VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018

2017–2018

A Project Report

On

"UNDERWATER IMAGE ENHANCEMENT BASED ON LINEAR IMAGE INTERPOLATION AND LIMITED IMAGE ENHANCER TECHNIQUES"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

By

ABHISHEK M	1GV14EC001
JANANI D	1GV14EC022
PRADEEP RAJA P	1GV14EC043
RAGHAVENDRA MURTHY K	1GV14EC051

Under the Guidance of

Mrs. Supriya K V., M. Tech., Asst. Professor

Department of ECE, Dr.T.T.I.T, K.G.F.

Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

(Formerly Golden Valley Institute of Technology)

Department of Electronics and Communication Engineering

Kolar Gold Fields – 563120.

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

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Oorgaum Kolar Gold Fields - 563120

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled *"Underwater Image Enhancement Based On Linear Image Interpolation And Limited Image Enhancer Techniques"* is a bonafied work carried out by **ABHISHEK M. - 1GV14EC001**, **JANANI D.-1GV14EC022, PRADEEP RAJA P.-1GV14EC043, RAGHAVENDRA MURTHY K.-1GV14EC051**, in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirement in respect of **Project work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

Supriya.kv 11/6/18

Signature of Guide
Mrs. Supriya K V
Name of Examiners

1.
2.
3.

11.6.2018

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Head of the Department
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Signature of Principal
Dr. Syed Ariff
Signature with Date

1. 12-6-2018
2.
3. 12/6/18

SYNOPSIS

Underwater imaging has a vast application in these days and become an important research field since the seas, lakes and rivers contain much valuable resources inside it. But, the problem with the underwater is the loss of colors and contrast of the image.The quality of images that are taken under the water is not clear due to the impurities present in the water and some properties of water. The degradation of image occurs during the acquisition, transmission and color space conversion. So, here arises the need of an efficient image enhancement technique which can remove the redundant pixels or noises from the color image before proceeding for final segmentation.

Image enhancement has found to be probably the most important vision applications because it has ability to enhance the visibility of images. It enhances the perceivability of poor pictures. Distinctive procedures have been proposed consequently a long way for improving the quality of the digital images. To enhance picture quality image enhancement can in particular improve and limit some data offered within the input picture. Image enhancement is likely one of the key issues in high quality pictures such as digital cameras. The proposed work consist of two methods they are Interpolation based Enhancement and Limited Image Enhancer. The First method is based on increasing the resolution of the image and the second method is based on increasing the contrast of the images. The qualitative analysis for both the algorithms compared with the previous image enhancement techniques.

C BYREGOWDA INSTITUTE OF TECHNOLOGY
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CERTIFICATE

NATIONAL CONFERENCE
On
RECENT TRENDS ON ENGINEERING SCIENCE AND TECHNOLOGY (NCRTEST-18)

BEST PAPER AWARD

Dr/Mr/Mrs/Ms Supriya K.V, Abhishek M, Janani D, Pradeep Raja P, Raghavamurthy K

has presented a paper entitled Enhancing the Under Water Image by using linear Image interpolation & limited Image enhancer technique

In National Conference on Engineering Science and Technology (NCRTEST-18) organized by Dept. of Electronics & Communication Engg, CBIT, Kolar on 24th MAY 2018.

HOD	Principal	Secretary
DR.SREERAMA REDDY G M	DR.SREERAMA REDDY G M	ER.V KRISHNA REDDY

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

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3rd National conference on

"Recent Advancements in Engineering Science and Technology "

(RAEST-2018)

Certificate

This ***is to certify that*** ABHISHEK. M. *of* Dr. T.T.I.T

has presented a paper ***titled*** ENHANCING UNDERWATER IMAGE BY LII & LIE TECHNIQUES

in the national conference ***on*** *"Recent Advancements in* ***Engineering*** *Science and Technology "(RAEST-2018), organised by Department* ***of Electronics and*** *Communication Engineering,* ***Dr. T. Thimmaiah Institute of Technology on 9th May 2018.***

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This is to certify that JANANI. D. *of* Dr. T.T.I.T

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in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

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This is to certify that PRADEEP RAJA. P. *of* Dr. T.T.I.T

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in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

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This is to certify that K. RAGHAVENDRA MURTHY of Dr. T.T.I.T has presented a paper titled ENHANCING UNDERWATER IMAGE BY LII & LIE TECHNIQUES in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018

A Project Report
on

"IoT Based Digital Content Copy Protection System to Prevent Movie Piracy in Theatres"

Submitted in the partial fulfillment
of the requirement for the VIII Project-10ECP85 for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

AISHWARYA C	1GV14EC004
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Carried out at

DR.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

Under the guidance of

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2017-18

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project Work** entitled *"IoT Based Digital Content Copy Protection System To Prevent Movie Piracy In Theatres"* is a bonafied work carried out by **AISHWARYA C-1GV14EC004, MADHU KIRAN K-1GV13EC034, MURIEL CHRISTINAL W-1GV15EC404, SUDHIR N-1GV12EC412,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project Work has been approved as it satisfies the academic requirement in respect of **Project Work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

Signature of Guide	Signature of HOD	Signature of Principal
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Head of the Department
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Name of Examiners	Signature with Date
1. Ruckmani Divakaran	1. 13-6-2018
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ABSTRACT

The camcorder piracy has great impact on the motion picture industry. Although some watermarking technologies can track the movie pirate, the video content viewed in the theater may be affected and they cannot obstruct the need of pirated movie because the watermarks in pirated moves are invisible.

