

## ABSTRACT

The current measurement of electricity consumption uses a tool called a kWh meter, currently there are two types of kWh meters that display digital measurements using electronic and analog screens, there are 3 types of analog kWh meters currently used by PLN, namely: kWh meter 3 digits, 4 digits, and 5 digits. To record measurements on analog electricity meters, PLN is currently still doing it manually by visiting the user's house.

One way to automate analog electricity meter readings is to use an IoT device that will send electricity usage information. Previously, research had been carried out to transmit electricity usage, but in previous research it was necessary to add expensive modules to analog kWh meters.

In this final project, the author proposes a solution to read analog electricity usage using the Faster R-CNN method to predict numbers in images sent by IoT devices. Based on the results of parameter testing on recall, precision and accuracy, obtained the best model of Faster R-CNN is obtained using a data partition of 90:10, batch size of 3, learning rate of 0.04 and epoch of 7000 with an accuracy of 99.67%, recall value of 98.04%, and precision value of 98.04%.

**Keywords:** *Faster-RCNN, IoT, Deep Learning, Digit Recognition, kWh meter.*