Student Name : MUHAMMAD ANSHAD P A

Seminar Topic : Smart Monitoring Systems for Autonomous Vehicles Using IoT

Abstract:

The rapid development of autonomous vehicles (AVs) has significantly transformed the transportation landscape, promising safer, more efficient, and eco-friendly roadways. One of the critical components enabling the safe and reliable operation of AVs is the integration of Internet of Things (IoT) technologies. This seminar explores how IoT-enabled smart monitoring systems can enhance the safety, performance, and overall functionality of autonomous vehicles. By incorporating a range of sensors (e.g., LiDAR, cameras, radar), communication modules, and real-time data analytics, IoT helps AVs monitor their environment, detect obstacles, and make data-driven decisions. Additionally, vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication systems allow AVs to share real-time information with other vehicles and traffic infrastructure, ensuring optimized traffic flow and reducing the risk of accidents. This seminar will delve into the integration of IoT for collision avoidance, adaptive driving, predictive maintenance, and overall system reliability, focusing on how these advancements contribute to a safer and more connected transportation ecosystem.