#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018 2016 - 2017



A Project Report

"Detection of Exudates in Retinal Images using Support Vector Machine"

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

AMREEN TAJ C.	1GV14EC401
ANNAPOORNA M.	1GV14EC402
DEEPIKA K.H.	1GV14EC404
KEERTHI KUMARI B.A.	1GV14EC407

Carried out at Dr.T.Thimmaiah Institute of Technology, K.G.F - 563120

> Under the Guidance of Ms. Kanimozhi S., M.Tech., Assistant Professor Dept. of ECE



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.



#### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### <u>CERTIFICATE</u>

Certified that the Project work entitled "Detection of Exudates in Retinal Images using Support Vector Machine" is a bonafied work carried out by Amreen Taj C. - 1GV14EC401, Annapoorna M. -1GV14EC402, Deepika K.H. - 1GV14EC404, Keerthi Kumari B.A. -1GV14EC407, 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 2016-17. 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 Ms. Kanimozhi S.

Signature of HOD Prof. Ruckmani Divakaran

Signature of Principal Dr. Sved Ariff PRINCIPAL

Head of the Departmentor. T. Thimmalah Institute of Technology Name of Examiners Dept. of Electronics and Communication Engs igOathum, with Lassier Dr. T. Thimmalah Institute of Technology 1. Ruckman Divata Gergaum, K.G.F. 563 120. 2. SWINCIPAL 2. SWINCIPAL 2. SWINCIPAL 2. SWINCIPAL

#### **SYNOPSIS**

Diabetic retinopathy (DR) is a micro vascular complication of long-term diabetes and it is the major cause of visual impairment because of changes in blood vessels of the retina. The presence of exudates is one of the primitive signs of DR and the detections of these exudates are the first step in automated screening for DR. Hence, exudates detection becomes a significant diagnostic task, in which digital retinal imaging plays a vital role.

Exudates are normally detected by their high grey-level variations and we have used an support vector machine to perform this task by applying color, size, shape and texture as the features. The performance of the algorithm has been prospectively tested by using DIARETDB1 database and evaluates by comparing the results with images annotated by expert ophthalmologists.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI - 590018



#### A Project Report On

#### "Programmable Periodic Portable Mobile Jammer For GSM and CDMA Mobiles"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECS86 for the award of degree of

#### **Bachelor of Engineering**

in

### **Electronics and Communication Engineering**

Submitted by

AMRITHA JENNY D ARCHANA R NAVITHA R PRAVEENA A

1GV12EC003 1GV12EC400 1GV13EC407 1GV13EC054

Under the Guidance of RAJESH KUMAR KAUSHAL,.ME. Assistant Prof., Dept. of ECE, Dr.TTIT, KGF



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120. 2016–2017



#### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### <u>CERTIFICATE</u>

Certified that the **Project work** entitled "*Programmable Periodic Portable Mobile Jammer for GSM and CDMA Mobiles*" is a bonafied work carried out by Amritha Jenny D - 1GV12EC003, Archana R -1GV12EC400, Navitha R - 1GV13EC407, Praveena A - 1GV13EC054, 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 2016-2017. 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.

Plaushal

Signature of Guide Mr. Rajesh Kumar Kaushal

Name of Examiners Dr. T.Thimmaiah Ins Oorgaum, K 1. Ruchemani Divalentan 2. SUJANI.G

Signature of HOD Prof. Ruckmani Divakaran Head of the Department Dept. of Electronics and Communication Engg. Dr. T.Thimmaiah Institute of Technology Oorgaum, K.G.F.- 563 120.

2" m/6/17

Signature of Principal Drp Syed Ariff

Dr. T. Thimmaiah Institute of Technology Oorgaum, K.G.F. - 563 120. Signature with Date 24.6.2017 2. Spark 24/6/17

#### SYNOPSIS

Global System for Mobile Communication is the most widely means of communication today. This, though useful may pose great nuisance in noise restricted areas such as classrooms, churches, mosques, Libraries, hospitals etc. Mobile phone jammers are employed to prevent mobile phones from receiving or transmitting from base stations. The mobile phone signal jammer is used to interfere with the communication frequency within a specified radius depending on the strength of the signal jammer.

To achieve this, a radio signal is generated on the same frequency as the base station of the mobile phone Network provider and at a higher power so as to collide and cancel each other out. The jammer coverage distance hinges largely on the performance and capacity of the antenna used. This research employs Yagi Uda antenna (900-1800MHZ) with great gain for optimal performance. Results of the match by Gamma match are  $50.16\Omega$ . Obtained value VSWR Yagi is 1:46:1n jamming distance that can be approximately 15m. Upon activation all mobile phones will indicate "No service" and full service resumes only when the jammer is off.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018 2016 - 2017



#### A Project Report on

#### "Intelligent parking management system based on image processing using color detection method"

Submitted in the partial fulfillment of the requirement for the VIII Semester Project Work-10ECS86 for the award of degree of

Bachelor of Engineering

#### **Electronics and Communication Engineering**

SubmittedbyAMRUTHA S.1GV13EC001ANUSHA J.1GV13EC003MADHAVI K.R.1GV13EC033NAGAMANI N.1GV13EC042

Under the Guidance of Prof. Ruckmani Divakran, HOD Dept. of ECE, Dr.T.T.I.T.



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.



#### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### <u>CERTIFICATE</u>

Certified that the **Project work** entitled "Intelligent parking management system based on image processing using colour detection method" is a bonafied work carried out by Amrutha S. -1GV13EC001, Anusha J. -1GV13EC003, Madhavi K.R. -1GV13EC033 and Nagamani N. -1GV13EC042 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 2016-2017. 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- 10ECP85 prescribed for the Bachelor of Engineering Degree.

Signature of HOD and guide ProfoRuckingan SUL HEIFHHMMM ide of lech 049999999999990 1JAN!

- 22/6/18 Signature of Principal Dr. Syed Ariff

Signature with Date

#### **SYNOPSIS**

The main aim of the project is to design and develop an image processing based intelligent parking system using MATLAB R2013a software.

Most of the car parking today are not run efficiently. This means that on busy days drivers may take a long time driving around the car park in order to find a free parking space. Implementing this system will help to resolve the growing problem of traffic congestion, wasting of time, wasting money and helps to provide better public service, reduces the car emissions and pollution and increases parking utilization. This method provides more efficient and effective parking enforcement. An automatic parking system can be implemented through sensors at the entrance and exit of the parking place. A computer system manages the whole process. Various display panels and lights helps the driver to park his car.

This project presents an intelligent system for parking space detection based on image processing technique. The method captures and processes the image of the parking lot (green circular paintings on the parking lot indicates vacant parking space) and produces the information of the empty car parking spaces. In this work, a camera is used as a sensor to take pictures to show the occupancy of car parks. The camera is used to detect different car parking lots, by processing these images, the particular vacant space in the car parking area is known. This information is used to guide a driver to an available car park. This method has been developed by using a camera, R5F100LEA microcontroller, 2x16 LCD display, IR Sensor and a stepper motor. The required coding is done using MATLAB and IDE software. An automatic parking system is used to make the whole process of parking cars more efficient and less complex for both drivers and administrators.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018



#### A Project review On

#### "True-Motion Estimation Algorithm and Its Application to Motion-Compensated Temporal Frame Interpolation"

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

ARUNKUMAR.B MOHMAD ASHIQ.A ROHIT.J

1GV14EC403 1GV14EC409 1GV14EC413

Carried out at Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

> Under the guidance of Mr.SHASHI KIRAN.S., M.Tech, Asst. Prof., Dept of ECE



Department of Electronics and Communication Engineering Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY Kolar Gold Fields-563120 2016-2017



#### (Formerly Golden Valley Institute of Technology) **Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION** ENGINEERING.

#### CERTIFICATE

Certified that the Project work entitled "True-Motion Estimation Algorithm and Its Application to Motion-Compensated Temporal Frame Interpolation" is a bonafied work carried out by ARUN KUMAR.B - 1GV14EC403, MOHMAD ASHIQ.A - 1GV14EC409, ROHIT.J -**IGV14EC413** in the partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering of the Wisvesvaraya Technological University, Belagavi during the year 2016-17. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The rechnical seminar 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** Mr.Shashi Kiran.S

Pul

Signature of HOD Prof. Ruckmani Divakaran Head of the Department

Name of ExaminerSept. of Electronics and Communication Engg. Dr. T.Thimmaiah Institute of Technology 1. Luchemani DC Qorgaum, K.G.F.- 563 120. 2. SUJANII.C.

1. 116/17

Signature of Principal Dr. Syed Ariff

Dr. T. Thimmaich Institute of Technology Signature with Date120.

#### SYNOPSIS

Motion estimation (ME) has a vital role in video coding and several video processing applications, such as denoising, de-interlacing, and frame rate up-conversion (FRUC) or frame interpolation. ME is employed to exploit the temporal correlation between video frames either to reduce the temporal redundancy for video coding applications or to improve the visual video quality for video processing applications. One might argue that some of these video processing applications may potentially utilize the existing motion vectors (MVs) from the decoder via MV post-processing to keep the complexity low; however, this may not usually be a feasible option.

