

Non-Human Auto Drive Train Engine with Obstacle Recognition and Accident Avoiding System

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Abstract: *Modern technologies are now helpful in all aspects of life. This has led to significant development in the field of transportation. In the past, accidents occurred in regular metro trains due to various reasons such as driver error, signal failures, and a lack of time accuracy. Human-operated metro trains have limited control over time, impacting the railway network management system. To address this, the driverless metro train concept has emerged. Driverless metro trains improve the management system of the railway network, reduce human error, consume less power, and provide enhanced comfort and safety for passengers during travel. The development of autonomous systems is revolutionizing transportation technology by improving safety, efficiency, and accuracy. This project focuses on a driverless metro train system incorporating advanced technologies for obstacle detection, collision avoidance, and precise navigation. The system integrates microcontrollers, IR sensors, and RFID tags to operate trains autonomously without human intervention.*

By employing intelligent braking mechanisms and predictive algorithms, the solution ensures minimal energy consumption, high operational accuracy, and enhanced passenger safety. The innovative use of solar panels further optimizes power usage, making the system cost-effective and environmentally friendly. With additional features like automated alerts and LCD messaging for passengers, the project offers a sustainable and reliable alternative to conventional metro train..

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