A new method to defeat camcorder piracy and realize content protection in the theater using a new paradigm of information display technology, called Temporal Psychovisual Modulation (TPVM), which utilizes the differences between the human-eye perception and digital camera image forming to stack an invisible pattern on digital screen and projector. The images formed in human vision are continuous integration of the light field, while discrete sampling is used in digital video acquisition which has "blackout" period in each sampling cycle. Based on this difference, we can decompose a movie into a set of display frames with specific patterns and broadcast them out at high speed so that the audience cannot notice any disturbance, while the video frames captured by camcorder will contain highly objectionable artifacts (i.e., the patterns).

The pattern embedded in the movies can also serves as tracking information to reveal the one responsibility for the camcorder piracy. Camcorder piracy by severely degrading the visual quality of the recorded movie while making the interference signals invisible to the audience. Infrared emitters are installed in movie theatres to interfere with the camcorder and create glares in the recorded frames.

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This is to certify that .....AISHWARYA.C.....*of* .....DY.TTIT.....

has presented a paper titled "IOT BASED DIGITAL CONTENT COPY PROTECTION SYSTEM TO PREVENT MOVIE PIRACY IN THEATERS".

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

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(RAEET-2018)

Certificate

This is to certify that Aishwarya C of Dr. TTIT, K.G.F has presented a paper titled "IOT Based Digital Content Copy Protection System to Prevent Movie Piracy" in the national conference on "Recent Advancements in Electrical and Electronics Technology "(RAEET-2018), organized by Department of Electrical and Electronics Engineering, Dr. T. Thimmaiah Institute of Technology on 21st May 2018.

Convenor
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(RAEST-2018)

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This is to certify that ..... MADHU KIRAN. K ..... *of* ..... DY.TTIT .....

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(RAEET-2018)

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in the national conference on "Recent Advancements in Electrical and Electronics Technology "(RAEET-2018), organized by Department of Electrical and Electronics Engineering, Dr. T. Thimmaiah Institute of Technology on 21st May 2018.

Convenor
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Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

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in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018

2017 –2018

A Project Report

on

"A NOVEL APPROACH AS AN AID FOR BLIND, DEAF AND DUMB PEOPLE"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project -10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

By

AISHWARYA M	1GV14EC005
NIKHITHA RAMACHANDRAN	1GV14EC037
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Under the Guidance of

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Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project Report** entitled **"A NOVEL APPROACH AS AN AID FOR BLIND, DEAF AND DUMB PEOPLE"** is bonafied work carried out at **Dr.T.Thimmaiah Institute of Technology by AISHWARYA M– 1GV14EC005, NIKHITHA RAMACHANDRAN– 1GV14EC037, NISHA N– 1GV14EC039, PREETHI R– 1GV14EC044,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of **Project work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

Signature of Guide	Signature of HOD	Signature of Principal
Mrs.Mamatha.V	Prof. Ruckmani Divakaran	Dr. Syed Ariff
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Name of Examiners	Signature with Date
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2. Ruckmani Divakaran	2. 12-6-2018
3. EASWARA M	3. 12/06/18

ABSTRACT

Communication is the only medium by which we can share our thoughts or convey the message but for a person with disability like deaf and dumb faces difficulty in communication with normal person. It is fundamental to disabled people's lives that disability is recognized as an equality issue. Generally, there will likely be at least some level of social isolation for those with disabilities with deafness or muteness, employing the same methods of communication as the other person for example sign language or text-to-speech is definitely going to be a main factor under consideration.

In this project, we are going to propose a new system-prototype in an effort to make the process of interaction between the Blind, Deaf and Dumb people much easier. This will make use of the Portable Technology and Arduino Circuit Boards to provide a means of communication to differently-abled people having one or any of the two of the above mention disabilities.

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(RAEST-2018)

Certificate

This is to certify that AISHWARYA M *of* Dr. T TIT

has presented a paper titled "MULTI-MODEL INTERFACE AID FOR BLIND, DEAF, DUMB PEOPLE"

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor
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This is to certify that NIKHITHA RAMACHANDRAN *of* Dr. TTIT

has presented a paper titled "MULTI-MODEL INTERFACE AID FOR BLIND, DEAF, DUMB PEOPLE"

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

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This is to certify that NISHA. N *of* Dr. TTIT

has presented a paper titled "MULTI- MODAL INTERFACE AID FOR BLIND, DEAF, DUMB PEOPLE"

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This is to certify that PREETHI .R *of* Dr. TTIT

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in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018

2017 –2018

A

Project Report

on

"IoT Based LPG Gas Leakage Detection And Emergency Response System Using AVR Microcontroller And GSM Module"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

By

AISHWARYA R	1GV14EC006
MARIA SWETHA J	1GV14EC029
VINODH PRABHAKARAN V	1GV13EC415

Under the guidance of

Mr.Prasanna Balasubramanyam S, M.Tech,

Asst. Prof, Dept of ECE

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled **"IoT Based LPG Gas Leakage Detection And Emergency Response System Using AVR Microcontroller And GSM Module"** is a bonafide work carried out **by Aishwarya R-1GV14EC006, Maria Swetha J - 1GV14EC029, Vinodh Prabhakaran V-1GV13EC415** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-2018. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of Project work - **10ECP85** prescribed for the Bachelor of Engineering Degree.

