KRISHNASAMY College of ENGINEERING & TECHNOLOGY

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.

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LIST OF RESEARCH PROJECTS GRANTS RECEIVED

ACADEMIC YEAR 2022-2023

NAME OF THE RESEARCH PROJECT/ ENDOWMENT	NAME OF THE PRINCIPAL INVESTIGATOR/ CO-INVESTIGATOR	DEPARTMENT OF PRINCIPAL INVESTIGATOR	YEAR OF AWARD	AMOUNT SANCTIONED	DURATION OF THE PROJECT	NAME OF THE FUNDING AGENCY	TYPE (GOVERNMENT/NON-GOVERNMENT)
EXPERIMENTAL TEST AND PERFORMANCE CHARACTERISTIC OF SIMPLE J SHAPED AND LENZ TYPE COMBINED VERTICAL AXIS WIND TURBINE IN OPEN FIELD CONDITIONS	DR. S. KARTHIKEYAN	MECHANICAL ENGINEERING	2022-2023	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION	ER. S. SENTHAZHAI	ELECTRONICS AND COMMUNICATION ENGINEERING	2022-2023	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
A CHATBOT MOBILE QUARANTINE APP FOR STRESS RELIEF	DR. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	2022-2023	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE	ER.S.SENTHAZHAI	ELECTRONICS AND COMMUNICATION ENGINEERING	2022-2023	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
IOT BASED MONITORING AND TRACKING OF LANDSLIDES	ER. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	2022-2023	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION	DR. P. NAMMALVAR	ELECTRICAL AND ELECTRONICS ENGINEERING	2022-2023	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID	ER. C. KUBENDRAN	MECHANICAL ENGINEERING	2022-2023	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
EXPERIMENTAL INVESTIGATION OF REPLACING E-WASTE TO COARSE AGGREGATE IN CONCRETE	ER. PON SIVAMATHI	CIVIL ENGINEERING	2022-2023	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT
PARTIAL REPLACEMENT OF CEMENT WITH FLY ASH	ER. A. RAJESWARI	CIVIL ENGINEERING	2022-2023	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
(Established by Government of Tamilnadu)
Directorate of Technical Education Campus, Chennai – 600 025.
Ph : 044-22301423, www.tanscst.nic.in

Dr.R.SRINIVASAN, M.Sc., Ph.D.,F.I.C.S., M.A.C.S.(USA).,
Member Secretary

03.03.2023

Lr.No.TNSCST/SPS/BS/2022-2023

To
The Principal
Krishnasamy College of Engineering and Technology,
Cuddalore - 607 109

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2022-2023 – approval intimation–grant release- reg.

With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. You are requested to adhere to terms and conditions such as submission of UC and Seminar Paper on Time.

(1)	1.	Mr.K.Kumaguruparan, Assistant Professor, Department of Mech. Engg. Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions	J. Bakkiyaraj, A. Dineshkumar, C. Ragulraj,	EME-0402	The Principal	Rs 7500/-
(2)	2.	Dr.Ramesh.S, Assistant Professor, Department of CSE, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	A Chatbot Mobile Quarantine App for Stress Relief	V. Jayashree, K. Kalaiselvi, S. Nandhini,	CSE-843	The Principal	Rs 7500/-
(3)	3.	Mrs.Senthazhai S, Head, Department of ECE Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	IOT based safety gadgets for child safety monitoring and notification	Chermathi J, Gayathri K, Kamala Varthini G, Thilaga K S	EEE-1037	The Principal	Rs 7500/-
						Total	Rs 22500/-

Herewith enclosed the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest

Kindly send the utilisation certificate (format enclosed) and seminar paper (Ref.T&C) on completion of the project.

Thanking you,

Yours faithfully,

3/3/23
Member Secretary.

Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs.22500/- Cheque No:574876 dt.03.03.2023

Copy to: Individual Guides

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DOTE CAMPUS, CHENNAI - 600 025

STUDENT PROJECT SCHEME 2022-2023
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Dr. S. KARTHIKEYAN,
Krishnasamy College of Engineering & Tech
Anand Nagar, Nellikuppam main Road,
S. Kumarapuram, Cuddalore

2. Name of the student(s) : J. BAKKIYARAJ
A. DINESH KUMAR
C. RAHUL RAJ

3. Title of the project : EXPERIMENTAL TEST T-SHAPED LBN2 TYPE COMBINED VERTICAL AXIS WIND TURBINE

4. Project code : EmE0402

It is certified that a sum of Rs. 7500/- (Rupees Seven Thousand five hundred O sanctioned by the Council for carrying out above mentioned student project has been utilized for thepurpose for which it was sanctioned and sum of Rs. NIL remaining unutilized is refunded.

Signature of the Guide

Signature of the HOD

Signature of the
REGISTRAR / PRINCIPAL / DEAN
with seal

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Cuddalore - 607 109.

