

Design of an autonomous vehicle system using Raspberry Pi embedded computer combined with STM32 microcontroller and image processing technology

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Abstract: In the context of the rapid development of artificial intelligence and sensors, the design of autonomous vehicle systems is increasingly becoming an important trend. This topic focuses on researching and implementing an autonomous vehicle system using a Raspberry Pi embedded computer combined with an STM32 microcontroller to process data from cameras and other sensors. The objective of the topic is to build a system capable of self-driving, providing safe and efficient operation in various real-world environments. Through a combination of theoretical research and experimentation, this project aims to contribute to the field of autonomous vehicles by developing advanced image processing technology and optimizing the control system.

Keywords: autonomous vehicle, Raspberry Pi, STM32, image processing, sensor