De La Escalera, A., et al.[1] started explaining with the importance of traffic sign recognition for autonomous [1]vehicles. Traffic sign recognition is very important as it provide critical and complex information to drivers. Autonomous vehicles have to understand the same thing as driver to navigate safely by using camera and computer vision. Self-driving cars and driver assistance systems needs to understand the road sign to full-fill the work properly.  It have to handle slight rotations of the signs. This system use a type of AI (**neural network).** Neural Network can identify different types of sign on the road .They used two types of algorithms which is detection and classification. In detection , that mainly use for Color thresholding to segment the image for understanding and shape analysis. And also on the other hand , what type of signs are identified and understood in classification. Besides that , there are several lacking like , Partial Occlusions , Weather issue , Under Environments dependency , Testing .

Saadna, Y. and A. Behlou et al.[2]provides a crystal-clear overview of the methods used in traffic sign detection. It mainly explains different categories of techniques that is used for identifying, detecting and classifying traffic signs. There are multiple datasets are used in it, as like, **GTSDB** (German Traffic Sign Detection Benchmark), **BTSD** (Belgium Traffic Sign Dataset), **LISA** (Laboratory for Intelligent and Safe Automobiles), **STSD** (Swedish Traffic Signs Dataset), **DITS** (Data Set of Italian Traffic Signs). It also provides directions for future work. For identifying the traffic signs, detection algorithm are used. After detecting the traffic sign, classification algorithms are used to know which type of sign it is. The paper provides a good amount of knowledge about the algorithm used in  traffic sign detection

Yang, Y., et al.[3]discusses in detail how a car can understand and detect different types of traffic signs. The entire topic is thoroughly covered. Another important reason for this work is to enhance driver safety and establish good communication between the car and its driver. This work can mainly be divided into two important parts. Among them, the other important part is **Detection and Tracking**. Here, a type of technique is used, called **AdaBoost**. With the help of AdaBoost, through the process of training and saving many types of examples, it can identify and detect which traffic sign it is. After the detection process is completed, the system begins its second task, which is to determine what this sign is and what it means. These tasks are fully accomplished using a **Bayesian classifier**. The Bayesian classifier uses probability to accurately identify which sign it is. Certainly, this is an important task with many significant goals. Some of the goals we can mention here include **Improving Driving Safety**, **Enhancing Driving Comfort**, and **Automatic and Generic Detection**, which are very useful for the driver. While this task is very significant, there are still some limitations, such as **performance with small signs**, **discrete scale detection**, **computational speed**, and a few other areas that need improvement.

Bahlmann, C., et al. [4]mentioned about a computer vision technique that continuously provides the driver with various types of information. For example, it informs about speed limits, no-passing zones, etc. Through this, safety can be ensured more comprehensively. Here, two key components are used. One is **Haar wavelet features** combined with **AdaBoost training**, which is used to detect and identify traffic signs. This process is called **detection and tracking**. By using a **Bayesian generative model**, it is possible to understand the meaning of a traffic sign. In this experiment, the detection system achieved a **1.4% false negative rate** and a **0.03% false positive rate**. The classification process has a **6% error rate**. The aim here is to achieve **scale-space fusion**. This is ultimately an **efficient system**, which is a blessing for our upcoming days.

Bahlmann, C., et al.[5]a detection method is discussed that uses computer vision to create a system, which is a driver assistance system. Here, it is divided into 3 categories. For example, there is a **color-based detection method**, which explains how colors work and the challenges associated with it are also mentioned. In the same way, the other two methods are **Shape-Based Detection Methods** and **Learning-Based Detection Methods**.  Even though the task becomes challenging due to bad weather, lighting, and various other reasons, with time and the help of advanced sensors, it will become easier to achieve.

1. De La Escalera, A., et al., *Road traffic sign detection and classification.* IEEE transactions on industrial electronics, 1997. **44**(6): p. 848-859.

2. Saadna, Y. and A. Behloul, *An overview of traffic sign detection and classification methods.* International journal of multimedia information retrieval, 2017. **6**: p. 193-210.

3. Yang, Y., et al., *Towards real-time traffic sign detection and classification.* IEEE Transactions on Intelligent transportation systems, 2015. **17**(7): p. 2022-2031.

4. Bahlmann, C., et al. *A system for traffic sign detection, tracking, and recognition using color, shape, and motion information*. in *IEEE Proceedings. Intelligent Vehicles Symposium, 2005.* 2005. IEEE.

5. Brkic, K., *An overview of traffic sign detection methods.* Zagreb: Department of Electronics, Microelectronics, Computer and Intelligent Systems, Faculty of Electrical Engineering and Computing, 2010.