This infeasibility could be due to either difficulty of using MVs or lack of available MVs. As video coding and video processing applications are often implemented separate intellectual properties (IPs) in hardware[12], it may be very difficult to share the MVs between decoder and other video processing applications due to bandwidth, latency, storage, and design specification reasons.

Besides, some of these video processing applications may be employed either before the encoding or after the decoding, and some of them may be employed at both places; if it is employed before the encoding then MVs are not available, as a result ME needs to be performed. For example, FRUC is employed only at the display side after the decoder; de-interlacing and de-noising, however, can be utilized in both places.

Where as in true motion estimation the mainly it goes to detect the motion object as closely as possible by using the block matching algorithm, and then after the estimation of the true motion vector fields it helps to produce the motion compensated temporal frame interpolation. This methods is gives the more video quality and the smoothness with the flow of frames.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI - 590018



**A Project Report** 

on

"Digital Stethoscope For Heart Sound Recognition"

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

AYESHA FARHEEN INDHUMATHI D MALINI P REENU EVÁNGELINE K 1GV12EC012 1GV13EC023 1GV13EC047 1GV11EC040

Under the Guidance of Mrs. Inbalatha. K. Asst., Professor Dept 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.



#### (Formerly Golden Valley Institute of Technology) **Oorgaum Kolar Gold Fields – 563120** DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### CERTIFICATE

Certified that the Project Work entitled "Digital Stethoscope For Heart Sound Recognition" is a bonafied work carried out by AYESHA FARHEEN -1GV12EC012, INDHUMATHI D – 1GV13EC023, MALINI P – 1GV13EC047, REENU EVANGELINE K - 1GV11EC040, 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 2016-17. 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 -10ECP85 prescribed for the Bachelor of Engineering Degree.

Signature of Guide Mrs. Inbalatha. K

Signature of HOD Prof. Ruckmani Divakaran Head of the Department

**Signature of Principal Dr. Syed Ariff** PRINCIPAL

Dept. of Electronics and Communication Enggr. Thimmalah Institute of Technology Name of Examiners Dr. T.Thimmaiah Institute of Technology Signature with Date Qorgaum, K.G.F.- 563 120. 1 main valaran 2. SUJANI.G

#### SYNOPSIS

A new method of analyzing acoustic properties of the heart sounds using a digital stethoscope is designed. The heart sound can be heard using auscultation device named as stethoscope. To detect the heart abnormalities from the heart sound requires long years of experience. Digital stethoscope assists the doctor in detecting the abnormalities in short period.

The objective is to develop a microcontroller based Digital Stethoscope to capture heart sound with help of display so that people with help of display so people without any medical knowledge can also check their heart conditions using Digital Stethoscope. Cardiac action parameters were extracted from the recorded digitized heart sound and analyzed. The cardiac pulse parameters can provide detailed insights into cardiac and actions. Hardware implementation of the digital stethoscope is presented. Recorded heart sounds were transmitted to a receiver module connected to a computer. The data passed through a digital filter and normalized by amplitude scaling.



#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI - 590018 2016 - 2017



A Project Report

on

#### "AUTOMATIC TEMPERATURE CONTROL AND MAINTENANCE OF COLD STORAGE SYSTEM USING IOT"

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 & Communication Engineering

Bhaskar Naik L. Mehtab Ahmed P. Sanchana

1GV13EC006 1GV13EC039 1GV13EC048

Carried out at

#### Tata Consultancy Services, Bangalore-560013.

Under the Guidance of

INTERNAL GUIDE Mr. Srinivas Babu N, M Tech., Asst. Professor, Dept. of ECE EXTERNAL GUIDE Mr. Kishore Kumar T, CRC Head Tata Consultancy Services, Bangalore.



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute Of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.

#### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OFELECTRONICS AND COMMUNICATIONENGG.

ATTHIMMAIAH INSTITUTE OF TECHNOLOG

#### CERTIFICATE

Certified that the **Project workentitled** "Automatic Temperature Control and Maintenance of Cold Storage System using IoT" is a bonafied work carried out by, **Bhaskar Naik.** L – 1GV13EC006, Mehtab Ahmed – 1GV13EC039, P. Sanchana – 1GV13EC048, 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 2016-17. 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.

2. 27/8/17 Signature of Guide Signature of HOD Signature of Principal Mr.Srinivas Babu, N Prof. Ruckmani DivakaranDr. T. ThimDri Syleatikin of Technology Head of the Department Oorgaum, K.G.F. - 563 120. Head of the Department Name of ExaminersDept. of Electronics and Communication Engg. Signature with Date 1. Ruleman Dr. T. Thinmpiah Institute of Technology 1. Luch Deval 2. SUSANI G 2. Sjahanlaha



Experience certainty.



# Certificate of Accomplishment

is awarded to

#### BHASKAR NAIK L

of Dr.T.Thimmaiah Institute Of Technology, Kolar Gold Fields for successfully completing the academic final year project in collaboration with TCS associates, as part of IT Employability, conducted under the Tata Affirmative Action Program during January - May 2017.

Congratulations from TCS Affirmative Action team.



Dr. Joy Deshmukh Ranadive Global Head – CSR Tata Consultancy Services





is awarded to

#### MEHTAB AHMED

of Dr.T.Thimmaiah Institute Of Technology, Kolar Gold Fields for successfully completing the academic final year project in collaboration with TCS associates, as part of IT Employability, conducted under the Tata Affirmative Action Program during January - May 2017.



Congratulations from TCS Affirmative Action team.

Dr. Joy Deshmukh Ranadive Global Head – CSR Tata Consultancy Services Experience certainty.



## Certificate of Accomplishment

is awarded to

### P. SANCHANA

of Dr.T.Thimmaiah Institute Of Technology, Kolar Gold Fields for successfully completing the academic final year project in collaboration with TCS associates, as part of IT Employability, conducted under the Tata Affirmative Action Program during January - May 2017.

Congratulations from TCS Affirmative Action team.



Dr. Joy Deshmukh Ranadive Global Head – CSR Tata Consultancy Services

## VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018 2016 - 2017



#### **A Project Report**

on

#### "Detection and Quantification of Road surface Damage using DIP Techniques"

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

#### **Bachelor of Engineering**

in

### **Electronics and Communication Engineering**

Submittedby

BHAVANI N. KASTHURI K. R A VARUN. BHAVYA M.

1GV13EC007 1GV13EC027 1GV13EC057 1GV11EC401

Under the Guidance of Asst.Prof., Mohan N, Dept. of ECE, Dr.T.T.I.T.



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.



(Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATIONENGINEERING.

#### CERTIFICATE

Certified that the Project work entitled "Detection and Quantification of Road Surface Damage using DIP Techniques" is a bonafied work carried out by Bhavani N. -1GV13EC007, Kasthuri K. -1GV13EC027, R.A.Varun -1GV13EC057 and Bhavya M. -1GV11EC401 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 2016-2017. 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-10ECP85 prescribed for the Bachelor of Engineering Degree.

Signature of Guide Mohan N

Signature of HOD Prof. Ruckmani Divakaran Head of the Department Name of Examiners Composition Engg. · Sale c" Technology 1. Lucha Drallog T. Thimmer Oorgautit, K.G.F.- 563 120. 2. SUTANIG

Signatine of Principal Dr. T. Thimmainh lostitute of Technology Oorgaum, K.G.F. - 500120 Signature with Date 1. 23



International Journal of Engineering Research & Technology ISSN : 2278 - 0181, www.ijert.org (Published by : ESRSA Publication)

## Certificate Df Publication

This is to certify that

Bhavani N

Has published a research paper entitled

Detection and Quantification of Road Surface Damage using Digital Image Processing Techniques

In IJERT, Volume. 6, Issue. 06, June - 2017



Registration No: IJERTV6IS060130

Date: 06-06-2017

**Chief Editor, IJERT** 

International Journal of Engineering Research & Technology

of Engineerin,

In the second se



International Journal of Engineering Research & Technology ISSN : 2278 - 0181, www.ijert.org (Published by : ESRSA Publication)

# Certificate Of Publication

This is to certify that

Kasthuri K

Has published a research paper entitled

Detection and Quantification of Road Surface Damage using Digital Image Processing Techniques

In IJERT, Volume. 6, Issue. 06, June - 2017

Registration No: IJERTV6IS060130

Date: 06-06-2017

**Chief Editor, IJERT** 

Engineering Research & Technology

Lengineering Age

#### International Journal of Engineering Research & Technology ISSN : 2278 - 0181, www.ijert.org (Published by : ESRSA Publication)



This is to certify that

R A Varun, Bhavya M

Has published a research paper entitled

Detection and Quantification of Road Surface Damage using Digital Image Processing Techniques

In IJERT, Volume. 6, Issue. 06, June - 2017



Registration No: IJERTV6IS060130

Date: 06-06-2017

**Chief Editor, IJERT** 

Technology nternational Journal of Research & Engineering

Journal O.

lejuj • Ki

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018



A Project Report On

#### **"DESIGN AND IMPLEMENTATION OF AMBA-APB BRIDGE FOR**

SoC"

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 & Communication Engineering** 

by

BRUNDA.V DEEPIKA.A MAMATHA.D.V MAMATHA.M.V 1GV13EC009 1GV13EC013 1GV13EC036 1GV13EC037

Carried out at

Dr. T. Thimmaiah Institute of Technology

Under the Guidance of Mr. Praveen Kumar V, M.Tech., Asst. Professor, Dept. of ECE.