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EXPERIMENTAL TEST ON COMBINED J-SHAPED – LENZ TYPE VERTICAL AXISWIND TURBINE

BAKKIYARAJ J, DINESHKUMAR A, RAGULRAJ C

Department of Mechanical Engineering
Krishnasamy College of Engineering and Technology
Cuddalore 607 109

ABSTRACT

The design of this turbine is inspired by the combination of the Lenz2 airfoil design of Dr Ed Lenz of windstuffnow.com and the J- shaped profile used as the blade airfoil. This project combines the advantage of the two popular designs of vertical axis wind turbines (Savonius and Darrieus). The J-Shaped profile is designed for eliminating a fraction of the pressure side of the airfoil. Hence, it also overcomes the drawbacks of the presently available turbine design. The fabrication of the turbine was done using basic materials and simple tools. The blade is made out of carbon fiber. The remaining structure is made essentially of mild steel. The turbine is a single-staged model with each turbine standing 1200 mm in height and having a radius of 600 mm. The angular position of each blade is 120° apart from one another and the two turbines are angularly offset on the shaft by 60° thus creating maximum chances for trapping the wind from varying directions. The rotor is tested under different loads and wind speeds, test results show reliable and efficient performance. Other characteristics of the turbine like tip speed ratio and coefficient of power generation were calculated using mathematical equations. The experiments will be conducted in an open area condition. The wind velocity ranging from 2 to 5m/s is available everywhere dependigon different climatic seasons. Moreover, by employing this Lenz type and J-Shaped profile, the wind turbine Characteristics and performance of the turbine are improved.

INTRODUCTION

A Vertical Axis Wind Turbine (VAWT) is a type of wind turbine that has its rotor shaft oriented perpendicular to the ground. Unlike horizontal-axis wind turbines, which have blades rotating around a horizontal axis, VAWTs have blades that rotate around a vertical axis. The vertical axis wind turbine (VAWT) is a type of wind turbine where the main rotor shaft is set vertically, with the blades rotating around it. Unlike horizontal axis wind turbines, VAWTs do not need to be pointed into the wind, and they have a lower noise level and a smaller footprint. There are several types of VAWTs, including Savonius and Darrieus turbines. The Darrieus turbine has a more complex design, with curved blades that are shaped like airfoils. One advantage of VAWTs is that they can be placed closer together than horizontal axis wind turbines, which allows for greater energy output per unit of land. However, VAWTs typically have a lower efficiency than horizontal-axis wind turbines, and they are less common in large-scale wind power projects. Despite their lower efficiency, VAWTs are becoming increasingly popular for small-scale and residential wind power applications due to their ease of installation and operation, as well as their unique aesthetic appeal.

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This is to certify that **Mr./Ms. J. Bakkiyaraj**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector MECHANICAL ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

Chennai-600 025
27.10.2023
EME-0402/2023

Dr. R. SRINIVASAN
Member Secretary

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This is to certify that **Mr./Ms. A. Dineshkumar**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector MECHANICAL ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

Chennai-600 025
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Member Secretary

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This is to certify that **Mr./Ms. C. Ragulraj, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector **MECHANICAL ENGINEERING** under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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STUDENT PROJECT SCHEME 2022-2023

UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Dr. S. Ramesh
   Krishnasamy College of Eng & Tech Anand Nagar, Nellikuppam main road, S. Kumarapuram.
2. Name of the student(s) : V. Jayashree
   K. Kalaiselvi
   S. Nandhini
3. Title of the project : A Chatbot Mobile Quarantine App for Stress Relief
4. Project code : CSE - 843

It is certified that a sum of Rs.7,500 (Rupees Seven Thousand and Five hundred sanctioned by the Council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs.........Nil.......... remaining unutilized is refunded.

Signature of the Guide — Signature of the HOD — Signature of the REGISTRAR / PRINCIPAL / DEAN with seal

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A CHATBOT MOBILE QUARANTINE APP FOR STRESS RELIEF

Jayashree. V, Kalaiselvi. K, Nandhini. S

Department of Computer Science and Engineering
Krishnasamy College of Engineering & Technology, Cuddalore.

Abstract

The COVID-19 epidemic has had a dreadful effect on psychological and physical health on the patient, as a public health disaster of international significance, and this trauma can even lead to death. Studies in COVID patients on psychiatric therapies are still relatively uncommon. During a COVID-19 pandemic, the efficacy of cognitive conduct therapy was investigated in this project. So, introduce Chatbot that questions the user with a certain time interval and play their mood with music. If they do not react to the situation, the camera is immediately activated and their face gestures recognized by sentimental analysis and encourage them to alleviate the tension and transmit the message to others. In this pandemic situation, this is very helpful for all people to distract their stress. Detecting and analyzing the emotional state of quarantined people is a huge task and it is one of the major issues faced by non-quarantine people who belong to the same family. Various applications of big data analytics in healthcare have lot of positive and lifesaving outcomes. But still does not get proper clarity about detecting the emotional stress range of patients. So, this proposed work combined deep learning technique with sentimental analysis in order to analyze and detect patients stress level. Also enables a time counter in which identifies the depth of the stress. Deep learning techniques have found to be effective and superior for many applications.

