LITERATURE SURVEY

Literature survey is a prerequisite for any project and it helps developing new concepts for implementing the project .To carry out the project work in a phased manner it is necessary to conduct literature survey .A project requires a good insight about the basic concepts and understanding to nourish these requirements references have been made to many textbooks.

According to the first work on automated traffic sign detection was reported in Japan in 1984. This attempt was followed by several methods introduced by different researchers to develop an efficient TSDR system and minimize all the issues stated above. An efficient TSDR system can be divided into several stages: preprocessing, detection, tracking, and recognition. In the preprocessing stage the visual appearance of images has been enhanced.Different colour and shape based approaches are used to minimize the effect of environment on the test images.The goal of traffic sign detection is to identify the region of interest (ROI) in which a traffic sign is supposed to be found and verify the sign after a large-scale search for candidates within an image. Different colour and shape based approaches are used by the researchers to detect the ROI. The popular colour based detection methods are HSI/HSV Transformation [8, 9], Region Growing, Colour Indexing, and YCbCr colour space transform. As the colour information can be unreliable due to illumination and weather change, shape based algorithm is introduced. The popular shape based approaches are Hough Transformation [13–15], Similarity Detection, Distance Transform Matching,and Edges with Haar-like features [18, 19]. The tracking stage is necessary to ensure real-time recognition. In addition, the information provided by the images of the traffic signs will help verify the correct identification and their by detecting and following the object. The most common tracker adapted is the Kalman filter [18, 21, 22].Will help to verify several methods have been used by the researchers for recognizing traffic sign. Ohara et al. and Torresen et al used the Template Matching technique, which is a fast and straightforward method. Genetic Algorithm is used by Aoyagi and Asakura and de la Eccalera et al which is said to be unaffected by the illumination problem. The main advantage of the AdaBosst is its simplicity, feature selection for large dataset, and generalization. Li et al used Adaboost learning containing five classical Haar wavelets and four

HoG (Histogram of Oriented

Gradient) features. Greenhalgh and Mirmehdi showed a comparison between SVM, MLP, HOG-based classifiers, and Decision Trees and found that a Decision Tree has the highest accuracy rate and the lowest computational time. Its accuracy is approximately 94.2%, whereas the accuracy of the SVM is 87.8% and that of MLP is 89.2%. Neural Network is flexible, adaptive, and robust . Hechri and Mtibaa used a 3-layer MLP network whereas Sheng et al used a Probabilistic Neural Network for the recognition process. Support Vector Machine (SVM) is another popular method used by the researchers which is robust against illumination and rotation with a very high accuracy. Yang et al and García-Garrido et al used SVM with Gaussian Kernels for the recognition whereas Park and Kim used an advanced SVM technique

that improved the computational time and the accuracy rate for gray scale images. For improving the recognition rate of the damaged or partially occluded sign, Soheilian et al. in used template matching followed by a 3D reconstruction algorithm. The distortion-invariant fringe-adjusted joint transform correlation (FJTC) was used by Khan et al. in and Principal Component Analysis (PCA) is used by Sebanja and Megherbi in which have a very high accuracy rate. In , Prieto and Allen used a self-organizing map (SOM) for recognition whose main idea was to apply SOM at every level of RSs with a hit rate of 99%.

Existing System

Road traffic constitutes a major part in the problem of society. Some existing methods deals with the automatic detection and recognition of traffic sign is a challenging problem, with a number of important application areas, including advanced driver assistance systems, road surveying, and autonomous vehicles. While much research exit on both the automatic detection and recognition of symbol-based traffic sign, and the recognition of text in real scenes there are far less research focused specifically on the recognition of text on traffic information signs. This could be partly due to the difficulty of the task caused by problem, such a illumination and shadow, blurring, and sign deterioration. There are projects on traffic sign detection and alert .That project mainly works as a mobile application. Speed control system is not implemented in the existing systems along sign detection. In the conventional way there is a large component of nonrigidity and textural differences among road sign. Second, road sign detection is also made difficult because of additional features, such as dust, which can either be present or totally absent from a road sign. Third, the presence of unpredictable imaging conditions in an unconstrained environment increases the difficulty of the task.

Drawbacks Of Existing System

- High risk for road accidents due to over speed.
- Threat for drivers and humans.
- No such system in India.
- Drivers are not bothered about the speed limits.
- Difficulty to find signboards due to dust , climatic conditions like fog, Mist etc.