Parallel Processing Technique for High Speed Object Recognition

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Abstract

In this work, we introduce a novel method for recognizing a discriminative object at a very high speed. The system is based on self learning high speed parallel processing devices. The system processes video streams at speed of 1000 frames per second or more. For high speed object recognition using sequential computing from an image of a video having thousands of frames per second and each image frame consists of thousands of pixels, we need very much time for executing complicated algorithms. In the traditional way of computing and recognizing systems are very time consuming compared to our system because the traditional systems use sequential computation for recognizing, with some complicated functions. If we use other types of parallel processors like ANN for processing each pixel or group of pixels, those systems need programming and giving data to such large number of processors are practically difficult. Here we have used a self learning parallel processor device which is made for doing some kinds of particular jobs. This parallel processing devices are easy to manipulate and can be trained simultaneously. It contains memory for storing data comparators for comparing with previously stored memory etc. Training as well as functioning are in real time even if the system process thousands of image frames per second.
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Index Terms

Computer Science Pattern Recognition

Keywords

Object recognition Parallel processors self learning.