

3-D facial recognition technology on brink of commercial breakthrough

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Credit: University of the West of England

A 3-D facial recognition system could be used commercially in the UK for the first time as part of a Government-backed project.

The University of the West of England (UWE Bristol) has teamed up with leading British facial recognition company Customer Clever to develop a ground breaking solution for high security UK and global commercial uses. Customer Clever, based in Nottinghamshire, is already successfully pioneering face recognition solutions for customers in a range of sectors, including retail.

Joint funding of £170,000 has been allocated for the two-year project by Innovate UK to drive innovation and creative thinking in the rapidly developing sector.

The project will be supervised by experts from UWE Bristol's Centre for Machine Vision, which has been developing 3-D facial recognition systems in its laboratories for more than 10 years.

Lyndon Smith, Professor of Computer Simulation and Machine Vision at the Centre for Machine Vision, part of the Bristol Robotics Laboratory, said: "This funding is for us to go ahead and commercially implement the technology. We think it's on the verge of becoming really big.

"Facial recognition technology is a powerful technique with many security applications - it might be that you are running a retail store or restaurant chain and there are certain customers you don't want entering the premises. Alternatively, it could be used at a railway station to check everyone has bought a ticket, or a live sporting venue to allow access to your registered VIPs.

"Potential uses are increasing all the time but first we have to iron out problems with how the technology performs. Things which are easy for the human eye to deal with, like changes in background light and people looking in different directions, are big problems for this technology. There's a difference between making the system work in the laboratory and doing so in a busy supermarket, where there are changes in lighting conditions and people walking around in the background."

Professor Smith says his team's high-resolution 3-D technology is superior to existing 2-D face recognition systems, which have been used for security in airports, and more discreet than iris recognition and fingerprinting systems.

He said: "Current available 2-D systems may be fooled into incorrect identification whereas our 3-D solution provides pinpoint accuracy mapping your face down to skin texture levels. For national or high security, border control and locations where access control is paramount, our 3-D solution provides an extra layer of confidence not available in many of the 2-D solutions.

"Our system produces what is effectively a finger print of the face - showing up fine detail and blemishes such as scars or wrinkles. The [solution](#) is quicker and more effective than fingerprint or iris recognition, which are more obtrusive to use."

Provided by University of the West of England

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