

UPM team creates cutting-edge traffic app

➤ System uses AI and data from existing platforms to alert motorists in real time on congestion, road incidents

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PETALING JAYA: Universiti Putra Malaysia (UPM) has scored a first by developing a road traffic app powered by artificial intelligence (AI) that uses social media apps and Google traffic data, and is said to be better than Waze or Google Maps.

UPM Road Safety Research Centre head Assoc Prof Dr Law Teik Hua said the Automatic Road Incident Detection System (Arids) provides better information on road accidents. It was developed by the research team at the centre and is designed to operate at a low cost, without external grants or support.

"Arids operates through real time notifications on social media apps like WhatsApp and Facebook and enhances the user's ability to monitor and respond promptly by using Google traffic data. And since it's powered by AI, it goes beyond immediate incident detection.

"The app is also not limited by real time user reports like Waze, which is only effective for immediate use. It employs AI algorithms for continuous, 24/7 automatic detection of various road incidents without human intervention. Waze, on the other, depends on reports by its users."

Law said one reason Arids uses social media apps instead of a stand-alone one is because users prefer to stay informed without having to download additional apps on their mobile phones.

"Most users prefer Facebook as they do not have to disclose their phone numbers. In return, it enhances Arids' precision, so such input can ensure a thorough and precise evaluation based on the system's effectiveness."

He also said users appreciate its convenience and usefulness, while policymakers find it easier to share information regarding traffic behaviour.

Aside from identifying traffic incidents, Arids also evaluates traffic signal light efficiency and stores data for future planning applications, including accident blackspots and traffic impact assessments.

Law said the system's efficiency in quickly detecting traffic light malfunctions can alleviate potentially decreased mobility and increased risks of road crashes.

"Its primary objective is to identify road incidents. It focuses on crashes that result in serious injuries and detects traffic slowdowns. Its AI-driven detection system relies on analysing changes in traffic speed performance captured by Google Maps traffic data.

"A traffic incident is pinpointed when there

is a rapid transition from smooth traffic flow to delays within 15-minute cycles. The AI model, which takes into account various factors, ensures precise and reliable notifications for users," he said.

Arids has garnered appreciation from users for providing insights into traffic speed performance, better journey planning and reducing the likelihood of secondary traffic collisions.

"For traffic operators, it offers automated and efficient monitoring, essentially serving as a 'mobile traffic surveillance centre' where traffic policymakers find value in the traffic incident data collected over time by Arids."

He added that the centre is actively collaborating with organisations such as Kuala Lumpur City Hall, Malaysian Highway Authority and Putrajaya Holdings.

"We are actively explaining Arids and conducting training sessions with relevant authorities as we focus on optimising its collected traffic incident data to enhance road safety and overall mobility."

Law said efforts are being extended to get more local councils to adopt Arids, with free services facilitating practical adoption.

"We are confident of fostering collaborations and expanding the adoption of Arids across diverse traffic management agencies in the country.

"But our long-term objective is to expand Arids globally and create a more comprehensive solution in collaboration with other traffic management and navigation systems worldwide."



CRACKLING HEAT ... A farmer walking on his parched padi field in Balik Pulau yesterday amid an ongoing dry spell in Penang.
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