VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama" Belagavi – 590 010

PROJECT REPORT
ON
"ACOUSTIC EVENT RECOGNITION FOR THE APPLLICATION OF SURVELLIANCE SYSTEM"

Submitted in partial fulfillment of the requirements for the award of the degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

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CERTIFICATE

Certified that the project work entitled "ACOUSTIC EVENT RECOGNITION FOR THE APPLICATION OF SURVELLIANCE SYSTEM" is a bonafied work carried out by

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in partial fulfillment for the award of BACHELOR of ENGINEERING in ELECTRONICS & COMMUNICATION ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2017–2018. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering degree.

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ABSTRACT

Recent years have witnessed growing interest in the automatic detection of serious situations like road accidents, to ensure quick intervention of the emergency teams. However, in few scenarios visual data is not sufficiently reliable. In this proposed system audio event recognition (AER) technique is implemented through the analysis of audio streams which can improve the overall efficiency of the existing surveillance system.

Acoustic Event Recognition deals with detection, classification and recognition of unstructured environment which may contain overlapping sound events and non-stationary noises in the background. The events are classified by comparing the features extracted from the input sample with the trained samples. This work proposes a recognition scheme based on a hierarchical structure, using features obtained from Mel-Frequency Cepstral Coefficient (MFCC) and Perceptual Linear Prediction (PLP) methods. These features are used to train Support Vector Machine (SVM) for event classification. The effectiveness of the proposed method is demonstrated via experimental results using Matlab simulation tool.