

عنوان مقاله:

A survey on machine vision in self-driving cars with a case study over recent crash statistics in USA

محل انتشار:

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خلاصه مقاله:

Machine vision is a field of artificial intelligence that generally enables computers to understand the dynamics and power of visual analysis of the humankind. By using algorithms and techniques in machine vision, the machines are able to recognize and identify patterns and different features of images and videos. This technology is used in various fields such as face recognition, medical image analysis, traffic detection and even in self-driving cars. Nowadays, it is widely used in the automotive industry, notably in self-driving cars. By collecting and processing vision data, self-driving cars have the ability to detect obstacles around them, identify road signs, and even anticipate ahead. This technology enhances the security as well as the functional capabilities of the cars and allows them to move on the roads automatically, without human intervention. The purpose of this research is to investigate how machine vision is used in self-driving cars and how its performance can be evaluated. We explore advanced machine vision methods in self-driving cars and evaluate their performance and efficiency in different conditions. As a case study, we go through the California and US Self-Driving Vehicle Crash Statistics as well as Traffic Safety Administration data to get inspired how machine vision in self-driving cars has affected the community so far. With regard to that, we analyze two self-driving car accident statistics reported in USA

کلمات کلیدی:

artificial intelligence; computer vision; machine vision; self-driving; autonomous vehicles; machine learning

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