

# Robot food delivery at NTU a whizz of an idea

Self-driving robots developed by a student start-up have been put to work since June

Charlotte Chong

A student start-up at Nanyang Technological University (NTU) has developed self-driving robots that have delivered more than 6,000 lunch and dinner orders on the campus in Jurong since June last year, when the circuit breaker ended.

Whizz Mobility, with its eye on the prize of commercialising its product, has been putting its FoodBots – there are five of them now – through the paces.

In December, the robots started making deliveries out of campus to the nearby CleanTech Park. Last month, they also expanded their repertoire, delivering drinks from bubble tea shops in NTU to various collection points on campus.

Whizz is partnered with Cates, a food delivery mobile app which has about 60 food and beverage merchants on its platform.

The robots may yet do more as Whizz is in talks with two parties over collaborations that could see it extending its delivery services to non-food merchants.

For now, the start-up receives about 70 food orders a day, up from eight a day in August.

"The FoodBot represents a cleaner and smarter delivery alternative on the market, and is an engineering dream for us," said Mr Melvin Foo, 23, a third-year engineering student at NTU and the founder of Whizz.

The team of six at the start-up – five from NTU and one from the Singapore University of Technology and Design – built its first robot during the circuit breaker in April last year.

The students 3D-printed the robot parts, designed the circuit boards and wrote the robotic software, fleet management software and algorithms.

The robots can each carry a load of up to 50kg and move at 5kmh, the average walking speed of pedestrians. They are also equipped with a camera.

While they can travel on all terrains, the robots are programmed to stay on the pavement and avoid grass patches, and travel on pre-mapped delivery routes.

Whizz pays students to monitor the robots in real time through the camera. Where needed, the students guide the robots to move safely when they are at places such as road crossings. The robots have had zero collisions to date.

Mr Zechary Hoe, 23, a third-year engineering student at NTU and the operations manager of Whizz, said the monitoring duties may eventually become a new job opportunity, such as for people with disabilities.

Mr M. Ananda, owner of Indian food restaurant Ananda Kitchen, said his business has improved since using the FoodBots three months ago.

"I don't have enough manpower to send the food to locations," he said. "But the robots can pick up the food and deliver it."

"I now have a lot of new customers," added Mr Ananda, who

receives about 40 orders to be delivered via the FoodBots in a day.

He gets 10 to 15 orders a day from another food delivery platform.

"Students may be in NTU but they may not have time to come to the restaurant. Now, everybody can taste my food."

charlottect@sph.com.sg



The Whizz Mobility team, including (from left) founder Melvin Foo, 23, lead mechanical engineer Herh Peng Leng, 23, software engineer Lakshyajeet Divedede, 21, lead electrical engineer Victor Gwee, 23, and operations manager Zechary Hoe, 23, with their FoodBots, which handle about 70 orders a day. ST PHOTO: TIMOTHY DAVID