Abstract

This paper presents a neural network based approach for the detection and tracking of pedestrian. It addresses the problem of human detection and tracking in surveillance videos. This system consist of three major modules: Initially the video objects are detected using a novel temporal differencing based procedure and several mathematical morphology-based operations. On the basis of results, it was figured out that the Histogram of Oriented Gradient (HOG) and Relative Discriminative Histogram of Oriented Gradient (RDHOG) feature which were trained in the Neural Network classifiers have given a good performance within the expected process timing. Pedestrian tracking is the last part of the system. In this research we propose the tracking function which is based on the Particle filtering and a trustworthy pointing system. The movement and alteration in the size of the vehicles which are detected in continuous video frames are tracked by the function.

Index Terms

Computer Science Artificial Intelligence

Keywords

HOG, Pedestrian Detection, Neural Network, RDHOG