Patent Search

Invention Title	ARTIFICIAL INTELLIGENCE AND IOT BASED SELF-DRIVING CAR FOR PATH PLANNING AND ROAD LANE DETECTION WITH IMPROVED CAN FOR SELF-DRIVING CARS IN DYNAMIC ENVIRONMENT
Publication Number	51/2023
Publication Date	22/12/2023
Publication Type	INA
Application Number	202341075525
Application Filing Date	06/11/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRONICS
Classification (IPC)	G05D0001020000, G06N0003080000, G06N0003040000, G08G0001010000, G05D0001000000

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Abstract:

Artificial Intelligence and IoT based Self-driving car for path planning and Road Lane detection with improved canny edges for self-driving cars in dynamic environmer The advancement in autos has experienced a significant transition from human-operated vehicles to vehicles equipped with self-driving capabilities. Self-driving cars, currently a significant point of interest, must also prioritise concerns such as privacy, energy efficiency, traffic management, environmental impact, and road safety. A optimal road safety is an unattainable objective, given the escalating number of cars and the global human population. The article proposes measures to enhance th self-driving cars equipped with artificial intelligence processors. The objective of the project is to create a scaled-down autonomous vehicle using Internet of Things (I technology, specifically Raspberry Pi. The vehicle will utilise a high-resolution Pi camera to gather the required data. The Raspberry Pi will then analyse this data using network and machine learning algorithms, enabling it to identify road lanes, traffic lights, and make appropriate turns based on this information. Furthermore, the au has the capability to surpass other vehicles when it comes into an obstacle, signalled by the suitable LED signals. Automated driving initiative. The research centres o a prototype of a self-driving vehicle rather than addressing issues related to automobiles and traffic congestion. The project commences with constructing the hardw by employing image processing techniques for signal detection using machine learning (specifically, Convolutional Neural Networks). Additionally, numerical methods utilised for object detection in order to determine the distances between objects. Finally, all functions will be tested using the models. Utilising many cameras and ser enhance the precision. To prevent future traffic congestion, a system can be developed wherein each car is interconnected with nearby vehicles. The ultimate objectiv research is to mitigate traffic accidents and safeguard human lives.

Complete Specification

Description:DESCRIPTIONS:

The project centres around constructing a model of a self-driving automobile. The notion of autonomous driving is not novel or recent. Leonardo da Vinci theoris concept of a self-propelling cart in the late 16th century. When examining the historical record of traffic-related problems. Approximately 1.3 million individuals p annually in vehicle collisions, with India alone recording a death toll of 137,000 from road accidents in 2017. The research states that there has been a rise in road cases in the country, rising from 354,796 in 2020 to 403,116 in 2021. Self-driving autos are currently a highly discussed technological advancement. Advancement technology have brought to the actualization of self-driving cars, and it is expected that in the next decade, they will achieve the furthest level of automation. Incre academics are focusing on the domain of autonomous vehicles, particularly the investigation of driving safety and dependability. Road environment perception, pa planning, and decision-making are crucial for ensuring the safety and dependability of self-driving cars. The road sensing technology now utilises modular and cos effective sensor solutions, which align with the future direction of growth. This study employed an affordable modular computing platform and video sensor to demonstrate how an electric car can effectively detect and respond to road conditions in situations where there is minimal traffic. This demonstrates the utilisation approach in the field of assisted driving research and self-driving research. It is highly beneficial and significantly enhances the dependability and security of autonc driving. Driverless cars employ this connectivity to update their algorithms by analysing user data. To operate these autonomous cars, a substantial quantity of da needs to be collected and analysed. In this case, the autonomous vehicle Transmits road data through the Internet of Things (IoT) using pre-existing mapping. Th provides a comprehensive account of the actual path, the movement of vehicles, and strategies for navigating any obstacles. The environmental sensor data will b

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