# ABSTRACT

Uncontrolled water levels in Lake Situ Techno Telkom University can lead to disasters such as droughts or flooding, which can damage the ecosystem inside and around the lake. Internet of Things (IoT) is a result of current technological advancements that can connect electronic devices to the internet, accessible anytime and anywhere. A prototype for monitoring and predicting lake water levels based on IoT can be a solution to this problem, using linear regression as the prediction method and utilizing LoRa network for accessibility without the need for the internet. This is the main advantage of the prototype in this research.

Based on direct testing in Lake Situ Techno with parameters including water level, temperature, and humidity, predictions were made using linear regression, with water level as the dependent variable and temperature and humidity as independent variables. The prediction results showed high accuracy according to the Mean Absolute Percentage Error (MAPE) standard, with an accuracy of 96.432%. This indicates that the prototype testing has demonstrated a fairly good performance in its implementation.

**Keywords :** *Internet of Things (IoT), LoRa, Linear Regression, Mean Absolute Percentage Error (MAPE)*