

## ABSTRACT

*The design of this restaurant service automation tool aims to reduce the occurrence of human errors, such as errors in customer table addresses when delivering food. Even service robots can work longer hours and have less rest time than human servants.*

*The food delivery AGV robot prototype will receive address data input via the keypad, then the robot will not run if there is no food in the tray, even though the delivery order has been inputted. The robot will walk to each table while checking the address using a barcode scanner. If the address matches, the robot will stop and will run again after the food load on the tray is taken by the customer. The robot will return to the initial position if the address detected by the barcode is the address of the kitchen.*

*The AGV robot prototype can deliver food to the customer's table with a change in food load, with a maximum load of 5 kg, without affecting the delivery time, with a 100% delivery success rate. The robot can detect the presence of food on a tray with a minimum load of 800 grams. With the use of a barcode scanner as an address detector, you can read with a slope angle of the QR code of at least 40, where the minimum distance varies for each QR code size.*

**Keywords :** *AGV line follower, barcode scanner, restaurant service*