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute Of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields–563120. 2016-2017



#### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields - 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### CERTIFICATE

Certified that the Project work entitled "Design and Implementation of AMBA-APB Bridge for SoC" is a bonafied work carried out by Brunda.V (1GV13EC009), Deepika.A (1GV13EC013), Mamatha.DV (1GV13EC036), Mamatha. MV( 1GV13EC037), 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 2016-17. 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 Mr. Praveen Kumar, V

Rul

Signature of HOD Prof. Ruckmani Divakaran

~ 21/5/17

**Signature of Principal Dr Syed Ariff** 

1. Keel Dina

1. Kul rubr 2017 2. Sit handled

Head of the Department Dept. of Electronics and Communication Engg. Dr. T. Thimmalah Institute of Technology Name of Examiners Dr. T.Thimmaish Institute of Technology Signature with Date

1. Rulemani Divalaran 2. SUJANI G

#### ABSTRACT

System-on-Chip (SoC) is designed with reusable intellectual property cores to meet short time to market requirements. Embedded systems design focuses on low Power dissipation and system-on-chip. A reliable on-chip communication standard is a must in any SoC. The AMBA 2.0 APB is a peripheral bus standard for low bandwidth peripheral. We present the design of APB controller which handles the transactions between the master and peripheral devices. The final design which integrates the peripheral devices with the APB controller is implemented on the FPGA device.

The design of AMBA processor interface and its hardware implementation are described. The interface between high-performance AMBA bus AHB and low performance AMBA bus APB is created in this work. Then two target devices register and RAM are connected to APB side to perform read/write through the designed interface commanding from AHB side. All the major signals of AHB and APB are used. AHB to APB interface, register, and RAM is shown starting from the top level. Next, hand-drawn waveforms of all the associated signals are given. For data security UART design includes Linear Feedback Shift Register (LFSR) is used.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI - 590018

2016-2017



A Project Report

## "SVM Based Tomato Leaves Disease Detection"

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

R GAYATHRI R NIVEDITHA S HUSNA ANJUM SANDHYA RANI.P.A

1GV13EC058 1GV13EC059 1GV13EC066 1GV13EC068

Under the Guidance of Mrs.Mamatha V., 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.



#### (Formerly Golden Valley Institute of Technology) **Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.**

#### CERTIFICATE

Certified that the Project work entitled "SVM Based Tomato Leaves Disease Detection" is a bonafied work carried out by R.Gayathri-1GV13EC058, R.Niveditha-1GV13EC059, S.Husna Anjum-1GV13EC066 and Sandhya Rani.P.A. -1GV13EC068 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 2016-2017. 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- 10ECP85 prescribed for the Bachelor of Engineering Degree.

----Signature of guide

Mrs. Mamatha V.

1. Kuleman Denoorgan, K.G.F. 533 120.

2. Com

ful Awal

Signature of HOD Prof. Ruckmani Divakaran el. Head of the Department

Name of Examiners Dept. of Electronics and Communication Engg. Dr. T. Thimmaiah Institute of Technology

27/18/17 Signature of Principal Dr. Syed Ariff

Signature with Date

2.

1. Lu

13260

#### SYNOPSIS

Tomatoes are one of the most widely cultivated food crops throughout the world due no its high nutritive value. It contains a lot of vitamins and nutrients such that vitamin C. It occupies the fourth level between word vegetables. Although, the naked eye observation of experts is the main approach adopted in practice for detection and identification of plant diseases, it requires continuous monitoring of experts, which might be expensive and difficult especially in large farms. So, it is necessary to help farmers in automatically detect symptoms of disease as soon as they appear by analyzing the digital images.

Aiming at minimizing major production and economic losses, ensuring both quality and quantity of agricultural products and minimizing agrochemicals use, computer based applications have been developed and revealed high efficacy, many of them focusing on the identification of diseases through foliage symptoms in various cultivars, such as wheat, cotton, rice and apple.

Our methodology consists of Gabor wavelet transform technique to extract relevant features related to image of tomato leaf in conjunction with using Support Vector Machines (SVMs) with alternate kernel functions in order to detect and identify type of disease that infects tomato plant. Initially, we collected real samples of diseased tomato leaves, next we isolated each leaf in single image, wavelet based feature technique has been employed to identify an optimal feature subset. Finally, a support vector machine classier was employed to evaluate the ability of this approach to detect and identify where tomato leaf infected with Powdery mildew or early blight. To evaluate the performance of presented approach, we present tests on dataset consisted of 250 images for each type of tomato diseases. Efficient result were obtained from the proposed approach lead to tighter connection between agriculture specialists and computer system, yielding more effective and reliable results.



#### NATIONAL CONFERENCE

# RECENT TRENDS IN ELECTRONICS & COMMUNICATION ENGINEERING

This is to certify that Dr./Mr./Mrs./Ms. R. GAYATHRI, DY TTIT KGF has presented a paper entitled SVM BASED TOMATO LEAVES DISEASE DETECTION in the National Conference on Recent Trends in Electronics and Communication Engineering NCRTEC-17 on 29th May 2017.



#### NATIONAL CONFERENCE

# RECENT TRENDS IN ELECTRONICS & COMMUNICATION ENGINEERING

This is to certify that Dr./Mr./Mrs./Ms. R. NIVEDITHA J. Dx. TTIT KGF has presented a paper entitled SVM BASED TOMATO LEAVES DISEASE DETECTION. in the National Conference on Recent Trends in Electronics and Communication Engineering NCRTEC-17 on 29th May 2017.



### NATIONAL CONFERENCE

RECENT TRENDS IN ELECTRONICS & COMMUNICATION ENGINEERING

This is to certify that Dr./Mr./Mrs./Ms. <u>S. Husna ANJUM</u>, <u>Dr TTIT KGF</u> has presented a paper entitled <u>SVM BASED TOMATO LEAVES DISEASE DETECTION</u>. in the National Conference on Recent Trends in Electronics and Communication Engineering NCRTEC-17 on 29th May 2017.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI – 590018 2016 – 2017



#### A Project synopsis

on

#### "IMPLEMENTATION OF SONAR INTERFACE WITH FIRE CONTROL SYSTEM"

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:

HARINI SINDHU. P. PRASAD. K.S. PRIYANKA. S.A. 1GV11EC015 1GV12EC054 1GV13EC408

Carried out at

Bharat Electronics Limited (BEL), Bengaluru - 560013 Under the guidance of

#### INTERNAL GUIDE

Asst. Prof., Dept. of ECE

Mr. Rakhesh Kusagur., M.Tech.,

EXTERNAL GUIDE Mrs. Tanushree Veryani, B.E., M.S., Senior Engineer, D&E, NS, B.E.L.



Dr. T.THIMMAIAH INSTITUTE OF TECHNOLOGY, Department of Electronics and Communication Engineering, Kolar Gold Field – 563120



#### (Formerly Golden Valley Institute of Technology) Oorgaum, Kolar Gold Fields - 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### CERTIFICATE

Certified that the Project Work entitled "IMPLEMENTATION OF SONAR INTERFACE WITH FIRE CONTROL SYSTEM" is a bonafied work carried out by HARINI SINDHU IGV11EC015, PRASAD K.S 1GV12EC054, PRIYANKA. S.A. 1GV13EC408 in the partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and of Engineering the VISVESVARAYA Communication TECHNOLOGICAL UNIVERSITY, Belagavi during the year 2016-17. 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 Mr.Rakhesh kusagur

WOAN .

Signature of HOD Prof. RuckmaniDivakaran Head of the Department Dr. T. Thismusian institute of Technology

23/6/12

Signature of Principal Dr. Syed Ariff

Name of Examiners Gept of Electronics and Communication EngSignature with Dates 100 Dr. T.Thimmaiah Institute of Technology Oorgaum, K.G.F. 563 120
Rof. No. 449/18-17	RNING AND DEL
AREFOR	EL OPMEN
BHARAT ELEC	TRONICS, BENGALURU - 560 013
C Th:	ertificate siste Contifictuat
Sri/Smt./Kumt	ARINI SINDHU P
student of DR THIMMAI	AH INSTITUTE OF TECHNOLOGY 
onIMPLEMENTATION OF SOM	NAR INTERFACE WITH FCS
SBU/CSG of our Organi	sation, from
to	munctual in his /her attendance and his / her
conduct was satisfactory	during the period.
المعنى المعن معنى المعنى ا معنى المعنى المعنى معنى المعنى المعن	Project Co Gritinator (CLD) NST SIDST / NANJUNDA SWAMY BL E JOS / J. S. MANAGER

মা. ম / মাঁহলারী / HR/CLD



मा. सं / संएलडी / HR/CLD



Certificate

This is to Certify that

Sri/Smt./Kum
student of DR THIMMAIAH INSTITUTE OF TECHNOLOGY
KOLAR GOLD FIELD
ON. IMPLEMENTATION OF SONAR INTERFACE WITH FCS
inD&E/SONAR SYSTEMS - NS -1
SBU/CSG of our Organisation, from <u>11-01-2017</u>
to27-02-2017

He / She was regular and punctual in his /her attendance and his / her conduct was satisfactory during the period.



