عنوان مقاله:

Motion detection by a moving observer using Kalman filter and neural network in soccer robot

محل انتشار:

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خلاصه مقاله:

In many autonomous mobile applications, robots must be capable of analyzing motion of moving objects in their environment. During movement of robot the quality of images is affected by quakes of camera which cause high errors in image processing outputs. In this paper, we propose a novel method to effectively overcome this problem using Neural Networks and Kalman Filtering theory. This technique uses movement parameters of camera to resolve problems caused by error in image processing outputs. The technique is successfully applied in the MRL Middle Size Soccer Robots where ball motion detection has an especial importance in their decision making. Experimental results are presented and 2.2% achieved error suggests that the combined approach performs significantly better than traditional techniques.

کلمات کلیدی:

Motion Detection; Neural Network; Kalman Filter; Middle Size Soccer Robot