ADHIYAMAAN COLLEGE OF ENGINEERING
(Autonomous), Hosur

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(Accredited by NBA)

MINI PROJECT

A COMPUTER VISION-BASED METHOD FOR VEHICLE SPEED DETECTION USING VIDEO FOOTAGE

BATCH: 2021-2025 **BATCH NO: C13**

CLASS : IV-C CSE

ABSTRACT

This project develops an automated vehicle speed detection system using recorded video footage, targeting traffic authorities, law enforcement, and individual users. The system processes video uploads of vehicles in motion to track their speeds through computer vision algorithms. By applying the Lucas-Kanade optical flow for motion tracking and the Haar Cascade for vehicle detection, it accurately measures speed based on movement across video frames. The system outputs annotated videos with speed data for traffic monitoring, speed enforcement, accident analysis, and insurance evaluation. It works with various video sources, requiring no specialized hardware, which enhances flexibility and reliability. This solution offers a scalable, user-friendly interface, ensuring strong data security. It enables efficient traffic and speed monitoring, contributing to road safety and supporting enforcement efforts. The system delivers precise speed estimates, making it a valuable tool for traffic management and legal compliance

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