.....	..... 13.6.2018	..... 13/6/18
Signature of Guide	**Signature of HOD**	**Signature of Principal**
Mr. Prasanna Balasubramanyan S	**Prof. Ruckmani Divakaran**	**Dr. Syed Ariff**
	Head of the Department	PRINCIPAL
	Dept. of Electronics and Communication Engg.	Dr. T. Thimmaiah Institute of Technology
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Name of Examiners	Signature with Date
1. Ruckmani Divakaran	1. 13-6-2018
2. Eazwara. M	2. 13/6/18

SYNOPSIS

In this project, we will be designing an Arduino based system for LPG Gas Leakage detection and Emergency response. Sometimes the presence of LPG leakage can be hazardous. In such case, there should be a system which detects the presence of gas and also devices a safety mechanism which can avoid any catastrophic event. This proposed system can be integrated into a unit that can give audio suggestions so as the person may not panic and follow the instructions when a gas leakage is detected, it turns ON the exhaust fan to evacuate the gas from the room, turns OFF the gas cylinder regulator knob.

The sensed gas level is transferred to a real-time web application via wireless communication technology and through the IoT application BLYNK. The data can be accessed on any standard computer connected to internet or Android smart phone using BLYNK application. BLYNK is an IoT platform to control Arduino over internet. In this project BLYNK provides a digital dashboard on the smart phone that displays real-time readings. The system also sends SMS to Family members using GSM technology which provides offline support on the cell phones which lacks internet facility. Hence, the proposed system provides both online and offline support.

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(RAEST-2018)

Certificate

This is to certify that ..... AISHWARYA .R. ..... *of* ..... Dr. TTIT .....

has presented a paper titled "IOT BASED LPG GAS LEAKAGE DETECTION & EMERGENCY RESPONSE SYSTEM USING AVR MICROCONTROLLER AND GSM MODULE"

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor
Prof. Ruckmani Divakaran

Principal
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This is to certify that ...MARIA SWETHA. J.....*of* ....DT. TTIT.....

has presented a paper titled "IOT BASED LPG GAS LEAKAGE DETECTION & EMERGENCY RESPONSE SYSTEM USING AVR MICROCONTROLLER AND GSM MODULE"

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

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This is to certify that .....VINODH PRABHAKARAN..... *of* .....Dr. T.T.I.T.....

has presented a paper titled "IOT BASED LPG GAS LEAKAGE DETECTION & EMERGENCY RESPONSE SYSTEM USING AVR MICROCONTROLLER AND GSM MODULE"

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Formerly Golden Valley Institute of Technology)

Oorgaum Kolar Gold Fields – 563120

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled ***"Attendance Monitoring System using Facial Recognition with Audio output and Gender Classification"*** is a bonafied work carried out by **ANIKA A -1GV14EC008, JENIFER SHRUTHI J – 1GV14EC024, PRIYANKA P - 1GV14EC045, PRIYANKA R – 1GV14EC046** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The project work report has been approved as it satisfies the academic requirement in respect of **Project Work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

Signature of Guide	Signature of HOD	Signature of Principal
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Name of Examiners	Signature with Date
1. Ruckmani Divakaran	1. 14-6-2018
2. Easwara.M	2. 14/06/18

SYNOPSIS

Maintaining the attendance is very important in all the institutes for checking the presence of students. Every institute has its own method in this regard. Some are taking attendance manually using the traditional pen and paper or file based approach and some have adopted methods of automatic attendance techniques.

It aims in presenting an automated attendance system; the system automatically detects the student in the class room and marks the attendance by recognizing their face. This system is developed by capturing real time human faces in the class. The detected faces are matched against the reference faces in the dataset and marked the attendance for the attendees. Finally the absentee lists are said aloud through voice conversion system for confirmation. Secondly, the system is trained to classify the gender of the students present in the class.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018

2017-18

A Project Report

on

"Segmentation And Classification Of Left Ventricle Using DCNN"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project – work 10ECP85 for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

ASHA.D	**1GV14EC012**
KAVYA.M.T	**1GV14EC026**
MANASA.V	**1GV14EC027**
PAVITHRA.R	**1GV14EC042**

Carried out at

Dr. T.THIMMAIAH INSTITUTE OF TECHNOLOGY

Under the guidance of

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Asst. Prof, Dept of ECE, Dr.TTIT, K. G. F

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2. EASWARAM	2. 12-6-2018 12/6/18

SYNOPSIS

Left ventricle (LV) segmentation is crucial for quantitative cardiac function analysis. Manual segmentation of the endocardium and epicardium is highly cumbersome; physicians limit delineation to the end-diastolic and end-systolic phases. A fully automated system could provide an analysis of cardiac morphology for all phases in a much shorter time. Most of the current LV segmentation methods are semi-automated and require error prone manual initialization.

A fully-automated LV segmentation method would expedite the functional analysis of the LV, reduce subjectivity and improve patient experience. We automatically segment the LV wall in cardiac MRI images with a Deep Convolutional Neural Network (DCNN). This algorithm first calculates the probability of a pixel belonging to the LV wall or background and then generates a label based on those probabilities without manual initialization.

