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AI-Powered Motorcycle Anti-Theft and Safety System

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Abstract: *This document gives formatting instructions for authors preparing papers for publication in the International Journal. This paper presents the development of an AI-based Anti-Theft and Safety System for motorcycles using IoT and embedded systems. The project addresses major challenges for riders: motorcycle theft and slow accident response. Current limitations include the failure of normal locks and alarms to prevent theft or provide quick accident assistance. The proposed solution features biometric authentication (fingerprint/face) for ignition, ensuring only the owner can start the bike. If unauthorized access or tampering is detected, the system immediately blocks the ignition, sounds an alarm, and sends an SMS alert with GPS location to the owner. Furthermore, integrated motion sensors (accelerometer and gyroscope) detect falls or crashes, automatically sending an emergency SMS with live GPS location to family/friends. The system integrates biometric authentication, GPS tracking, and AI algorithms to make motorcycles safer, smarter, and harder to steal.*

Keywords: AI, Biometric Security, GPS Tracking, Motorcycle Safety, Anti-Theft System

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