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Abstract:

The present invention relates to a 5G-enabled autonomous vehicle communication network designed to facilitate real-time data processing and communication betw autonomous vehicles (AVs) and infrastructure components. This system employs advanced vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication enable seamless exchange of critical information, such as speed, direction, traffic conditions, and obstacle detection. By leveraging 5G technology, the invention ensu speed, low-latency communication that enhances the safety and efficiency of autonomous vehicle operations.

Complete Specification

Description:The embodiments of the present invention generally relates to the field of autonomous vehicle technology, specifically focusing on communication net enabled by 5G technology. It encompasses systems and methods for real-time data processing and communication among autonomous vehicles and infrastructure to enhance navigation, safety, and traffic management through efficient data exchange and processing capabilities.
BACKGROUND OF THE INVENTION
The following description of related art is intended to provide background information pertaining to the field of the disclosure. This section may include certain asp the art that may be related to various features of the present disclosure. However, it should be appreciated that this section be used only to enhance the understan the reader with respect to the present disclosure, and not as admissions of prior art.

The rapid development of autonomous vehicles has transformed the automotive industry, introducing new technologies that enable vehicles to navigate and opera without human intervention. However, one of the significant challenges in achieving fully autonomous operation is the need for reliable and efficient communicatio systems. As autonomous vehicles rely heavily on real-time data from various sources, the demand for high-speed, low-latency communication has never been grea

Traditional communication technologies, such as 4G and Wi-Fi, often struggle to provide the necessary bandwidth and speed required for the seamless operation o autonomous vehicles. These limitations can lead to delays in data transmission, which can compromise safety and operational efficiency. Moreover, as the number autonomous vehicles on the road increases, the strain on existing communication infrastructures will only intensify, making it imperative to adopt more advanced s

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