(CLD)BC F 209723 HEIDE LENDE / ASST MANAGE

मा. सं / सीएलडी / HR/CLD

#### **SYNOPSIS**

Testing of Sonar on ship becomes a tedious and prolonged process. To overcome this issue the information in the given protocol is encoded and simulated using Qt software. The data encoded contains information regarding the targets under surveillance which is given to the Fire Control System.

Thus the information from the microcontroller is received by FCS via Ethernet wherein the microcontroller controls the Fire Control System which is designed to assist a weapon system in hitting its target based on the information.

The modernized equipments interfaced with SONAR are compatible with the Ethernet communication link unlike the former equipments which used the serial communication system. Therefore the sonar messages generated serially are to be converted to a form that can be used by the other interfaced systems.

Interface of sonar with fire control system for ship through digital channel which defines the interface requirements of sonar with FCS system. The information exchange between SONAR and FCS will be carried out through digital synchronous communication channel (RS-422A) and the applicable communication protocols of data exchange will be synchronous data link control (SDLC).

Thus the information from the microcontroller is received by FCS via Ethernet wherein the microcontroller controls the Fire Control System which is designed to assist a weapon system in hitting its target based on the information.

## VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI - 590018

2016 - 2017



## A Project Report

OI

## "Design and Implementation of Interfacing Kit for Multi Function Display and Control Display System"

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

JYOTHI L M. PRICILLA JACQULINE MARIA SHIRLEY H NAVYATHA G 1GV13EC025 1GV13EC031 1GV13EC038 1GV13EC044

Carried out at Hindustan Aeronautical Limited, Bangalore

Under the Guidance of

INTERNAL GUIDE Ms. Devika S., B.E, M.Tech.,

Asst. Professor, Dept. of ECE.,

Dr.T.T.I.T, K.G.F

EXTERNAL GUIDE **Mr. Shamit Gupta., Manager,** LRU lab, MRO division, HAL, Bangalore-560017



Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.

## (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION **ENGINEERING.**

THIMMAIAH INSTITUTE OF TECHNOLOG

#### CERTIFICATE

Certified that the Project work entitled "Design and Implementation of Interfacing Kit for Multi Function Display and Control Display System" is a bonafied work carried out at Hindustan Aeronautical Limited by Jyothi L - 1GV13EC025, M. Pricilla Jacquline - 1GV13EC031, Maria Shirley H - 1GV13EC038, Navyatha G -1GV13EC044, 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 2016-2017. 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

Ms. Devika S

Name of Examiners

2. SVJANIG

June 22/06/17 Rul Divel 22.6.2017 June 22/6/12

Signature of HOD Prof. Ruckmani Divakaran Head of the Department or T. Thimmaian institute of recommend Dept. of Electronics and Communication Energ.

Dr. T.Thimmaiah Institute of Technology 1. Kulenan Dinakanan Corganim, K.G.I. 503 120.

**Signature of Principal Dr. Syed Ariff** 

Oongaum, K.G.F. - 563 120.

Signature with Date 1 fuel Arial 2. 2 · · · · · · · · · · · ·

हेलिकॅाप्टर एम आर ओ प्रभाग हिन्दुस्तान एरोनॉटिक्स लिमिटेड बोरट बाकर २८, 1796, विमानपुरा पोस्ट बेंगलरू – 560017, भारत Fax (फैक्स) - 91-80-22314354



HELICOPTER MRO DIVISION HINDUSTAN AERONAUTICS LIMITED POST BOX-NO.1796, VIMANAPURA POST Bengaluru-560 017, India Ph. (दूरमाष): 91-80-22323231

## हिन्दी बढ़ेगी तभी, जब चाहेंगे सभी *Ref: MRO-H/DGM (HR)/ 073/17*

February 10, 2017

#### CERTIFICATE

This is to certify that Ms.Jyothi. L (1GV13EC025), student o DR, Thimmaiah Institute of Technology, Ooragaum, K.G.F., has undergon Project Work titled "Design and Development of the Test Kit For MFD and CDS in an AIH" in HAL-Helicopter MRO Division from 10.01.2017 to 10.02.2017.

2. Her Punctuality, Conduct, Behaviour and Progress during the period of "Project Work" was good.

For HAL-Helicopter MRO Division

(G. Bhanu Prasad) Senior Manager (HR) - MRO



www.hal-india.com

पंजीकृतकार्यालय : 15/1, कब्बन रोड, बेंगलूर-560 001, भारत Registered Office: 15/1, Cubbon Road, Bangalore-560 001, India CIN: U35301KA1963GOI001622 anter alexin



HELICOPTER MIRO DEVISION HINDUSTAN AERONAUTICS LIMITED POST ROB 240-1 196, VIMANARURA POST Bengeruro 360 037, Undia PK. (ETNINE 31 40-22323231

#### हिन्दी बहेगी तभी, जब चाहेंगे सभी

y MRO-H/DGM (HR)/073/17

February 10, 2017

#### CERTIFICATE

This 1: to certify that Ms. Pricilla Jacquline M (1GV13EC031) student of DR Thimmaiah Institute of Technology, Ooragaum, K.G.F., has undergone Project Work titled "Design and Development of the Test Kit For MFD and CUS in an ALH" in HAL-Helicopter MRO Division from 10.01.2017 to 10.02.2017.

2. Her Punctuality, Conduct, Behaviour and Progress during the period of Project Work\* was good.

For HAL-Helicopter MRO Division

(G. Bhanu Prasad) Senior Manager (HR) - MRO



तिकाप्टर एम आर ओ प्रभाग

न्द्रतान एरोनॉटिक्स लिमिटेड



HELICOPTER MRO DIVISION HINDUSTAN AERONAUTICS LIMITED POST BOX-NO.1796, VIMANAPURA POST Bengaluru-560 017, India Ph. (दूरभाष): 91-80-22323231

हरत्वतः १९२२ विषयपूर्वा सम्रत तन्द्रः २०११ १४ १४९ ax (केल्स) २११ १८ २८३ (४३६४

हिन्दी बढ़ेगी तभी, जब चाहेंगे सभी Ref: MRO-H/DGM (HR)/ 073/17

February 10, 2017

#### CERTIFICATE

This is to certify that Ms. Maria Shirley. H (1GV13EC038), student of DR, Thimmaich Institute of Technology, Ooragaum, K.G.F., has undergone Project Work titled "Design and Development of the Test Kit For MFD and CDS in an ALH" in HAL-Helicopter MRO Division from 10.01.2017 to 10.02.2017.

2. Her Punctuality, Conduct, Behaviour and Progress during the period of "Project Work" was good.

For HAL-Helicopter MRO Division

(G. Bhanu Prasad) Senior Manager (HR) - MRO



देलिकाप्टर एम आर ओ प्रभाग हिन्दस्तान एरोनांटिक्स लिमिटेड Fax (that) 01 801-22314354



HELICOPTER MRO DIVISION HINDUSTAN AERONAUTICS LIMITED POST BOX-NO.1796, VIMANAPURA POST Bengaluru-560 017, India Ph. (दूरमाष): 91-80-22323231

हिन्दी बढ़ेगी तभी, जब चाहेंगे सभी

Ref: MRO-H/DGM (HR)/ 073/17

February 10, 2017

E C L

#### CERTIFICATE

This is to certify that Ms.Navyatha G (1GV13EC044), student DR. Thimmaiah Institute of Technology, Ooragaum, K.G.F., has undergone Project Work titled "Design and Development of the Test Kit For MFD and CDS in an ALH" in HAL-Helicopter MRO Division from 10.01.2017 to 10.02.2017.

2. Her Punctuality, Conduct, Behaviour and Progress during the period of "Project Work" was good.

For HAL-Helicopter MRO Division

(G. Bhanu Prasad) Senior Manager (HR) - MRO

**पंजीकृतकार्यालय** : 15/1, **कब्बन रोड**, बेंगलूर-560 001, भारत Registered Office: 15/1, Cubbon Road, Bangalore-560 001, India CIN: U35301KA1963GOI001622

#### **Synopsis**

The Integrated Architecture and Display System replace the conventional cockpit on the helicopter. IADS is built around the digital display mission computer, multi-function display and control display system and it requires helicopter data from on board sensor in various formats, converts them to digital format for display on the MFDs. IADS also gives outputs to various helicopter systems in the required format. The IADS concept is to change the conventional cockpit operation.

