Penerapan Metode YOLOv5 dalam Prototipe Sistem Deteksi Kejahatan Perampokan pada CCTV *(Implementation of YOLOv5 Method in a Prototype Robbery Detection System on CCTV)*

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ABSTRACT

Crime is a serious problem in Indonesia, with escalating crime rates. Robbery, especially those involving violence and armed threats, poses a significant threat to public safety. To address this, CCTV technology has become a common solution. However, manual monitoring of CCTV recordings is highly inefficient and prone to human errors. Therefore, this research develops a prototype robbery detection system using the YOLOv5 method on CCTV. A dataset of images depicting robots performing robbery actions is prepared to train the detection model. Testing is conducted using this dataset, both in testing conditions with images and in real-time using a camera. The results show satisfactory success rates, with the ability to detect robberies reaching approximately 91% for violent robberies and 83% for armed robberies. Additionally, the system can send log data of detected criminal activities to a mobile application. For further development, plans include integrating real-time human object detection and adding alarm features to provide warnings when criminal activities are detected. These steps are expected to enhance the system's ability to monitor and respond to criminal situations more effectively.

Keywords*: YOLOv5, Robbery detection, CCTV, Prototype system, Real-time monitoring.*