Emotion detector to make you a safe driver

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What about a device that can read and fix your emotions while you navigate your way in heavy traffic? Researchers have developed an emotion detector that can analyse facial expressions and identify which of the seven universal emotions a person is feeling.

This technology can be useful in the fields of video gaming, medicine, marketing and also in driver safety as in addition to fatigue, the emotional state of the driver is also a risk factor.

It is not easy to measure emotions within the confines of a car. The solution thus explored by scientists at Swiss Federal Institute of Technology Lausanne - who specialise in facial detection, monitoring and analysis - was to get drivers' faces do the job.

In collaboration with PSA Peugeot Citroen, the scientists adapted a facial detection device for use in a car using an infra-red camera placed behind the steering wheel.

The problem was to get the device to recognise irritation on the face of a driver.

To simplify the task at this stage, researchers Hua Gao and Anil Yuce chose to track only two expressions - anger and disgust.

The system 'learned' to identify the two emotions using a series of photos and videos.

The detector worked well and irritation could be accurately detected in the majority of cases.

When the test failed, it was usually because these emotions varied from individual to individual.

"This is where the difficulty would always lie, given the diversity of how we express anger," Gao said.

"Additional research aims to explore updating the system in real-time - to complement the static database - a self-taught human-machine interface or a more advanced facial monitoring algorithm," Gao explained.