Patent Search

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Abstract:

Recent days have seen a steep rise in the increase of number of vehicles thereby increasing traffic congestion. Research studies show that there is an increase in number of road accidents as the traffic congestion increases. Traffic regulation becomes the need of the hour and efficient traffic control systems are necessary to reduce the accidents, fuel wastage and traffic jam. Proposed is a Deep Convolution Neural Networks Model for IoT Based Adaptive Traffic Control System. System consists of Wi-Fi Controller, Message Agent, Sensor data input, Camera Data Processor, Vehicle Location Tracking System, Vehicle Image Tracking System. The physical layer consists of sensors, actuators and software agents that are necessary to predict the count of vehicles and traffic congestion status to be updated onto the cloud and dashboard. Images and videos are gathered using cameras and sensors and are pre-processed and trained using Machine Learning Model. The training follows Convolutional Neural Network model consisting of cascade of alternative convolution and pooling layers. Training is carried out using Support Vector Machines until learning criteria is met. Data from Convolutional Neural Networks and Support Vector Machines are fused for real-time data validation and checked for congestion and accordingly display of traffic congestion is alerted.

Complete Specification

Description:4. Description:
Field of Invention:
Recent days have seen a steep rise in the increase of number of vehicles thereby increasing traffic congestion. Research studies show that there is an increase in number of road accidents as the traffic congestion increases. Traffic regulation becomes the need of the hour and efficient traffic control systems are necessary to reduce the accidents, fuel wastage and traffic jam. Proposed is a Deep Convolution Neural Networks Model for IoT Based Adaptive Traffic Control System. System consists of Wi-Fi Controller, Message Agent, Sensor data input, Camera Data Processor, Vehicle Location Tracking System, Vehicle Image Tracking System. The physical layer consists of sensors, actuators and software agents that are necessary to predict the count of vehicles and traffic congestion status to be updated onto the cloud and dashboard. Images and videos are gathered using cameras and sensors and are pre-processed and trained using Machine Learning Model. The training follows Convolutional Neural Network model consisting of cascade of alternative convolution and pooling layers. Training is carried out using Support Vector Machines until learning criteria is met. Data from Convolutional Neural Networks and Support Vector Machines are fused for real-time data validation and checked for congestion and accordingly display of traffic congestion is alerted.
Background Art & Description:
US10889301B2 Disclosed are a vehicle control method and an intelligent computing apparatus for controlling a vehicle. By obtaining action information of a driver, when a change in a gaze of a driver is recognized, displaying an image related to a direction different from a direction of the changed gaze of the driver through a display related to the direction of the gaze of the driver when a change in a gaze of a driver is recognized, it is possible to effectively assist the driver in driving by providing a lot of

View Application Status