ABSTRACT

AUTOMATED VEHICLE DETECTION AND COUNTING SYSTEM

In the rapidly evolving field of modern transportation, effective traffic management is crucial for ensuring smooth mobility and alleviating congestion. This project introduces an innovative Automated Vehicle Counting System that goes beyond conventional methods, providing a sophisticated solution for monitoring vehicles across diverse transportation scenarios. Utilizing state-of-the-art video analysis techniques, the system extracts multiple frames from video clips, accurately estimates the background, considers shadows, and employs frame subtraction to detect moving objects. In dynamic scenes, the system excels in detecting, classifying, and precisely counting vehicles. Notably, it incorporates advanced license plate detection for comprehensive traffic estimation. One key feature of this system is its capability to send the detected number plates in an Excel sheet, enhancing its utility for traffic management applications. This functionality allows for seamless integration with other systems, providing a comprehensive solution for traffic monitoring and analysis. The integration of advanced object detection, tracking algorithms, and license plate recognition represents a significant stride towards efficient transportation management. This technological innovation not only addresses current challenges in traffic management but also holds promise for future advancements. By providing accurate vehicle counts and detailed license plate information, this system emerges as a pivotal tool for effective traffic management and congestion alleviation in the ever-evolving landscape of urban mobility.

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