A Fuzzy Rule-Based Control System for Fast Line-Following Robots

Abstract:

This paper focuses on the optimization of the line-tracking and following control technique used in high speed autonomous movable IoT devices such as line-following robotic vehicles. A fusion of a new pro-active / feed-forward control system, based on the simultaneous use of computer vision and the use of an array of analog infrared reflective phototransistors with an optimised PID based feed-back implementation is proposed. Experimental evaluations demonstrate that the proposed approach aids and improves the performance of line-following robots compared to the traditional PID technique.

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