

Blind spot detection a winning shot

AN innovative project that addresses critical road safety issues led Team Asia Pacific University of Technology & Innovation (APU) to victory in the “Shell Selamat Sampai Varsity Challenge”.

The Guardian Defense Unit (G.D.U) project, said the team, focuses on preventing accidents and reducing injury severity in motorcycle transportation.

The G.D.U, a motorcycle rear blind spot detection system, was inspired by a real-life accident.

The project uses a Robotic Operating System (ROS) to create a framework integrated with a 2D Light Detection and Ranging (LiDAR) module placed on top of the motorcycle’s number plate.

LiDAR detects objects within a threshold range, and LEDs change colours (blue for warning, green for danger) to alert the rider.

“Our G.D.U plays an essential role in enhancing motorcycle safety, making transportation safer for everyone,” the team said in a press release.

Comprising Bachelor of Mechatronic Engineering students Aaron Raj Bhatti and Cajun Tai Ka Joon, Ronak Robert Vijai – a graduate of the programme –and Diploma in



Well done: Team APU posing for a photo with Higher Education director-general Prof Dr Azlinda Azman (third from left), Shell Malaysia corporate relations general manager Cindy Lopez (fourth from left), and their mentor Lau (far right).

Electric and Electronic Engineering student Sharen Chrisan Fabian Perera, the team was mentored by the varsity’s School of Engineering senior lecturer Dr Lau Chee Yong.

The Shell road safety programme for tertiary education students concluded in Kuala Lumpur on Dec 7 last year.

Themed “Innovate! Captivate!

Safe Lives!”, the challenge was aimed at empowering Malaysian university and college students to propose innovative science, technology, engineering and mathematics (STEM) solutions for road safety.

The team, said Lau, brought diverse skills to the project, including coding, CAD drawing, hardware integration and an

entrepreneurial mindset.

Team leader Aaron Raj Bhatti stressed the importance of the project in saving lives.

“The project was inspired by an accident I experienced. Hence, we worked on a project to help mitigate potential accidents for other road users,” he said in a press release.

The team received a cash prize of RM10,000, individual champion medals, and a champion trophy for their effort.

Lau said winning the Shell challenge was a remarkable achievement that had significantly enhanced the team members’ knowledge and skills.

“This victory showcases their adeptness in addressing real-world challenges, emphasising not just technical proficiency but also critical problem-solving skills and teamwork.

“The multidisciplinary nature of the competition equipped them with a holistic approach to fostering adaptability and effective communication,” Lau said.

The 2023 grand finale was judged by a panel of distinguished individuals, including experts from the Higher Education Ministry, the Malaysian Institute of Road Safety Research, and Shell Malaysia’s High-Risk Transport Road Safety Advisor.

The “Shell Selamat Sampai

Varsity Challenge”, which began with a video proposal submission, involved a 12-week project development phase, a virtual boot camp, and judging sessions.

The theme focused on leveraging STEM to address road safety challenges.

Team APU competed against finalist teams from Universiti Malaya, Universiti Putra Malaysia, Universiti Kebangsaan Malaysia and Universiti Teknikal Malaysia Melaka to emerge champion.