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Abstract

This paper provides an efficient way to design an automatic car braking system using Fuzzy Logic. The system could avoid accidents caused by the delays in driver reaction times at critical situations. The proposed Fuzzy Logic Controller is able to brake a car when the car approaches for an obstacle in the very near range. Collision avoidance is achieved by steering the car if the obstacle is in the tolerable range and hence there is no necessity to apply the brakes. Another FLC (which is cascaded with the first FLC for collision avoidance) implements the Anti-lock Braking capability during heavy braking condition. Thus the system is made intelligent since it could take decisions automatically depending upon the inputs from ultrasonic

sensors. A simulative study is done using MATLAB and LabVIEW software. The results obtained by the simulation model are compared with the existing system and the proposed model conveys a satisfactory result which has high consumer acceptance. ATmega controller is used for implementation of the proposed system.

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Computer Science

Index Terms

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Keywords

Collision Avoidance Anti-lock Braking System (abs) Slip Ratio Simulation Interface Toolkit (sit).