Manual segmentation is a time consuming and tedious tasks that is also prone to high intra and inter observer variability. As a consequence we go for Deep Convolution Neural Network (DCNN) for left ventricle segmentation using U-Net architecture which helps in prognosis of cardiovascular disease. The model is trained from end to end in deep learning from whole cardiac MRI images input and pixel classification. The U-net architecture is convnet512 –Max Pooling – convnet256 – Max Pooling –convnet128 –Max Pooling – convnet64 the convoluted values are stored in the form of stack. Training and testing process were carried out 5-fold cross with cardiac magnetic resonance images (MRI) from Sunnybrook Database. We then compare the result of DCCN initialized method using Gabor filter with the ground truth values, and estimate standard deviation, mean and blood flow for different region such as base, mid and apex region of heart.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI - 590018
2017 –2018

A Project Report
on

"RELIABLE AND LESS OVERHEAD PATH SELECTION FOR VANET WITH SECURITY"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering
By

BAKYALAKSHMI P	**1GV12EC402**
DINESH M	**1GV14EC405**
SANDHYA N	**1GV14EC415**

Carried out at
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Under the Guidance of
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CERTIFICATE

Certified that the **Project Report** entitled **"RELIABLE AND LESS OVERHEAD PATH SELECTION FOR VANET WITH SECURITY"** is bonafied work carried out at **Dr.T.Thimmaiah Institute of Technology** by **BAKYALAKSHMI P – 1GV12EC402, DINESH M – 1GV14EC405 SANDHYA N - 1GV14EC415,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of **Project work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

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3. Eashwara M	3.

ABSTRACT

Vehicular Ad Hoc Network (VANET) is an emerging new technology to exchange information between vehicles to vehicles. VANET mainly used to exchange traffic information between the vehicles and prevent accident and it is a subgroup of mobile ad hoc network (MANET). The objective is to develop a reliability metrics (RM) and Connectivity metrics (CM) as a routing metrics to determine the best path from source to destination vehicle. This metrics were used to reduce the routing overhead and find the reliable path from source to destination. The reliable route can be calculated by considering the design parameters like node overhead, vehicles direction, speed and distance. The best path is selected to forward the packet between source and destination. To enhance the performance and throughput of the VANETs, routes between nodes must be reliable, less overhead and stable.

Despite the stringent performance requirements for such applications, the IEEE 802.11p standard still uses the carrier sensing medium access/collision avoidance (CSMA/CA) protocol. This system investigates how the maximum contention window (CW) size can be optimized to enhance performance based on vehicular density. A stochastic model is developed to obtain the optimal maximum CW that can be integrated in an amended carrier sensing medium access/collision avoidance (CSMA/CA) protocol to maximize the single-hop throughput among adjacent vehicles. Simulations confirms our optimized protocol can greatly improve the channel throughput and transmission delay performance, when compared to the standardized CSMA/CA, to support safety application in VANETs.

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This is to certify that DINESH. M *of* Dr. T. T. I. T, K.G.F.

has presented a paper titled "Reliable & less overhead path selection by VANET using RMS CM

in the national conference on "Recent Advancements in Electrical and Electronics Technology "(RAEET-2018), organized by Department of Electrical and Electronics Engineering, Dr. T. Thimmaiah Institute of Technology on 21st May 2018.

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Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

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Convenor	Principal	President
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BELAGAVI - 590018
2017 –2018

A Project Report
On

"COMPARISON AND ANALYSIS OF LDPC DECODER ALGORITHMS FOR MULTIMEDIA STANDARDS"

Submitted in the partial fulfillment of the requirement for the
VIII Semester Project Report-10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering
By

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Under the Guidance of
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Certified that the **Project work** entitled *"Comparison and Analysis of LDPC Decoder Algorithms for Multimedia Standards"* is a bonafied work carried out by **HARSHAVARDHAN REDDY D -1GV14EC019, BALA KRISHNA G - 1GV14EC016, NAGESH C G -1GV14EC033 and GANESH R - 1GV13EC018** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical project report has been approved as it satisfies the academic requirement in respect of **Project-10ECP85** prescribed for the Bachelor of Engineering Degree.

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2. TABHARA M	2. 12/6/18

LDPC and turbo codes are channel codes commonly used for wireless communication. Decoding algorithms are computationally demanding, and so efficient implementations are often inflexible, targeting only the codes specified by a given standard. When support for multiple standards is needed, multiple decoders are generally used. We study the algorithms for decoding each standard and find that some functional units can be shared between both types of decoders.

LDPC codes nowadays use in modern system due to their excellent performance. LDPC codes are advantageous in terms of throughput, bit error rate in digital communication system. As per the requirement of high throughput, layered decoding algorithm of LDPC coding technique is being generally adopted with low computational complexity. The layered decoding algorithm can be applied to improve convergence speed and lower the bit error rate. The mathematical analysis of simplified Min Sum Based Column Layered Decoding Algorithm with example and also shown improved bit error performance over AWGN Channel

The combined architecture allows a turbo decoder to be added to an LDPC decoder with little overhead. Various architectures exist for both LDPC and turbo decoders. Decoders can vary in the amount of parallelism, the decoder schedule, and interface with other blocks. The LDPC code is implemented in channel encoder and decoder for various multimedia like text, image, audio and video. This LDPC coding and decoding are implemented in Matlab version R2015b.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018