The project is to develop an interfacing kit for testing MFD and CDS as well as to have a mutual communication between the two devices they are MFD and CDS. The same kit is used in the cockpit of a helicopter. The project also includes uploading of software which is an operating system to the MFD and CDS, checking software version of MFD and CDS. ARINC analyser can be used to stimulate the inputs which are fed to DIU and the complete cockpit can be stimulated at the test bench.

This interfacing kit is very useful to stimulate the faults which occur at the helicopter ground level. To design and develop a interfacing kit to test the MFD and CDS in the Advanced Light Helicopter. More over to develop a new product from scratch this would be efficient. This kit can also run using ac source generally that is got from the home units. This kit also avoids breakage loss and transportation loss.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSIT BELAGAVI - 590018

2016-2017



A Project Report

"An Embedded Program Design for Automation of **Orbital Welding System**"

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

NANDHINI B. **REENA D.** SHALINI K.V. SARANYA T.R. 1GV13EC043 1GV13EC063 1GV13EC072 1GV13EC090

Carried out at

Hindustan Aeronautics Limited, Bengaluru-560093

## Under the Guidance of

**INTERNAL GUIDE** 

Mrs. Ramya. J., M.E Asst. Prof, Dept. of E&C Dr. T.T.I.T, KGF

**EXTERNAL GUIDE** 

Mr. Gulshan Kishan, B.E. Senior Engineer, H.A.L. Bengaluru-560093



Dr. T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) **Department of Electronics and Communication Engineering** Kolar Gold Fields - 563120.



## Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

## CERTIFICATE

Certified that the Project work entitled "An Embedded Program Design for Automation of Orbital Welding System" is a bonafied work carried out by Nandhini B -1GV13EC043, Reena D -Saranya T R -Shalini K V -1GV13EC072 and 1GV13EC063. 1GV13EC090, in the partial fulfillment for the award of degree of Communication and Electronics Engineering in Bachelor of Engineering of the Visvesvaraya Technological University, Belgaum during the year 2016-2017. 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 - 10ECP85 prescribed for the Bachelor of Engineering Degree.

Signature of Guide Mrs. Ramya.J

Durly of 101" Rul Smal

Signature of HOD Prof. Ruckmani Divakaran Head of the Department

Name of ExaminerSept. of Electronics and Communication Enge. 1. Rushanan Dr. T. Thimmaiah Institute of Technology Unoprozum, K.G.F.- 563 120. 2. SUJANI.G

8-2/0/12

**Signature of Principal Dr. Syed Ariff** Dr. T. Thimmaiah Institute of Technology

Signature with Date 20 2. Lei h\_1.1.



ENGINE DIVISION BANGALORE COMPLEX HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, Bengaluru - 560 093 Ph. (दूरभाष) :

01-04-2017

E/HR/Project/2017

माग काम्प्लेक्स

ान एरोनाटिक्स लिमिटेड

9310, बेंगलूरु - 560 093

## CERTIFICATE

This is to certify that **Ms. Nandhini B, BE (ECE)** student of Dr. T Thimmaiah Institute of Technology, KGF has successfully completed her Project Work in Cellular Shop, Engine Division, Hindustan Aeronautics Limited (Bangalore Complex), Bengaluru - 560 093, during the period from 30-01-2017 to 31-03-2017 on No-Pay No-Fee Basis.

(This Certificate is issued for academic purpose only)

I. R. 2 (PRAKASH SAVARIAPPA Í)

PRAKASH SAVARIAPPA () DY. MANAGER-HR (PM)



HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, Bengaluru - 560 093. Ph. (दुरमाष)

01-04-2017

E/HR/Project/2017

काम्प्लेक्स

न एरोनाटिक्स लिमिटेड 9310. वेगसूम - 560 093

## CERTIFICATE

This is to certify that Ms. Reena D, BE (ECE) student of Dr. T Thimmaiah Institute of Technology, KGF has successfully completed her Project Work in Cellular Shop, Engine Division, Hindustan Aeronautics Limited (Bangalore Complex), Bengaluru - 560 093, during the period from 30-01-2017 to 31-03-2017 on No-Pay No-Fee Basis.

(This Certificate is issued for academic purpose only)

J.J. L. CHTAPI (PRAKASH SAVARIAPPA I) DY. MANAGER-HR (PM)



ENGINE DIVISION BANGALORE COMPLEX HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, Bengaluru - 560 093. Ph. (दूरमाष) :

E/HR/Project/2017

रोनाटिक्स लिमिटेड 10. देगतुरु - 560 093

01-04-2017

www.hal-india.com

## <u>CERTIFICATE</u>

This is to certify that **Ms. Shalini KV, BE (ECE)** student of Dr. T Thimmaiah Institute of Technology, KGF has successfully completed her Project Work in Cellular Shop, Engine Division, Hindustan Aeronautics Limited (Bangalore Complex), Bengaluru - 560 093, during the period from 30-01-2017 to 31-03-2017 on No-Pay No-Fee Basis.

(This Certificate is issued for academic purpose only)

TP (PRAKASH SAVARIAPPA I) DY. MANAGER-HR (PM)



ENGINE DIVISION BANGALORE COMPLEX HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, Bengaluru - 560 093. Ph. (दूरभाष) :

## E/HR/Project/2017

एरोनाटिक्स लिमिटेड

9310 बेगलूर - 560 093

01-04-2017

www.hal-india.com

## CERTIFICATE

This is to certify that **Ms. Saranya T.R, BE (ECE)** student of Dr. T Thimmaiah Institute of Technology, KGF has successfully completed her Project Work in Cellular Shop, Engine Division, Hindustan Aeronautics Limited (Bangalore Complex), Bengaluru - 560 093, during the period from 30-01-2017 to 31-03-2017 on No-Pay No-Fee Basis.

(This Certificate is issued for academic purpose only)

CITA (PRAKASH SAVARIAPPA I) DY. MANAGER-HR (PM)

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018 2016 –2017



A Project Report on

## "Ballast Tank Level Indicator for Submarines"

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

PAVAN C. PRASHANTH KUMAR B. RONALD ROBIN A. VIGNESH C.

1GV13EC049 1GV13EC052 1GV13EC064 1GV13EC097

Carried out at Bharat Electronics Bengaluru - 560013

Under the Guidance of

#### **INTERNAL GUIDE**

**EXTERNAL GUIDE** 

Prof. Ruckmani Divakaran,.M.S.,M.Tech HOD,Dept. of ECE.,Dr.T.T.I.T,KGF Ms.Ojaswi Chandrakar,.M.Tech. Deputy Engineer, Bharath Electronics



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY Department of Electronics and Communication Engineering Kolar Gold Fields – 563120



## (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

#### CERTIFICATE

Certified that the **Project work** entitled "Ballast Tank Level Indicator for Submarines" is a bonafide work carried out by Pavan.C -1GV13EC049, Prashanth Kumar. B -1GV13EC052, Ronald Robin.A -1GV13EC064 and Vignesh.C -1GV13EC097 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 2016-2017. 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-10ECP85** prescribed for the Bachelor of Engineering Degree.

hed bud

Signature of HOD and guide Prof.Ruckmani Divakaran Head of the Department Dept Nation To Example State of Technology Dr. T.Thimmaiah Institute of Technology Porgaum, K.G.F.- 563 120 2. Durantic State of State of Technology Porgaum, K.G.F.- 563 120 2. Durantic State of Technology Dirantic State

incitisnology

Signature with Date hi hayls 2.



OJASWI CHANDRAKAR BC E 216944 DEPUTY ENGINEER D & E-CS / NS (S & CS) JALAHALLI POST, BANGALORE-560 013



Project Guide ओजश्वी चंद्राकर अASWI CHANDRAKAR

BC E 216944 DEPUTY ENGINEER D & E-CS / NS (S & CS) ASST. MANAGER (MR./ CLD) BHARAT EL 10 TRONICE LINE TED JALAHALLI POST, BANGALORE-SAG 013

Fef. No. THARAT ELECTRONICS, BENGALURU - 560 013 MERCENT 6-17 आरत इलक्टोलिकस Certificate This is to Certify that Smi/Smt./Kum PAVAN C DR T THIMMAIAH INSTITUTE OF TECHNOLOGY TANK LEVEL INDICATOR FOR SUBMARINES D&E - CS / NS -1 13-04-2017 He / She was regular and punctual in his /her attendance and his / her and act was satisfactory during the period. Project/Co NANJUNDA SWAMY ASST. MANAGER (HR / CLD) D'IARAT BL TCTROMOS LIMITED JALAHALLI POST, BANGALORE-560 018 (S & CS)

#### SYNOPSIS

The ultrasonic level Indicator is a low-cost, noncontact and easy-to-install measurement device. It is able to meet the every-day needs of commercial production, as well as serving a more specialized role in the technologically-advanced aero-space industry, thus placing it firmly in the category of high-level measurement technology. Unlike other level indicators with limited uses, the easy-to-install ultrasonic level indicator is a highly-accurate device with enough specialized uses to ensure that the needs of the customer are met.

