

## **ABSTRACT**

*This research aims to design and develop an automatic rice dispenser system based on the ESP32 microcontroller, equipped with a weighing feature and integrated with the Internet of Things (IoT) via the Blynk application. The background of this study lies in the high rice consumption in Indonesia that exceeds the ideal intake, along with the inaccuracy of manual rice measurement, which may impact health, particularly for individuals with diabetes or those on a low-carbohydrate diet. The system comprises key components such as a load cell, HX711, servo motor, 4x4 keypad, I2C LCD, and WiFi-enabled ESP32. Users can input the desired rice quantity via keypad or the Blynk app, and the system will automatically measure and dispense rice with high accuracy. Testing results indicate that the system achieves a weighing error average of 2.1% and is capable of displaying real-time data on both the LCD and Blynk app. Therefore, this system offers an innovative solution for more precise and hygienic rice consumption management, suitable for household or business use.*

*Keywords: Automatic Rice Dispenser, ESP32 Microcontroller, Load Cell, IoT, Blynk Application*