A
Project Report
on

"User Association and Resource Allocation Optimization in LTE cellular network"

Submitted in the partial fulfillment of the requirement for the VIII Semester
Project-10ECP85 for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

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2017-2018

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

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2. Ruckmani Divakaran	2. 13-6-2018
3. Eswara M	3. 18/6/29

ABSTRACT

As the demand for higher data rates is growing exponentially, homogeneous cellular networks have been facing limitations when handling data traffic. These limitations are related to the available spectrum and the capacity of the network. Heterogeneous Networks (HetNets), composed of Macro Cells (MCs) and Small Cells (SCs), are seen as the key solution to improve spectral efficiency per unit area and to eliminate coverage holes. Due to the large imbalance in transmit power between MCs and SCs in HetNets, intelligent User Association (UA) is required to perform load balancing and to favor some SCs attraction against MCs. As Long Term Evolution (LTE) cellular networks use the same frequency sub-bands, User Equipments (UEs) may experience strong Inter-Cell Interference (ICI), especially at cell edge. Therefore, there is a need to coordinate the Resource Allocation (RA) among the cells and to minimize the ICI. In this project, we propose a generic algorithm to optimize user association and resource allocation in LTE networks. Our solution, based on game theory, permits to compute Cell Individual Offset (CIO) and a pattern of power transmission over frequency and time domain for each cell. Simulation results show significant benefits in the average throughput and also cell edge user throughput of 40% and 55% gains respectively. Furthermore, we also obtain a meaningful improvement in energy efficiency.

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3rd National conference on
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(RAEST-2018)

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Convenor	Principal	President
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018

2017-2018

A Project Report
on

"Measuring Calorie and Nutrition from Food Image"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work -10ECSP85 for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

DHANALAKSHMI P	**1GV14EC018**
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PRIYANKA R	**1GV14EC047**

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1.	1.
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ABSTRACT

Food is one of the most important requirements of every living being on earth. The human beings require their food to be fresh, pure and of standard quality. The standards imposed and automation carried out in food processing industry takes care of food quality. Now a day, people across the universe are becoming more sensitive to their diet. Unbalanced diet may cause many problems like weight gain, obesity, diabetes, etc. So different systems were developed so as to analyze food images to calculate calorie and nutrition level. This system proposes an effective way to measure and manage daily food intake of patients and dietitians. The system will take the images of food and using image processing, segmentation and classification it calculates the nutrition and calorie content in the food. The proposed system will certainly improve and facilitate the current calorie measurement techniques.

Our system is built on food image processing and uses nutritional fact tables. Recently, there has been an increase in the usage of personal mobile technology such as smartphones or tablets, which users carry with them practically all the time. Via a special calibration technique, our system uses the built-in camera of such mobile devices and records a photo of the food before and after eating it in order to measure the consumption of calorie and nutrient components. Our results show that the accuracy of our system is acceptable and it will greatly improve and facilitate current manual calorie measurement techniques.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018
2017-18

A
Project Report
on

"Li-Fi Based Indoor Navigation System for Blind and Illiterate People"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work- 10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering

by

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Carried out at

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CERTIFICATE

Certified that the **Technical Project work** entitled ***"Li-Fi Based Indoor Navigation System for Blind and Illiterate People"*** is a bonafied work carried out by **GANESH K 1GV13EC017 and SAYED SAIFUDHEEN SAHEER 1GV13EC070** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical Project report has been approved as it satisfies the academic requirement in respect of **Project-10ECP85** prescribed for the Bachelor of Engineering Degree.

Signature of Guide	Signature of HOD	Signature of Principal
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Name of Examiners	Signature with Date
1. Ruckmani Divakaran	1 12.6.2018
2.	2. 12/6/18

Abstract

Human eye is probably the most important sense organ as it gives the sense of sight allowing people to observe things around them and thus learn more about the surrounding world. Blindness is a state of lacking the visual perception due to physical or neurological factors. Partial blindness represents the lack of integration in the growth of the optic nerve or visual center of the eye and total blindness is full absence of the visual light perception. As a solution in this project a simple, user friendly and low power dissipation smart blind guidance system is designed and implemented to improve the mobility of both blind and visually impaired people, illiterate and who cannot read the sign board.

This project includes wearable equipment comprising of earphones connected to the guidance system unit and a hand stick containing three ultrasonic sensors (Left, Right, and Front) to help the blind person navigate alone safely and avoid obstacles. The reflected ultrasonic echo from obstacles are used as inputs to Arduino, based on the direction of the received ultrasonic echo Arduino prompts signals through APR33A3 Audio Recording and Playback IC to announce an audio message .

The proposed system also provides position or location information for the blind using Li-Fi, Li-Fi stands for Light-Fidelity. Li-Fi is a transmission of data using visible light by sending data through an LED light bulb that varies in intensity faster than the human eye can follow. If the LED is on, the photo detector registers a binary one otherwise it's a binary zero.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018

2017-2018

A Project Report

on

"Detection of Unusual Event in Low Resolution Video for Enhancing ATM Security with Alerting System"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work -10EC P85 for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

GOWTHAMI K	1GV13EC026
NEEMA V	1GV13EC045
NITTISHIA MICHAEL	1GV14EC046
SOWMYA G	1GV14EC080

Carried out at

Dr.T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Under the guidance of

Ms. Asha Kiran M U., M.Tech.