The principle of operation of the ultrasonic sensor system is to use the ultrasonic pulses which are transmitted by the transducer to the water surface to be monitored and are reflected back to the transducer, the time period between transmission and reception of the sound pulses is directly proportional to the distance between the transducer and surface, A micro-controller computes this time period for all echoes received and analyses them to determine which is the correct reflection from the material surface, it uses this data as the basis for giving control outputs and displays in usable engineering units.

## VISVESVARAYA TECHNOLOGICAL UNIVERSITY

**BELAGAVI - 590018** 2016-2017



A Project Report

## "Partial Face Recognition using Gabor Ternary Pattern combined with Sparse Representation Classifier"

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

SOWMIYA S SUPRITHA K **SWATHI V** VIDYA SHREE V 1GV13EC078 1GV13EC084 1GV13EC087 1GV13EC093

Carried out at Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

> Under the Guidance of Mrs. Vijayalakshmi.G.V Assoc. Prof., Dept. of ECE.



**Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY** Department of Electronics and Communication Engineering Kolar Gold Fields - 563120.

# ATHIMMAIAH INSTITUTE OF TECHNOLOGY

## Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

## CERTIFICATE

Certified that the Project work entitled "Partial Face Recognition using Gabor Ternary Pattern combined with Sparse Representation Classifier" is a bonafied work carried out by SOWMIYA S-1GV13EC078, SUPRITHA K-1GV13EC084, SWATHI V-1GV13EC087, VIDYA SHREE V-1GV13EC093 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 2016-17. 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 Mrs.Vijaylakshmi G .V.

Kul Sinal

Signature of HOD Prof. Ruckmani Divakaran Head of the Department Name of Examiners Dept. of Electronics and Communication EngsSignature with Dates 120. 1. RUCKMON) DIVALA Obrgaum, K.G.F. 563 120.

2. SUJANIG

**Signature of Principal** Dr. Syed Ariff Dr. 7. Thimmaiah institute of Technology

22/18/19

1. Luch Drial 23. 6. 2017 2. JEF 4 23/6/17

## **SYNOPSIS**

Partial faces frequently appear in unconstrained scenarios, with images captured by surveillance cameras or handheld devices (e.g. mobile phones) in particular. In this paper, we present general partial face recognition approach using Gabor Ternary Pattern and Sparse Representation Classifier. Our work was carried out on Indian movie film database (IMFDB) which includes all the variations in illumination, ages and poses. The simulation results had an accuracy of 91.47% inspite of all these variations the system is robust. The system gave a low FPR value of 0.47329 and high TPR value of 5.6054. The work was also carried on our own database which resulted in 89.27% of accuracy.





Brindavan College of Engineering

Dwarakanagar, Yelahanka, Bengaluru - 560063 Approved by AICTE, New Delhi, Recognised by Govt, and Affiliated to VEU. Belgaum



NATIONAL CONFERENCE

# "Emerging Trends in VLSI, Embedded & Networking" (NC-EVEN 2017)

Best Paper Award - UG Supritha K, Swathi V. This is to certify that <u>Sowmiya S.</u>, Vi dyachnee V. of <u>Or. TTIT, KGF</u> has secured Best Paper Award for presenting the paper titled <u>GTP Based</u> <u>Pastial Jace Recognition</u> in the National Conference on "Emerging Trends in VLSI, Embedded & Networking" (NC-EVEN 2017), organised by Department of Electronics and Communication, Brindavan College of Engineering, Bangalore on May 11th, 2017.

Prof. Venkatesha G.

HOD, Dept of ECE

Principal

Dr. Majed A A Sabha Chairman

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018 2016 - 2017



**Project Report** 

## "Portable Human Vital Signs Monitoring System Using Wireless Technology"

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

SUDARSHAN S R. VIGNESH S. AMALA PRIYANKA C V B. LEO EBENEZER PAUL P.

1GV13EC083 1GV13EC098 1GV14EC400 1GV14EC408

Carried out at **KTWO TECHNOLOGY SOLUTIONS** Bengaluru - 560076

#### Under the Guidance of

#### **INTERNAL GUIDE**

**EXTERNAL GUIDE** 

Ms. Tamil Vani R., M. Tech

Mr.Rohit Kumar B.E.,M.B.A. Asst, Prof. Dept of ECE., Dr.T.T.I.T, KGF Technical Manager, Ktwo Technology



**Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY Department of Electronics and Communication Engineering** Kolar Gold Fields - 563120



## (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### CERTIFICATE

Certified that the **Project work** entitled "*Portable Human Vital Signs Monitoring System Using Wireless Technology*" is a bonafide work carried out by Sudarshan.S.R -1GV13EC083, Vignesh.S-1GV13EC098, Amala Priyanka.C.V.B -1GV14EC400 and Leo Ebenezer Paul.P -1GV14EC408 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 2016-2017. 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- 10ECP85

This has 6 14 hul And & 23/0/13

Signature of Guide Ms. Tamil Vani.R

Signature of HOD Prof. Ruckmani Divakaran Head of the Department

Head of the Department Dr. T. Thimmaiah institute of Technology Name of Examinershept, of Electronics and Communication Engs. Signature with Date Dr. T.Thimmaiah Institute of Technology

Signature of Principal

2. St. 6

**Dr. Syed Ariff** 

1. Luch Qual

1. Ruleman Divalenan

2. SUJANI.G



Date : 08-May-2017

# **TO WHOM SO EVER IT MAY CONCERN**

THIS IS TO CERTIFY THAT THE PROJECT WORK ENTITLED "PORTABLE HUMAN VITALS SIGNS MONITORING SYSTEMS USING WIRELESS TECHNOLOGY"; CARRIED OUT BY <u>MR. SUDHARSHAN.S.R</u> BEARING <u>USN-1GV13EC083</u> BONAFIED STUDENT OF <u>DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY, KGF</u> IN PARTIAL FULFILLMENT FOR THE AWARD OF BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION.

IT IS CERTIFIED THAT HE HAS COMPLETED HIS PROJECT PROGRAM IN OUR ORGANIZATION FROM : 04- APRIL-2017 TO 05- MAY-2017.

DURING THIS PERIOD HIS CONDUCT AND BEHAVIOR WAS FOUND TO BE GOOD AND HE HAS SHOWN KEEN INTEREST TO LEARN NEW TECHNOLOGY.

THIS CERTIFICATE IS ISSUED SOLELY FOR EDUCATIONAL PURPOSE TO PROVIDE INDUSTRY EXPOSURE TO THE STUDENT. WE WISH HIM SUCCESS IN ALL HIS FUTURE ENDEAVOUR.

FOR KTWO TECHNOLOGY SOLUTIONS PVT LTD.

TECHNICAL MANAGER

#### KTwo Technology Solutions Pvt Ltd

#563, Prerana Towers, Ranka Colony Road, Bilekahalli, Off- Bannerghatta Road, Bangalore-560076.India Ph: +91- 7411687117 web:www.Ktwo.co.in





Date : 08-May-2017

## **TO WHOM SO EVER IT MAY CONCERN**

THIS IS TO CERTIFY THAT THE PROJECT WORK ENTITLED "PORTABLE HUMAN VITALS SIGNS MONITORING SYSTEMS USING WIRELESS TECHNOLOGY"; CARRIED OUT BY <u>MR. VIGNESH.S</u> BEARING <u>USN-1GV13EC098</u> BONAFIED STUDENT OF <u>DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY, KGF</u> IN PARTIAL FULFILLMENT FOR THE AWARD OF BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION.

IT IS CERTIFIED THAT HE HAS COMPLETED HIS PROJECT PROGRAM IN OUR ORGANIZATION FROM : 04- APRIL-2017 TO 05- MAY-2017.

DURING THIS PERIOD HIS CONDUCT AND BEHAVIOR WAS FOUND TO BE GOOD AND HE HAS SHOWN KEEN INTEREST TO LEARN NEW TECHNOLOGY.

THIS CERTIFICATE IS ISSUED SOLELY FOR EDUCATIONAL PURPOSE TO PROVIDE INDUSTRY EXPOSURE TO THE STUDENT. WE WISH HIM SUCCESS IN ALL HIS FUTURE ENDEAVOUR.

FOR KTWO TECHNOLOGY SOLUTIONS PVT LTD.

TECHNICAL MANAGER

KTwo Technology Solutions Pvt Ltd

#563, Prerana Towers, Ranka Colony Road, Bilekahalli, Off- Bannerghatta Road, Bangalore-560076.India Ph: +91- 7411687117 web:www.Ktwo.co.in





Date : 08-May-2017

# **TO WHOM SO EVER IT MAY CONCERN**

THIS IS TO CERTIFY THAT THE PROJECT WORK ENTITLED "PORTABLE HUMAN VITALS SIGNS MONITORING SYSTEMS USING WIRELESS TECHNOLOGY"; CARRIED OUT BY <u>MS. AMALA PRIYANKA .C.V.B</u> BEARING <u>USN- 1GV14EC400</u> BONAFIED STUDENT OF <u>DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY, KGF</u> IN PARTIAL FULFILLMENT FOR THE AWARD OF BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION.

