KSCST

Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Telefax: 080-23348840

Email: office@kscst.iisc.ernet.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

Mr. H. Hemanth Kumar
Executive Secretary

27th March, 2019

Ref: 7.1.01/SPP/1333

The Principal,
Alva's Institute of Engineering and Technology,
Shobavana Campus,
Mijar,
Moodbidri - 574 225.

Dear Sir/Madam,

Sub : Sanction of Student Project - 42nd Series: Year 2018-2019
Your Project Proposal Reference No. : 42S_BE_0694

Ref : Your Project Proposal entitled " **OVERLAPPING ACOUSTIC EVENT CLASSIFICATION**

I am happy to inform that your student project proposal referred above, has been approved by the Council for "Student Project Programme - 42nd Series" and has been sanctioned with a budgetary break-up as detailed below:

Students	Ms. Chaithanya S P and others	**Budget**	**Amount (Rs)**
		Materials/Consumables	1,500.00
Guide/s	Mr. Shankar B B	Labor	500.00
		Travel	500.00
Department	Electronics And Communication Engineering	Miscellaneous	500.00
		Report	500.00
		TOTAL	3,500.00
	THREE THOUSAND FIVE HUNDRED RUPEES ONLY		

The following are the guidelines to carryout the project work :

a) The project should be performed based on the objectives of the proposal sent by you.

b) The project should be completed in all respects and one copy of the hardbound report along with softcopy of the full report in a CD (.pdf format) should be submitted to KSCST.

c) Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST.

d) Please quote your **project reference number printed above** in all your future correspondences.

e) Important: After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and shouid include following points:

1) Title of the project
2) Name of the College & Department
3) Name of the students & Guide(s)
4) Keywords

PRINCIPAL
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225, D.K.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"OVERLAPPING ACOUSTIC EVENT CLASSIFICATION"

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

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING
Submitted By

Name	USN
CHAITHANYA S P	4AL15EC015
HARIPRIYA R	4AL15EC028
LIKHITHA P	4AL15EC040
PREETHIKA J	4AL16EC408

Under the Guidance of
Dr. SHANKAR B B
Associate Professor
Department of E&C Engineering

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225.

2018-2019

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225

(Affiliated to VTU, BELAGAVI)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "**OVERLAPPING ACOUSTIC EVENT CLASSIFICATION**" *is a bona fide work carried out by*

CHAITHANYA S P	**4AL15EC015**
HARIPRIYA R	**4AL15EC028**
LIKHITHA P	**4AL15EC040**
PREETHIKA J	**4AL16EC408**

in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2018–2019. 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.

10/05/19.	D.V.9 11/05/19.	
Signature of the Guide	**Signature of the H.O.D**	**Signature of the Principal**
Dr. Shankar B B	**Dr. D V Manjunatha**	**Dr. Peter Fernandes**
	H.O.D.	PRINCIPAL
	Dept. Of Electronics & Communication	Alva's Institute of Engg. & Technology,
	Alva's Institute of Engg. & Technology	Mijar, MOODBIDRI - 574 225, D.K
	Mijar, MOODBIDRI - 574 225	

EXTERNAL VIVA

Name of the Examiners	Signature with date
1. DV. D.V. MANJUNATHA	D.V.9 13/06/19.
2. ASHOKA A	15/6/19

ABSTRACT

Acoustic is a type of sound, it is important to know not only speech and music, which has been researched but also common sound in day to day environment. Each time sound signal contain a combination of information as a mixture of noise, clean sound and noise like characteristics with flat spectrum have extract audio event from audio signals different acoustic events are selected from sound scene database of Real Word Computing Partnership (RWCP) group. The recognition performance of acoustic events using proposed features and Mel-Frequency Cepestral Coefficients (MFCCs) with clean and noisy test samples are compared. The proposed feature show significantly improved recognition accuracy over MFCCs in noisy have propose an approach MFCC feature extraction technique variable recordings, spectral, cepestral, energy and voicing-related audio features are extracted.

Classification of the overlapping sound events, the Support Vector Machine (SVM) to feature extraction using the statistics that mainly contains Mel spectra where the most relevant feature frame based classification using SVM is a algorithm that analyses the data for classification and recognition it is a important machine learning technique. A sliding window approach is used to obtain statistical functional of the low-level features on short segments. SVM are used for classification of these short segments and majority voting scheme is employed to get a decision for the whole recording for the classification process. The SVM method is a suitable and relatively precise algorithm for the classification of phone ring already on the sampling frequency, but the sound pressure of the background has a significant impact on classification accuracy. The total average classification accuracy reached in train classes as 77% and also in case of tested samples the accuracy is reached as 95% for total for train as 30 classes test as 20 classes have observed from the experimental results that the best separating feature the MFCC features for highly overlapped data distributions.