



**DESIGN AND IMPLEMENTATION OF  
DEEP ANOMALY ACTIVITIES  
DETECTION USING VIDEO PROCESSING**



**A PROJECT REPORT**

*Submitted by*

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in partial fulfillment for the award of the degree

*of*

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION**

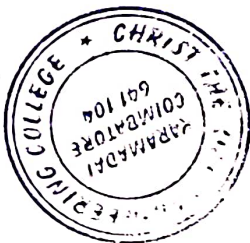
**ENGINEERING**


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BONAFIDE CERTIFICATE

Certified that this project report "DESIGN AND IMPLEMENTATION OF DEEP ANOMALY ACTIVITIES DETECTION USING VIDEO PROCESSING" is the bonafide work of "ARAVIND S.E, GAYATHRI M, PRIYANKA P", carried out the project work under my supervision.

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## ABSTRACT

Abnormal event detection is now a challenging task, especially for crowded scenes. Many existing methods learn a normal event model in the training phase, and events which cannot be well represented are treated as abnormalities. It fails to make use of abnormal event patterns, which are elements to comprise abnormal events. Moreover, normal patterns in testing images may be divergent from training ones, due to the existence of abnormalities. Anomaly detection finds extensive use in a wide variety of applications such as murder and kidnap. The proposed detector treats each sample as a combination of a set of event patterns. Due to the unavailability of labeled abnormalities for training, abnormal patterns are adaptively extracted from incoming unlabeled testing samples.



  
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## CHAPTER 8

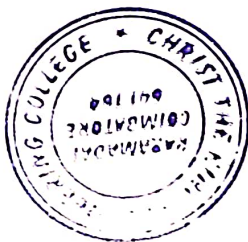
### 8.1 CONCLUSION

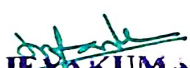
In this project a machine learning based framework for anomaly detection is proposed. Motion fusion block is designed to maintain motion and appearance cues. The feature transfer block is used to extract the features by using CNN and SVM architectures and it exploits the transferability of the neural network from different tasks/domains. The proposed model is effective in discriminating normal events from abnormal events.

- Our Project aims at exploring and proposing an unsupervised approach for detection of abnormal events in a video(dataset).
- The algorithm relies on original sparse coding without any optimization and providing reconstruction vectors and normality based on these vectors.
- Also, the sparse coding bases need to be updated on the fly. In this article, we used a few videos from subway entrance and exit gates or road sides.
- The system is able to provide more accurate results, in a series of abnormal events in comparison to other available methods in the literature.

#### 8.1.1 FUTURE SCOPE

In the future, we can implement this system with a real-time camera. So that the process will be shown for real-time inputs.



  
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