IT IS CERTIFIED THAT SHE HAS COMPLETED HER PROJECT PROGRAM IN OUR ORGANIZATION FROM : 04- APRIL-2017 TO 05- MAY-2017.

DURING THIS PERIOD HER CONDUCT AND BEHAVIOR WAS FOUND TO BE GOOD AND SHE HAS SHOWN KEEN INTEREST TO LEARN NEW TECHNOLOGY.

THIS CERTIFICATE IS ISSUED SOLELY FOR EDUCATIONAL PURPOSE TO PROVIDE INDUSTRY EXPOSURE TO THE STUDENT. WE WISH HER SUCCESS IN ALL HER FUTURE ENDEAVOUR.

FOR KTWO TECHNOLOGY SOLUTIONS PVT LTD.

TECHNICAL MANAGER 09-05-017

#### KTwo Technology Solutions Pvt Ltd

#563, Prerana Towers, Ranka Colony Road, Bilekahalli, Off- Bannerghatta Road, Bangalore-560076.India Ph: +91- 7411687117 web:www.Ktwo.co.in



#### **SYNOPSIS**

Monitoring systems used for medical purposes are not new. The demand for different kinds of monitoring systems is growing. The study focused on the development of a portable vital signs monitoring system that is used by patients living in remote or isolated communities. The system checks and records the blood pressure, temperature, and pulse rate of the user. The results were sent automatically to medical personnel for appropriate action. The transmitter and receiver used in the system created using ZigBee technology. Results from individual monitoring system were sent to a database system for storage and future retrieval. Keeping track of the patient's health is convenient. With the available data on vital signs, diagnosing possible illnesses can be done. The monitoring system helped facilitate health care delivery

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018 2016 – 2017



**A Project Report** 

on

"Detection of Video Forgery in An Advanced Video by Steganalysis Features"

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

N.SUSHMITHA SHILPA RAJAN SONIYA L. SOWMYA B.

1GV13EC041 1GV13EC075 1GV13EC077 1GV13EC079

Under the Guidance of Mrs. Manjushree K Chavan, Asst.Prof.,Dept. of ECE, Dr.T.T.I.T.



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.



## (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

#### <u>CERTIFICATE</u>

Certified that the Project work entitled "Detection of Video Forgery in An Advanced Video by Steganalysis Features" is a bonafide work carried out by N.Sushmitha -1GV13EC041, Shilpa Rajan -1GV13EC075, Soniya.L -1GV13EC077 and Sowmya.B -1GV13EC079 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 2016-2017. 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- 10ECP85 prescribed for the Bachelor of Engineering Degree.

Signature of Guide

Rud Dural & 27/16/12 Signature of Guide Signature of HOD Signature of Erincipal Mrs. Manjushree K Chavan Prof. Ruckmani Divakaran Oodry SycdrAriff 120 incipalmology

Name of Examiners

1. Lu, buran Drualoggaum, K.G.F. 563 120.

2. SUJANI. G

Head of the Department Signature with Date Dept. of Electronics and Communication Engg. Dr. T.Thimmalah Institute of Technology

Ruel Smal

2. Sp-42-16/1-

## **SYNOPSIS**

Due to the availability of powerful media editing tools, it becomes much easier to manipulate or even tamper with digital media without leaving any perceptible traces. This leads to an increasing concern about the reliability of digital media contents, and there is a persistent need to develop effective forensic techniques to verify the authenticity, originality, and integrity of media contents.

The object-based forgery adds new objects to a video scene or removes existing objects from it. Object-based video forgery is a common video tampering method since the object added into or removed from a video is usually critical to the contents that the video conveys. Automatic detection of video forgery finds its vast applications in forensic field.

A two-stage automatic algorithm is provided to accurately locate the forged video segments in the suspicious video. To construct the proposed frame manipulation detector, motion residuals are generated from the target video frame sequence. We regard the object based forgery in video frames as image tampering in the motion residuals and employ the feature extractors that are originally built for still image steganalysis to extract forensic features from the motion residuals.
#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018



A Project Report on

"Design and Development of Fuel Metering Unit for an Aero Engine"

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

# **Bachelor of Engineering**

Electronics and Communication Engineering SubmittedBy

SWEETY.S SWETHA KUMARI.U VINITH PRABHU.H

1GV13EC088 1GV13EC092 1GV13EC099

Carried out at Aero Engine Research and Design Center. HAL, Bangalore.

#### Under the Guidance of

INTERNAL GUIDE Ms. Supriya K.V.,M.Tech. Asst. Prof., Dept. of ECE **EXTERNAL GUIDE** 

Mr.Mallikarjuna Swamy., M.Tech Senior Manager, AERDC, HAL



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120. 2016-2017



### (Formerly Golden Valley Institute of Technology) Oorgaum, Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

# <u>CERTIFICATE</u>

Certified that the **Project work** entitled "*Design and Implementation* of *Fuel Metering Unit for an Aero Engine*" is a bonafied work carried out by **Sweety.S** (**IGV13EC088**), **Swetha Kumari.U** (**IGV13EC092**), **Vinith Prabhu.H** (**IGV13EC099**) 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 2016-17. 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 Ms. Supriya.K.V.

Signature of HOD Prof. Ruckmani Divakaran Head of the Department

Name of Examinedspt. of Electronics and Communication Engg. Dr. T.Thimmaiah Institute of Technology 1. Ludeman Du Gorgaum, K.G.F.- 563 120. 2. SUTANILL

2718/12 **Signature of Principal** 

Dr. Syed Ariff Dr. T. Thimmaiah Institute of Technology Signature with Date 120.

1. ful Du 27-6.2017

एरो इंजिन रिसर्च और डिजाईन सेंटर हिन्दुस्तान एरोनाटिक्स लिमिटेड पोस्ट बैग नं. 9310, सि.वि. रामन नगर पोस्ट, बेंगलूर – 560 093. Aero Engine Research and Design Centre (Formerly known as Engine and Test Bed Research and Design Centre) HINDUSTAN AERONAUTICS LIMITED

Post Bag No. 9310, C.V. Raman Nagar Post, Bangalore-560 093.

Fax: GM Office 91 (0) 80 22311143 91 (0) 80 22311397 Commercial : 91 (0) 80 22312968 GM Office : gmoff.serdc@hal-india.com Email : GM Office Commercial : imm.aerdc@hal-india.com Test Bed : th.aerdc@hal-india.com Detail Design : design.aerdc@hal-india.com Outsourcing : os.aerdc@hal-india.com

AERDC/HR/D-40/PS-334/2017

91 (0) 80 22311143 91 (0) 80 22312968

91 (0) 80 22326226

91 (0) 80 22326447

91 (0) 80 22326393

GN Office Commercial

Detail Design

Jutsourcing

91000

esi Bed

March 31, 2017

### CERTIFICATE

This is to certify that Ms. SWEETY S (1GV13EC088) student of DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY, K.G.F has successfully completed her project work on "DESIGN AND IMPLEMENTATION OF FUEL METERING UNIT FOR AN AERO ENGINE" in AERDC, Hindustan Aeronautics Limited (Design Complex), during the period from 17.01.2017 to 31.03.2017 on No-Pay No-Fee Basis.

> (SUDEEPTHI K) OFFICER- HR (TM)

Note: Request for verification of the above Certificate received from any external Agencies / Organization other than the concerned educational Institution will not be entertained



पंजीकृत कार्यालय : 15/1, कब्बन रोड, बेंगलूर-560 001. Registered Office : 15/1 Cubbon Road, Bangalore 560 004 एरो इंजिन रिसर्च और डिजाईन सेंटर

हिन्दुस्तान एरोनाटिक्स लिमिटेड

पोस्ट बैग नं. 9310, सि.वि. रामन नगर पोस्ट, बेंगलूर - 560 093.

Aero Engine Research and Design Centre

(Formerly known as Engine and Test Bed Research and Design Centre)

HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, C.V. Raman Nagar Post, Bangalore-560 093.

AERDC/HR/D-40/PS-334/2017

91 (0) 80 22311143 91 (0) 80 22312968

91 (0) 80 22326226

91 (0) 80 22326447

91 (0) 80 22326393

M Office ommercial

etail Design utsourcing

st Bed

Fax: GM Office : 91 (0) 80 22311143 91 (0) 80 22311397 Commercial : 91 (0) 80 22312968 Email : GM Office : gmoff.aerdc@hal-india.com Commercial : imm.aerdc@hal-india.com Test Bed : th.aerdc@hai-india.com Detail Design : design.aerdc@hal-india.com Outsourcing : os.aerdc@hal-india.com

March 31, 2017

# CERTIFICATE

This is to certify that Ms. SWETHA KUMARI U (1GV13EC092) student of DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY, K.G.F has successfully completed her project work on "DESIGN AND IMPLEMENTATION OF FUEL METERING UNIT FOR AN AERO ENGINE" in AERDC, Hindustan Aeronautics Limited (Design Complex), during the period from 17.01.2017 to 31.03.2017 on No-Pay No-Fee Basis.

