**Intelligent Threat Detection: AI-Based Weapon Recognition with Automated AWS Security Notifications**

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**Abstract**

In recent years, security concerns have increased the demand for intelligent surveillance systems capable of real-time threat detection. This project aims to develop a **Python-based web application** that detects firearms and weapons from both **live CCTV footage** and **uploaded video files.** Using **deep learning-based object detection models**, the system will analyze video frames and determine the presence of weapons with a calculated accuracy score.

To enhance real-time response, the project integrates with **AWS Simple Notification Service (SNS)** to send immediate alerts upon detection. This ensures prompt notification to security personnel, enabling quick action to mitigate potential threats. The solution is designed to be **scalable, efficient, and cloud-integrated**, making it applicable for various security domains such as public spaces, corporate buildings, and law enforcement surveillance.