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Autonomous Vehicle Weight Overload, Insurance Verification and Vehicle Recognition with Penalty System.

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Abstract: *The rapid increase in the number of vehicles has created significant challenges in traffic management and road safety. Overloaded vehicles damage roads, expired insurance increases financial risks, and unidentified vehicles contribute to traffic violations. This paper presents a smart system for autonomous vehicle monitoring that detects vehicle weight overload, verifies insurance status, and recognizes vehicles using automated identification techniques. The proposed system integrates sensors, image processing, and database verification to automatically identify violations and impose penalties. Load sensors measure vehicle weight, cameras capture license plate images, and an automated verification system checks insurance validity through a digital database. When violations are detected, the system automatically generates a penalty notification. This system improves road safety, reduces manual inspection, and supports efficient traffic law enforcement.*

Keywords: Autonomous Vehicle Monitoring, Weight Overload Detection, Vehicle Recognition, Insurance Verification, Smart Traffic System

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