Abstract
This paper research work proposes automatic number plate and face recognition system. This research work first focusing for implementing a automatic number plate system based on optical character recognition and then face recognition system based on Principle Component Analysis (PCA) to standardize the faces illumination reducing in such way the variations for further features extraction; after developing both the system. In order to increase the security level this work proposes a automatic number plate and face recognition and verification system.

The system is implemented on the entrance for security control of a highly restricted area like military zones or area around top government offices e.g. Parliament, Supreme Court and also in residential apartments, toll collections booths etc to avoid the security check at entrance of the gates. The developed system first captures the vehicle image and vehicles authorize persons such as owner or registered person's faces. Vehicle number plate region is extracted using the image segmentation in an image. Optical character recognition technique is used for the character recognition the resulting data is then used to compare with the records on a database. Once the number plate of authorize vehicle is identified and then faces of the persons verified by using face recognition system if face is also identified then vehicle can be allowed for restricted area otherwise not allowed. This work can be implemented and simulated in Matlab, and its performance is tested on real image and also tested on data base images. It is observed from the experimental results that the developed system successfully detects and recognizes the vehicle number plate images and faces of the authorize persons only.

References

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**Index Terms**

Computer Science

Pattern Recognition

**Keywords**

Anpr (automatic Number Plate Recognition)  Principle Component Analysis (pca)  Face Recognition

Vehicle Number Plate

Image Segmentation

Matlab.