

Iot-Based Motor Vehicle License Plate Detector Using

Yolov7-tiny and Easyocr

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ABSTRACT

Security is a very important thing in human life, encompassing various aspects such as personal, national, cyber, and environmental security. Despite the high awareness of security, cases of crimes such as theft still occur frequently. Data from the Indonesian National Police (POLRI) shows that 137,419 crime cases occurred in January-April 2023, with 41% of them being theft. A more modern alternative is to use image detection technology with machine learning, specifically YOLO (You Only Look Once), which has a good balance between speed and accuracy. Previous research has shown that different versions of YOLO are effective in detecting vehicle license plates. YOLOv7-TINY, used in this study, offers high efficiency and accuracy with fewer parameters than previous versions. This system will be implemented on IoT devices to facilitate installation at security posts or residential entrances, in the hope of assisting security guards' work in maintaining security. The YOLOv7-TINY model is proven to be good at detecting license plates with a precision level of 0.9889 and an overall system accuracy of 64% (the system reads 19 numbers on the license plate correctly and 9 misreads the number).

Keywords : Security, Theft, Housing, YOLOv7-TINY, Vehicle License Plate