Asst. Prof.

Dept. of ECE, Dr.T.T.I.T K.G.F.

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Oorgaum Kolar Gold Fields – 563120

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled *"Detection of Unusual Event in Low Resolution Video for Enhancing ATM Security with Alerting Status"* is a bonafied work carried out by **GOWTHAMI K – 1GV13EC026, NEEMA V - 1GV13EC045, NITTISHIA MICHAEL - 1GV13EC046, SOWMYA G – 1GV13EC080** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The project work report has been approved as it satisfies the academic requirement in respect of **Project Work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

Shalixan.M.U 13/6/2018	14-6-2018	14-6-18
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Name of Examiners	Signature with Date
1.	1.
2. Ruckmani Divakaran	2. 14.6.2018
EASWARA -M	14/06/18

Abstract

In practical world applications, tracking target in low resolution video is a challenging task because there is loss of discriminative detail in the visual appearance of moving object. The existing methods are mostly based on the enhancement of low resolution video by super resolution techniques. This method requires high computational cost which increases if dealing with events detection.

Here an algorithm is presented which is able to detect unusual events and it is well suited for enhancing the security of ATMs where conventional low resolution cameras are generally used due to their low cost. The Viola-Jones algorithm is used to detect faces for the identification of overcrowding.

It is fast enough and could be helpful in surveillance system for enhancing the security of ATMs. In past there was no automatic door locking system and buzzer to send an alert message to the nearby stations when an unusual event occurs. We now develop an automatic door locking system and buzzer to send an alert message to the nearby stations when an unusual event occurs.

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(RAEST-2018)

Certificate

This is to certify that K. GOWTHAMI *of* DT. TTIT

has presented a paper titled "DETECTION OF UNUSUAL EVENT IN LOW RESOLUTION VIDEO FOR ENHANCING ATM SECURITY WITH ALERTING SYS."

in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T. Venkat Vardhan

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Convenor
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018

2017 –2018

A Project Report

On

"FORWARD ERROR CORRECTION IMPLEMENTATION USING CONVOLUTIONAL ENCODER AND VITERBI DECODING"

Submitted in the partial fulfillment of the requirement for the VIII Semester Technical Seminar-10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

By

MAHESH.M	1GV13EC035
SHWETHA.N	1GV14EC059
SOWMYA.S	1GV14EC062
SNEHA.H	1GV15EC409

Under the Guidance of

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1. Ruckmani Divakaran	1. 13-6-2018
2. EASWARA-M	2. 13/6/18

ABSTRACT

This thesis, as the name suggests, shows the working of a forward error correction(FEC) coding technique using convolutional encoding with Viterbi decoding. It can be used by anyone interested in designing or understanding wireless digital communications systems.

The thesis initially explains the working of a convolutional encoder. The encoded bit stream, is then passed through an additive white Gaussian noise (AWGN) channel, quantized and received at the decoder. Finally, the original data stream is recovered by either a hard decision Viterbi decoder or a soft decision Viterbi decoder. This entire FEC technique is demonstrated, both practically, using Matlab, and theoretically.

Also shown are simulation plots, characterizing the performance factors affecting the FEC coding technique. These factors include primarily the noise level as well as the encoder memory size.

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Convenor	Principal	President
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018

2017 –2018

A

Project Report

on

"AN ENHANCEMENT IN DETECTION OF BRAIN CANCER THROUGH IMAGE FUSION"

Submitted in the partial fulfillment of the requirement for the VIII Semester project-10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

by

MANUSHA S	1GV14EC028
MONISHA K	1GV14EC032
RAKSHANA V	1GV14EC054
RESHA R	1GV14EC055

Carried out at

Dr. T. THIMMAIAH INSTIUTE OF TECHNOLOGY

Under the Guidance of

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CERTIFICATE

Certified that the **Project work** entitled **"An Enhancement In Detection Of Brain Tumor Through Image Fusion"** is a bonafied work carried out by **MANUSHA S - 1GV14EC028, MONISHA K - 1GV14EC032, RAKSHANA V - 1GV14EC054, RESHA R - 1GV14EC055**, in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirement in respect of **Project Work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

12/06/18	12.6.2018	12/6/18
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2. Eswara.M	2. 12/6/18

SYNOPSIS

Medical image fusion is the process of combining two different modality images into a single image. The resultant image can help the physicians to extract features that may not be easily identifible in an individual modality image. This paper aims to demonstrate an efficient method for detection of brain tumor from CT and MRI images of the brain, by applying image fusion, segmentation, feature extraction and classification. Initially, the source images are decomposed into low-level sub-band and high level sub-band by Discrete Wavelet Transform (DWT). As the second step, for fusion, Principal Component Analysis (PCA) technique is applied in order to enhance the most prominent features present in the CT and MRI image. The fused low level sub-band and high level sub-band are reconstructed to form the final fused image using Inverse Discrete Wavalet Transform (IDWT). Parameter analysis is done on the fused image. The fused image is then segmented using Otsu's thresholding operation and the features are extracted using the Grey Level Co-occurrence Matrix (GLCM) technique. Finally, the extracted image is exposed to Adaptive Neural Network (ANN) classifier to identify whether the tumor is present or not.

