



**REAL-TIME INTEGRATED SMART BUILDING MONITORING
SYSTEM WITH PRIORITIZED ALERTS**

UNDERGRADUATE THESIS

**Submitted as one of the requirements to obtain
Sarjana Komputer (S.Kom.)**

BY

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FACULTY OF COMPUTER SCIENCE

INFORMATICS STUDY PROGRAM

CIKARANG

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ABSTRACT

Environmental security is currently a matter of concern for many people. More and more people are competing to be able to create intelligent and integrated technology to assist in monitoring. This research will discuss the problem of the limitations of conventional CCTV systems in automatically detecting dangerous objects and providing secure access to recordings and how alternative steps as a solution to the problem. The main purpose of this research is to learn and develop a CCTV anomaly detection system integrated with AI analysis to improve monitoring efficiency and data security. Various approaches are taken to be able to create an integrated system with good accuracy, one of which is through an experimental approach to find out whether this system works as desired. The result is that this system is able to detect dangerous objects with a good level of accuracy and excellent integration. Through this system, it is expected to be a solution and learning in the field of computer vision in the future.

Keywords: Real-time detection, YOLOv8n, OpenCV, CCTV anomaly detection

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