creating 'watchlists', the technology will potentially even be used to identify witnesses rather than suspects (Sampson, 2022).

The Future?

I don't have all the answers when it comes to this subject but it's clear that LFR is here to stay. The Home Secretary has voiced their support for its further use, while Nottinghamshire Police have joined those using it and there are already reports to expand its use (Sampson, 2023).

Whilst there is a need for police services to digitalise and modernise their efforts at fighting crime and to become more efficient with their resources, can this be achieved effectively without proper governance, legislation, and transparency?

In a time where critics argue that policing by consent has been 'shattered' (University of East London, 2023), where public negativity towards the police is high (IOPC, 2023) and where there are calls for less over-policing of minority groups (Hope Not Hate, 2020), an introduction of such technology without further efforts of consultation and transparency is contentious.

I'll end with this quote from Steve Jobs (2011):

"Technology alone is not enough."

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