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Around View Monitoring System with Motion Estimation in ADAS Application   (Conference Paper)

Bin Rasdi, M.H.F.,   Hashim, N.N.W.B.N.,   Hanizam, S.

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International Islamic University Malaysia (IIUM), Department of Mechatronics Kulliyyah of Engineering, Gombak, Malaysia

View additional affiliations ⌄

Abstract

Around View Monitoring (AVM) system uses multiple cameras as the sensor that is mounted on several positions on the vehicle to produce a display of top view image from the surrounding environment of the vehicle that is not readily visible to the driver because of the limited field of view of the driver. The risk of parking accident could be reduced by developing the system that can monitor the surrounding area, detecting parking slot lane and obstacle. A few seconds of early warning would significantly decrease the chances of accidents. This system can assist in the parking area and navigating through a narrow space area. Current AVM available usually needed another sensor to ensure a good performance output. But this is cost consuming besides increasing the computational time and resource. Here, proposed an AVM system that will integrate with the motion estimation algorithm to produce a good result. The AVM image sequence is from a camera input mounted on the vehicle. The algorithm to be tested is Gunnar Farneback. Movement in sequential frames is detected and converted to the real-world position change. This paper will compare the algorithms in various condition. The accuracy of the result was measured. © 2019 IEEE.

SciVal Topic Prominence ⓘ

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