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(57) Abstract :  
The invention pertains to machine vision and intelligent control and describes a monocular vision technique to identify and locate the edge of a road. There are two approaches for detecting the edge of a road that may be used in visual navigation or intelligent control of a robot. These methods target a continuous road with various edge characteristics. The road's margin may be detected using either a color-based approach or a threshold value dividing method according to the invention. It is possible to calculate the perpendicular distance and robot course angle from the robot's current position to the edge of the road using an image that has been inverted perspective projected. This results in an image that appears to be a top view but is a front view, which is then reversed. With its great anti-interference performance, instantaneity, and suitability for both semi-structured and unstructured roadways, this system is simple to apply.

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