IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, May 2025
Impact Factor: 7.67

Vehicle Automation System

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Abstract: *The rapid advancement in intelligent transportation systems has paved the way for smart, self-aware vehicles capable of enhancing both user convenience and road safety. This paper presents the development of a* ***Vehicle Automation System****, a software-driven solution designed to transform the in-car display into an intelligent assistant. The system provides real-time information on vehicle direction, gear status (including auto-gear mode), and parking assistance. Moreover, it integrates motion detection and directional guidance, enabling the car to autonomously sense nearby movement and determine the optimal path—functioning effectively even without an active driver. Utilizing a combination of sensor fusion, embedded systems, and smart display technologies, this solution represents a step toward fully autonomous vehicle interaction. The proposed system is aimed at improving user experience, reducing driver workload, and contributing to the broader field of automated vehicular technology*

Keywords: intelligent transportation.

DOI: 10.48175/IJARSCT-26337