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Patent Search

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Abstract:

The proposed AI-powered autonomous driving system with real-time obstacle detection and avoidance combines advanced technologies to enable safe and efficient navigation. The system utilizes a range of sensors, including cameras, LiDAR, radar, and ultrasonic sensors, to collect data about the vehicle's surroundings. Artificial intelligence algorithms process the sensor data, accurately detecting and classifying various obstacles in real-time. The system incorporates predictive modeling to anticipate potential collisions by predicting the future behavior of detected obstacles. Integration with the vehicle's control systems allows for precise execution of avoidance maneuvers, ensuring the safety of the vehicle's occupants and other road users. The system's continuous learning capabilities and adaptability to different driving scenarios further enhance its performance. With the potential to revolutionize transportation, the proposed invention offers significant advancements in autonomous driving technology, paving the way for safer and more efficient mobility.

Complete Specification

Description:The field of invention for the proposed invention of an AI-powered autonomous driving system with real-time obstacle detection and avoidance lies within the domain of transportation and automotive engineering. This invention is aimed at revolutionizing the way people travel by making the driving experience safer, more efficient, and less stressful.

The system combines advanced artificial intelligence techniques with state-of-the-art sensors to enable vehicles to navigate complex environments and avoid obstacles in real-time. The invention has the potential to transform the transportation industry by reducing the number of accidents caused by human error, increasing traffic flow, and reducing the overall cost of transportation. The AI-powered autonomous driving system with real-time obstacle detection and avoidance has a wide range of potential applications, including personal transportation, commercial transportation, and military vehicles.

Background of the Invention:

The field of autonomous driving has witnessed remarkable advancements in recent years, with the integration of artificial intelligence (AI) and sensor technologies revolutionizing the transportation industry. Autonomous vehicles have the potential to transform the way we travel, offering increased safety, improved efficiency, and reduced environmental impact. One of the critical challenges in autonomous driving systems is the real-time detection and avoidance of obstacles, as it directly affects the safety and reliability of the vehicles. In response to this challenge, a proposed invention focuses on developing an AI-powered autonomous driving system with real-time obstacle detection and avoidance capabilities.

The rapid growth of urbanization, population, and the increasing demand for transportation have led to congested roads, longer commuting times, and a rise in traffic accidents. Human errors contribute significantly to these accidents, as factors like fatigue, distraction, and impaired driving can compromise safety. Autonomous driving

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