

Advanced Border Security System using AI Drones and Smart Fencing System

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Abstract:

Border security system is mainly used to assist humans. Traditional surveillance methods based on human supervising hardly give real-time awareness across large terrains and village areas. This proposed paper gives an integrated border security framework combining AI-empowered automatic drones with a smart fencing system to deliver continuous and pin-pointed accuracy monitoring. Major improvements in such integrations lies with enhanced surveillance, reduced human work, and decision-making in a faster way in critical scenarios. The AI drones are powered with image processing modules for intruder detection, thermal imaging mainly for night surveillance, and GPS to cover large areas with efficiency. The smart fencing system is integrated with IoT sensors, detectors, break beam sensors that detect physical movements instantly. A main command center processes the incoming data through machine learning and deep learning algorithms, anomaly detection, and responds rapidly through alert mechanisms.

Keywords:

Border security, AI powered automatic drones, wearable monitoring, machine learning algorithms, deep learning algorithms, break beam sensors.