AI tech to spot dangerous drivers

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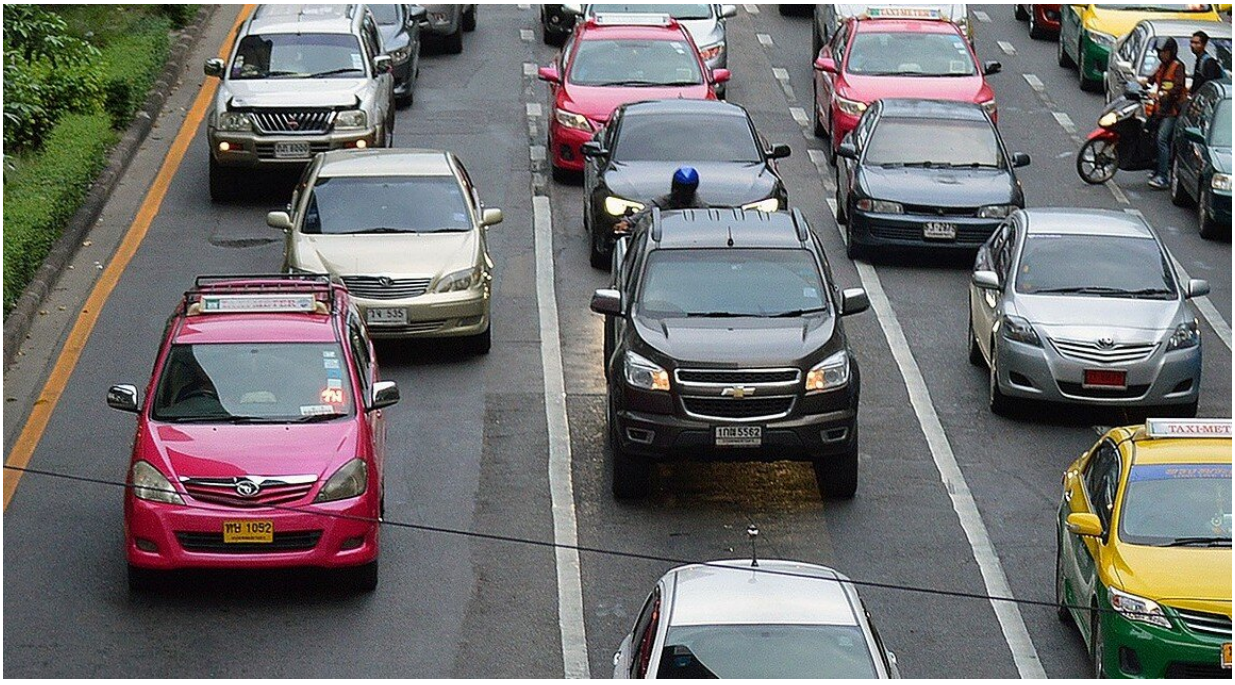

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New license recognition technology could one day be used to detect dangerous drivers before problems arise.

Computer scientist Dr. Shams Islam from Edith Cowan University (ECU) worked with colleagues at the University of Malaysia and University of Melbourne to design an automated system for vehicle license plate detection.

Results from the study found the method was highly accurate and fast to process compared to existing methods, which opens opportunities for real-time feedback on the roads.

"The speed and effectiveness of this new advance will transform the way we monitor traffic," Dr. Islam said.

"For the first time we have the technology that can successfully identify license plates in all conditions, even low light or heavy rain, and it can process the results in seconds. This system can be coupled with face recognition technology to track drivers talking on their phones, sleeping at the wheel or moving around suspiciously. Pinpointing these risks in real-time would enable authorities to intervene before incidents happen."

Instant detection

Using cars driving on a Malaysian highway the researchers used artificial neural network technology to detect and then recognize number plates.

"On each image a region of interest was identified. Features are then extracted from the focus region and are then used to train an artificial neural network to identify characters in the license plate," said Dr. Islam.

Dr. Islam said until now computer vision techniques have typically been used for automatic detection.

"Traditional computer vision systems have always been limited in their use as they are either too slow or not accurate enough," he said.

"We were seeking a way to balance these two conflicting needs."

"A Vision-Based Machine Learning Method for Barrier Access Control Using Vehicle License Plate Authentication" was published in *Sensors*.

More information: Kh Tohidul Islam et al. A Vision-Based Machine Learning Method for Barrier Access Control Using Vehicle License Plate Authentication, *Sensors* (2020). DOI: 10.3390/s20123578

Provided by Edith Cowan University