Facial Recognition Technology - South Wales Police

Story So Far

Back in June 2017 South Wales Police successfully deployed Automated Facial Recognition (AFR) 'Locate' for the UEFA Champions League week in Cardiff. We were the first force in the UK to have a positive match using AFR, leading to the arrest of a 34 year old man wanted on a recall to prison. AFR Locate is a real time solution which utilises live feeds from CCTV typed cameras based either at specific, fixed locations or cameras secured to the top of one of our vehicle fleet to locate persons on prescribed watch lists.

On the 7th August South Wales Police went live with Automated Facial Recognition (AFR) 'Identify' which uses a static face search capability. AFR Identity allows officers to load images of persons of interest and compare them against our 500,000 custody images to see if there is a possible match on identification.

The past 10 months have been a resounding success it terms of validating the technology, building confidence amongst our officers and the public whilst offering a potential area for growth for us with the technology in the future.

The overall effectiveness of facial recognition has been high, evidenced in part by the positive match figures of AFR Identify and the number of charges being brought against offenders. Our confidence in AFR as a valuable addition to our operational toolkit means that we will be extending the trial until March 2018 when an evaluation will be done in order to develop our findings further.

Below is an outline of the number of positive AFR matches for AFR Locate from June 2017 until March 2018

Event	True Positive Alerts	False Positive Alerts
UCL	173	2,297
Elvis Festival	10	7
Op. Fulcrum	5	10
Joshua Fight	5	46
Wales vs Australia	6	42
Wales vs Georgia	1	2
Wales vs New Zealand	3	9
Wales vs South Africa	5	18
Kasabian	4	3
Gallagher	6	0
Op. Fulcrum	8	5
Op. Malecite	2	0

Royal Visit	0	0
Wales vs Scotland	6	7
Stereophonics	0	5

In relation to the false positive alerts outlined above, this is where the system incorrectly matches a person against a watch list. The operator considers the initial alert and either disregards it (which happens on the majority of cases) or dispatches an intervention team as the operator feels that the match is correct.   When the intervention team is dispatched this involves an officer having an interaction with the potentially matched individual. Officers can quickly establish if the person has been correctly or incorrectly matched by traditional policing methods i.e. normally a dialogue between the officer/s and the individual. If an incorrect match has been made officers will explain to the individual what has happened and invite them to see the equipment along with providing them with a Fair Processing Notice.

Since we introduced the facial recognition technology no individual has been arrested where a false positive alert has led to an intervention and no members of the public have complained.

The high volume of false positives for the UCL was down to three main factors:-

- Poor quality of images made up the watch list which were supplied by UEFA, Interpol and other partner agencies
- Previous algorithm from NEC which has since been updated and is more accurate reducing false positives and collateral intrusion
- First major deployment

In order to improve the efficiency and effectiveness of the system we have improved the quality of the candidate images that make up the watch list. We have also been provided with a new algorithm and application by our supplier NEC which has 12 months more research and development from the project's initiation.

With each deployment of the technology we have gained confidence in the technology

and has enabled the developers at NEC to integrate our findings into their technology updates.

Throughout the trial South Wales Police has been very cognisant of concerns about privacy and we have built in checks and balances into our methodology to make sure our approach is justified and balanced. We have had detailed discussions and consultation with all interested regulatory partners, including the following;Information Commissioner's Office (ICO) – national & local

- Home Office Biometrics Programme
- Surveillance Camera Commissioner
- Biometrics Commissioners Office
- College of Policing (CoP)
- Police ICT
- National Law Enforcement Database Programme (NLEDP)
- Centre of Applied Science and Technology (CAST)

These discussions ensure that we are considering the wider needs in relation to the Data Protection Act and the General Data Protection Regulation (GPDR) in order to that we see to it that the deployment of this technology is proportionate whilst recognising the need to balance security and privacy.   All of these partners are fully integrated into our strategic aims for the project and attend our Facial Recognition Strategic Partnership Board on a quarterly basis.

The South Wales Police Facial Recognition Team can be contacted at