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(RAEST-2018)

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in the national conference on "Recent Advancements in Engineering Science and Technology "(RAEST-2018), organised by Department of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology on 9th May 2018.

Convenor	Principal	President
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(RAEST-2018)

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Convenor
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Convenor	Principal	President
Prof. Ruckmani Divakaran	Dr. Syed Ariff	Dr. T Venkat Vardhan

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018

A
Project Report
on

"Dynamic Decision-Based Spectrum Sharing Framework for Next Generation (5g) Systems"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering
Submitted by,

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CERTIFICATE

Certified that the **Project work** entitled ***"Dynamic Decision-Based Spectrum Sharing Framework for Next Generation (5G) Systems"*** is a bonafide work carried out **by Monisha S - 1GV13EC040, Preethi M - 1GV13EC055, Suresh - 1GV13EC085, Vikram K - 1GV14EC073** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-2018. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of Project work - **10ECP85** prescribed for the Bachelor of Engineering Degree.

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1. Ruckmani Divakaran		1. 12-6-2018
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018

2017 –2018

A Project Report

on

"ANTI-THEFT PROTECTION OF VEHICLE BY GSM AND GPS WITH FINGERPRINT VERIFICATION"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECP85 for the award of degree of

Bachelor of Engineering

in

Electronics and Communication Engineering

By

RAVI KUMAR R	1GV14EC411
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled ***"Anti-Theft Protection Of Vehicle By GSM And GPS With Fingerprint Verification"*** is a bonafied work carried out by **Ravi Kumar R -1GV14EC411, Ruthvik K.L -1GV13EC065, Mithun S -1GV12EC041, Kavya Roshini S -1GV12EC029,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical seminar report has been approved as it satisfies the academic requirement in respect of **Project-10ECP85** prescribed for the Bachelor of Engineering Degree.

Signature of Guide	Signature of HOD	Signature of Principal
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ABSTRACT

In modern days a vehicle anti-theft system is of prime importance with public having an own vehicle safety of which is extremely essential. This research work explores how to avoid this kind of stealing and provides more security to the vehicles. The implemented system contains single-board embedded system which is equipped with global system for mobile (GSM) and global positioning system (GPS) along with a microcontroller installed in the vehicle. The use of GSM and GPS technologies allows the system to track the object and provides the most up-to date information about on-going trips.

The Fingerprint matching is done by utilizing the details based on stored database using Fingerprint recognition scheme. This provides a fine combination of "Biometrics technology" and "Embedded system technology". Fingerprint sensor is the main part of this system.

In case of any accident of the vehicle, the system sends automated messages to the pre-programmed numbers (Police Station, Ambulance and family members). Vibration sensor is triggered and it sends signal to the Arduino. The Arduino processes the input and sends the location of the vehicle as a SMS to the pre-programmed numbers immediately. To track the vehicle in case of any theft a request is sent by the owner of the vehicle (gives missed call) to the GSM modem, the system automatically sends a return reply (SMS) to the owner mobile indicating the position of the vehicle in terms of latitude and longitude.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
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2017 - 2018

A
PROJECT REPORT
on

"Smart Electronic Voting System Based On Biometric and RFID Identification''

Submitted in the partial fulfillment of the requirement for the VIII Semester project-10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering

By

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Project work** entitled ***"Smart Electronic Voting system Based On Biometric and RFID Identification"*** is a bonafied work carried out by **SHEBA C -1GV14EC058, SANDYA K-1GV15EC407, SIDDIVINAYAKA K-1GV15EC408,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical seminar report has been approved as it satisfies the academic requirement in respect of **Project Work – 10ECP85** prescribed for the Bachelor of Engineering Degree.

Nandini 13.06.18	Rukmani Divakaran 13.6.2018	13/6/18
Signature of Guide	**Signature of HOD**	**Signature of Principal**
Mrs. Nandini G N	**Prof. Rukmani Divakaran**	**Prof. Dr. Syed Ariff**

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Name of Examiners		Signature with Date
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2.		2. 13/6/18

ABSTRACT

In Democratic countries like India , the voting system plays a major role during elections. Traditionally, the election commission in India uses electronic voting machines which need more manpower, time-consuming and also they are less trustworthy. This project proposes a method for safe and secure biometric voting system to avoid misconceptions which are going to take place in election.

In this project, verification takes place in two steps. In first step, RFID tag is verified with data base to check whether the person belongs to that particular polling booth or not. When the RFID tag is placed near RFID reader, it reads the Tag ID. It will be checked with the database of microcontroller. If that Tag ID persists in the database of the microcontroller, then the information related to the person(name of the person or Voter Number) will be revealed on LCD screen. In second step, Fingerprint scanner is used to check whether the RFID belongs to particular person or not. If these two steps are successful then microcontroller enables switches to cast vote. If voter is not enrolled his information's in the system on the database in the microcontroller, Voter will not be allowed to cast the vote. After casting votes, the votes will be send to the Amazon web server where counting will be done and result will be displayed. The proposed system can be used for casting vote for a particular area in the polling booth, but by using the IoT, any person from any area can cast vote in a single polling booth for their respective area and candidates even when they are away from their residential area.

