



NTU traffic prediction technology wins Waymo autonomous driving competition

 17 hours ago  8

SINGAPORE – Roboticists from Nanyang Technological University (NTU), who developed an algorithm capable of predicting a vehicle's position eight seconds into the future, clinched two top awards at a competition organised by US autonomous driving technology development company Waymo.

The Waymo Open Dataset Challenges, in its second edition this year, saw the participation of over 70 teams from top institutions such as the University of California, Berkeley; and artificial intelligence company Xilinx, in the US; as well as Chinese vehicle manufacturer Leapmotor.

Waymo is a subsidiary of Alphabet Inc, the parent company of Google.

The NTU team, consisting of Assistant Professor Lyu Chen and his PhD students Mo Xiaoyu and Huang Zhiyu from the university's School of Mechanical and Aerospace Engineering, came in first in the interaction prediction category where no runner-ups were named, and second in the motion prediction category behind a team from Beijing's Tsinghua University.

In both categories, participants had to develop software algorithms to analyse 574 hours of real-world traffic data provided by Waymo, from road users such as pedestrians and cyclists, as well as vehicles.

In the motion prediction category, the algorithms had to predict where a road user would be eight seconds in the future, based on trajectory in the past one second. In the interaction prediction category, road users' interaction with each other also had to be taken into account.

Winners were selected using a series of metrics that measured how accurately the predictions matched up with the real-world data.

Two other categories, real-time 3D detection and real-time 2D detection, were also open to contestants, but the NTU team did not take part in these.

In a virtual presentation on Monday (July 26), Prof Lyu said that such traffic predictive technology can help improve road safety by anticipating accidents in advance.