21/03/12

(SUDEEPTHI K) OFFICER- HR (TM)

Note: Request for verification of the above Certificate received from any external Agencies / Organization other than the concerned educational Institution will not be entertained.





पंजीकन कार्यालय : 15/1, कब्बन रोड, बेंगलूर-560 001 Registered Office : 15/1. Cubbon Road, Bangalore - 560 001 एरो इंजिन रिसर्च और डिजाईन सेंटर हिन्दुस्तान एरोनाटिक्स लिमिटेड पोस्ट बैग नं. 9310, सि.बि. रामन नगर पोस्ट, बेंगलूर - 560 093. Aero Engine Research and Design Centre (Formerly known as Engine and Test Bed Research and Design Centre)

HINDUSTAN AERONAUTICS LIMITED Post Bag No. 9310, C.V. Raman Nagar Post, Bangalore-560 093.



: th.aerdc@hal-india.com

Detail Design : design.aerdc@hal-india.com Outsourcing : os.aerdc@hal-india.com

GM Office : 91 (0) 80 22311143 Commercial : 91 (0) 80 22312968 Test Bed : 91 (0) 80 22326268 Testai Design : 91 (0) 80 22326447 Outsourcing : 91 (0) 80 22326393

#### AERDC/HR/D-40/PS-334/2017

March 31, 2017

Test Bed

#### CERTIFICATE

This is to certify that **Mr. VINITH PRABHU** (1GV13EC099) student of **DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY**, **K.G.F** has successfully completed his project work on "DESIGN AND IMPLEMENTATION OF FUEL METERING UNIT FOR AN AERO ENGINE" in AERDC, Hindustan Aeronautics Limited (Design Complex), during the period from 17.01.2017 to 31.03.2017 on No-Pay No-Fee Basis.

(SUDEEPTHIK) OFFICER- HR (TM)

Note: Request for verification of the above Certificate received from any extended decode Organization other than the concerned educational Institution of House orients geo





### SYNOPSIS

A System Design using Labview software is designed and implemented on a FPGA system to control the fuel flow of an Aero engine. Fuel flow of an engine varies with an ambient condition such as temperature, pressure and the amount of fuel flow to the engine is different at various altitudes. Fuel system is one of the most important subsystems of aircraft and engine control unit which forms the base for fuel control.

Our aim is to develop a closed loop control system which responds to the subsequent changes or disturbance in the system environment such as speed, temperature and pressure sensors are used to sense these ambient conditions, which is compared with the desired operating parameters and allow the user to set the desired operating state as a reference and also allow the control unit to control the Fuel system to the desired operating point with the help of NI based controller with FPGA processor.

e-ISSN: 2395-0056 p-ISSN: 2395-0072

International Research Journal of Engineering and Technology (IRJET)

(An ISO 9001 : 2008 Certified Journal)

Ss hereby awarding this certificate to

Supriya.K.V

On recognition the publication of the manuscript entitled

Design and Implementation of Fuel Metering Unit for an Aero Engine

published in Trjet Journal Folume 4 Ssue 5 May 2017

Sta

# Editor in Chief

Impact Factor : 5.181

www.irjet.net

### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018 2016-17



#### **A Project Report**

on

### "SMART SECURITY SYSTEM USING BIOMETRIC AND GSM MODULE"

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

#### **Bachelor of Engineering**

in

**Electronics and Communication Engineering** 

Submitted by

SYED NAWAZ

1GV13EC089

THULASI RAM G

1GV13EC091

V L V D PRASANTH

1GV13EC095

Carried Out at Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

> Under the Guidance of Mr. Rakesh. B.N., M.Tech, Asst. Prof., Dept. of ECE.



Department of Electronics and Communication Engineering Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY Kolar Gold Fields - 563120



### (Formerly Golden Valley Institute of Technology) Oorgaum Kolar Gold Fields – 563120 DEPARTMENT OF ELECTRONICS AND COMMUNICATION **ENGINEERING.**

# CERTIFICATE

Certified that the Project work entitled "Smart Security System Using Biometrics And Gsm Module" is a bonafied work carried out by SYED NAWAZ - 1GV13EC089, THULASI RAM G - 1GV13EC019, V L V D PRASANTH -1GV13EC099 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 2016-17. 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- 10ECP85 prescribed for the Bachelor of Engineering Degree.

Rakest J.N. 24/0/17 Lul

Signature of Guide Mr. Rakesh. B.N

Name of Examiners 1. Luckman Dr. T. Thimmaiah Institute of Technology 2. SVJANI-6

Signature of HOD Signature of Principal Prof. Ruckmani Divakaran Dr. Syed Ariff Head of the Department Dent. of Electronics and Communication Engignature with Date

PRINCIPAL Dr. F. Thismeist hashing of Technology

Oorgan, K.C.F. - 563 120

24/6/17

Oorgaum, K.G.F.- 563 120.

#### SYNOPSIS

In today's life, security is one of the main concern. Security not only from crime but also from day to day accidents. Home security has been major issue where crime increasing and everybody wants to take the proper measure to prevent intrusion. In addition there is need to automate home so that the users can take the advantage of technological advancement.

In this present world of technological advancement proper measure should be taken to maintain the security and comfort of homes, banks, college, organizations and offices. By using proper security system billions of rupees spent on departments like fire brigade, police, security agencies, etc. can be brought in control. In order to overcome these problems we are implementing high level security door lock system.

So to answer these concerns we have proposed an idea where we are going to integrate some biometric features along with GSM communication and build a security system. Biometrics has emerged as one of the most convenient, accurate, and cost-effective forms of security. Since Biometric techniques are automated for personal recognition based on physical attributes which include face, fingerprint, hand geometry, handwriting, iris, retina, and voice. Each of the techniques is customized for specific applications. Biometric data are considered to be different and distinct from personal information because it cannot be reverse-engineered to recreate any personal information and cannot be stolen to attempt theft.

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI - 590018 2016 - 2017



#### A Project Report on

# "Automatic Waste Segregator and Garbage Collection Bin Overflow Indicator using GSM"

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

> VINUSHA G. GOWRAMMA V. HARSHITHA H. VANI M.

1GV13EC016 1GV13EC019 1GV13EC021 1GV13EC032

**Carried** out at

Dr. T. Thimmaiah Institute of Technology, K.G.F – 563120

> Under the Guidance of Mr. Rajesh Kumar Kaushal., M.E., Asst. Prof., Dept. of ECE.,



Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY (Formerly Golden Valley Institute of Technology) Department of Electronics and Communication Engineering Kolar Gold Fields – 563120.



### (Formerly Golden Valley Institute of Technology) **Oorgaum Kolar Gold Fields – 563120** DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

### CERTIFICATE

Certified that the Project work entitled "Automatic Waste Segregator and Garbage Collection Bin Overflow Indicator Using GSM" is a G-1GV13EC016, VINUSHA carried out by work bonafied GOWRAMMA V-1GV13EC019, HARSHITHA H-1GV13EC021, VANI M-1GV13EC032 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 2016-17. 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- 10ECP85 prescribed for the Bachelor of Engineering Degree.

planshal

Signature of Guide Mr. Rajesh Kumar Kaushal Prof. Ruckmani Divakaran

Name of Examiners

1. Ruckman Dr. T.Thimmaiah Institute of Technology 2. SVJANI.G

**Signature of HOD** Head of the Department

(m 24/0/17

**Signature of Principal** Dr. Syed ACIHAL Dr. T. Thimmaiah Institute of Technology Dept. of Electronics and Communication Esignature with Date 563 120. Dinal 24.6.2017 2. J-h24/6/17

#### SYNOPSIS

Rapid increase in volume and types of solid and hazardous waste as a result of continuous economic growth, urbanization and industrialization, is becoming a burgeoning problem for national and local governments to ensure effective and sustainable management of waste. It is estimated that in 2006 the total amount of municipal solid waste generated globally reached 2.02 billion tones, representing a 7% annual increase since 2003 (Global Waste Management Market Report 2007). The segregation, handling, transport and disposal of waste are to be properly managed so as to minimise the risks to the health and safety of patients, the public, and the environment. The economic value of waste is best realized when it is segregated. Currently there is no such system of segregation of dry, wet and metallic wastes at a household level.

Automated Waste Segregator (AWS) which is a cheap, easy to use solution for a segregation system at households, so that it can be sent directly for processing. It is designed to sort the refuse into metallic waste, wet waste and dry waste. The AWS employs parallel resonant impedance sensing mechanism to identify metallic items, and capacitive sensors to distinguish between wet and dry waste.

The system that also gives prior information of the filling of the bin that alerts the municipality so that they can clean the bin on time and safeguard the environment. To avoid all such situations we intend to propose a solution for this problem "Smart Garbage Bin", which will alarm and inform the authorized person when the garbage bin is about to fill.