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CERTIFICATE

Certified that the **Project Work** entitled **"An Area Efficient Implementation of Feedforward FFT Architecture on FPGA"** is a bonafied work carried out by **SHYLA KUMARI I. –1GV14EC060, SINDHUJA R. –1GV14EC061, SUGANTHI S.K. –1GV14EC065, SUSHMA V. –1GV14EC069,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of **Project work - 10ECP85** prescribed for the Bachelor of Engineering Degree.

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Signature of HOD and Guide

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SYNOPSIS

FFT (Fast Fourier Transform) play a crucial role in many signal processing applications in communication systems. FFT is used to calculate Discrete Fourier Transform (DFT) efficiently. Among various FFT architectures, feedforward has an advantage of 100 percentage butterfly utilization ratio. In this project, we present new feedforward FFT architecture based on rotator allocation. The rotator allocation approach consists in distributing the rotations in such a way that the number of edges of FFT that need rotators and the complexity of rotators are reduced.

In this project, Vedic Multiplier is used for realizing rotator unit needed for computing the product of input samples and twiddle factors. The performance comparison is made between the FFT architecture implemented using Array Multiplier and Vedic Multiplier using Modelsim 6.4a for simulation and Xilinx ISE 9.1i for synthesis. Hardware implementation is made using Spartan XC3S400 TQ-144.

The structure using the Vedic Multiplier consumes significantly less area and involves less delay than the structure implemented using the Array Multiplier. The synthesis results show that the proposed structure using the Vedic Multiplier consumes 11.18% less number of LUT's and 8.2% less number of gates as compared to the architecture implemented using the Array Multiplier. The delay involved in the structure implemented using the Vedic Multiplier is 27.46ns less then the delay involved in the structure implemented using the Array Multiplier.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018
2017-2018

A Project Report
on

"Car Surveillance and Driver Assistance using Black Box with help of GSM and GPS Technology"

Submitted in the partial fulfillment of the requirement for the VIIISemester Seminar-10ECP85for the award of degree of

Bachelor of Engineering

In

Electronics and Communication Engineering

Submitted by

Sowmya M N **1GV13EC081**

Carried Out at

Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

CERTIFICATE

Certified that the **Technical Seminar work** entitled "**Car Surveillance and Driver Assistance using Black Box with help of GSM and GPS Technology**"is a bonafied work carried out by **Sowmya M N - 1GV13EC081,** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical seminar report has been approved as it satisfies the academic requirement in respect of **Project-10ECP85** prescribed for the Bachelor of Engineering Degree.

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SYNOPSIS

According to the World Health Organization, more than a million people in the world die each year because of transportation-related accidents . In order to react to this situation, the black box system draws the first step to solve problem. Like flight data recorders in aircraft, "Black Box" technology can now play a key role in motor vehicle crash investigations. That is why it is so important to have recorders that objectively track what goes on in vehicles before, during and after a crash as a complement to the was used eye witnesses and police reports. This system is mainly committed to two sections. The first one is how to detect and collect the information from the vehicle. The second is how to present the data to the user in a simplified way.

This project presents an advanced step to the concept of car black-box in developing a comprehensive vehicle safety system which would not only record the video and audio, but also In case of an accident, the time and location (co-ordinates) is sent through GSM to a pre-set number for immediate rescue and treatment. Two Recorded data can also be used for forensics, revealing the problems that caused the accident and give manufacturer an idea for improvement. So the motto is to develop an embedded integrated system consisting of a microcontroller, a power supply unit, sensors, memory, GPS,GSM modem etc.,

The concept is similar to the "black box" data recorders on airplanes. It records all the information, like speed , temperature of the engine, time and location, tyre pressure , obstacle detection, before and after the accidents so that it can be used to analyse the accident accordingly. In course of collision is detected it should start recording all the relevant data during and before and after the accident.

In addition to this the owner can give a missed call to the black box and get the location of the vehicle on his cell phone as an SMS. If the vehicle is stolen the owner can send an SMS to lock the ignition of the vehicle and then trace the vehicle.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
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2017 - 2018

A
PROJECT REPORT
on

"PATIENT MONITORING SYSTEM USING IoT"

Submitted in the partial fulfillment of the requirement for the VIII Semester project-10ECP85 for the award of degree of

Bachelor of Engineering
in
Electronics and Communication Engineering

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CERTIFICATE

Certified that the **Project work** entitled *"PATIENT MONITORING SYSTEM USING IoT"* is a bonafied work carried out by **SUREKHA N - 1GV14EC068, YAMUNA N-1GV14EC074, AKHIL KUMAR A J-1GV15EC400, NAVEEN KUMAR K G-1GV15EC405** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electronics and communication Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The technical seminar report has been approved as it satisfies the academic requirement in respect of **Project Work – 10ECP85** prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Now-a-days, a growing number of people in a developing countries like India forces to look for new solutions for the continuous monitoring of health check-up. It has become a necessity to visit hospitals frequently for doctor's consultation, which has become financially related and a time consuming process. To overcome this situation, we propose a design to monitor the patient's health conditions such as heart beat, temperature, ECG and BP and send the messege to guardian using GSM.

In the recent development of internet of things(IoT) makes all objects interconnected and been recognized as the next technical revolution. Patient monitoring is one of the IoT application to monitor the patient health status. Internet of things makes medical equipments more efficient by allowing real time monitoring of health. Using IoT doctor can continuously monitor the patient's on his smart phone and also the patient history will be stored on the web server and doctor can access the information whenever needed from anywhere.