

# **DESIGN AND DEVELOPMENT OF SOLAR TRACKER PROTOTYPES FOR IoT-BASED RIVER DAM DOOR OPENING POWER SUPPLY (Internet Of Things)**

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## **ABSTRACT**

*The use of solar panels in the utilization of solar energy as a generator of electrical energy is currently widely used, but the installation of solar panels is still silent or static. As a result, the capture of the sun's rays is not optimal and the electricity it produces cannot be maximized. Responding to this problem, the author "designed a Solar Tracker Prototype for an IoT-Based River Dam Door Opener Power Supply. To realize the IoT-based Solar tracker and monitoring system, in the design process an LDR sensor is used to detect sunlight and later can move the servo motor so that it can move vertically and horizontally which is controlled by the Arduino Uno microcontroller. On the solar tracker device there is current and voltage monitoring using the INA219 sensor, the data from the INA219 sensor reading is processed by the ESP8266 microcontroller device and displayed on the Blynk application. From the results of this study, the power generated by the solar tracker system is 12.5% higher than the static system*

**Keywords** : Solar Panel, Solar tracker, LDR Sensor, Servo Motor, Arduino Uno, ESP826