Introduction

Data mining is an interdisciplinary subfield of computer science. It is the computational process of discovering patterns in large data sets ("big data") involving methods at the intersection of artificial intelligence, machine learning, statistics, and database systems. Big data is a collection of data sets so large and complex that it becomes difficult to process using on-hand database management tools. The challenges include capture, curation, storage, search, sharing, analysis, and visualization. The trend to larger data sets is due to the additional information derivable from analysis of a single large set of related data, as compared to

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This is to certify that Mr./Ms. V. Jayashree, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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27.10.2023
CSE-0843/2023

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This is to certify that Mr./ Ms. K. Kalaiselvi, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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This is to certify that **Mr./Ms. S. Nandhini, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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DOTE CAMPUS, CHENNAI - 600 025

STUDENT PROJECT SCHEME 2022-2023
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Mrs. S Senthazhai
Krishnasamy College of Eng & Tech.
Anand Nagar, Nellikuppam main Road
S. Kumarapuram.

2. Name of the student(s) : J. Charumathi
K. Gayathri
G. Kamala Varthini
K.S. Thilaga

3. Title of the project : IoT Based Safety Gadgets for Child Safety Monitoring & Notification System.

4. Project code : EEE1037

It is certified that a sum of Rs. 7,500 (Rupees Seven Thousand and Five hundred. sanctioned by the Council for carrying out above mentioned student project has been utilized for thepurpose for which it was sanctioned and sum of Rs. NIL remaining unutilized is refunded.

Signature of the Guide 08/05/23

Signature of the HOD 08/05/23

18/5/2023
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IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION SYSTEM

Charumathi.J, Gayathri.K, Kamala Varthini.G and Thilaga.K.S

Department of Electronics and Communication Engineering

Krishnasamy College of Engineering & Technology

S.Kumarapuram, Cuddalore-607109

Abstract

Borewell accidents are common due to uncovered openings of borewell. It is very difficult and risky to rescue the trapped children. A small delay in the rescue can cost the child his or her life. Due to that, parents whose families were located near boreholes are worried for their children and perhaps, a hard challenge for them to guarantee safety of their children when they are out. To overcome this issue, IOT is applied to propose a wearable smart band which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. It helps in tracking of child's location and capturing of data remotely such as temperature and pulse. It also sends notification if the child is out of location or when the device realizes abnormal conditions/situations. The heartbeat and temperature sensors are deployed to fetch the data and the values are send to microcontroller which in turn reflects in IOT webserver to monitor remotely. Then microcontroller sends the collected data to parent's smartphones by SMS using GSM module. When there are abnormal values detected that is when the child is out of the parent location, it will then automatically make calls to registered contact and to the nearest police station with help of GPS tracking.

Introduction

Sensors and actuators to the Internet, according to. It is able to make decisions via detecting the surrounding environment without human interaction. In this research, IOT is applied to propose a wearable smart band which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. Via the IOT smart band, children safety is guaranteed, and crime rate is reduced as immediate actions can be taken in case the child is in danger. Besides, unlike existing smart band, which is less focusing on child security aspect, the proposed system emphasizes in getting as much data as possible so that actual situation can be identified. The use of IOT in this device is motivated by the need of child security system in Malaysia due to child safety issues resulting from increasing cases on child related crime. In fact, IOT has been applied in domains such as smart home, smart city, smart factory, supply chain, retail, agriculture, lifestyle, transportation, emergency, health care, environment, energy, culture and tourism.

Methodology

This work deals with the keep track of the children's parameters such as position, breathing and heart rate. Arduino Uno is used in designing the children monitoring system, can be explained as the system used for monitoring physiological information that includes the parameters like heart beat, position, gases related parameters, etc. based protype model where we are monitoring the heart beat rate and temperature of body parameters through the Arduino Uno. The perfect direction and the medical related information of the children can be sent to the base station in real time, so that desired steps can be taken by base station. Internet of Things (IoT) with Global Positioning System (GPS) is used for tracking the location of the

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This is to certify that **Mr./Ms. J. Charmathi, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

Chennai-600 025
27.10.2023
EEE-1037/2023

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Dr. R. SRINIVASAN
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This is to certify that **Mr./Ms. K. Gayathri, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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This is to certify that Mr./Ms. **G. Kamala Varthini**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

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27.10.2023
EEE-1037/2023

Dr. R. SRINIVASAN
Member Secretary

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This is to certify that **Mr./Ms. K.S. Thilaga, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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EEE-1037/2023

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Cuddalore-607 109.

Dr. R. SRINIVASAN
Member Secretary

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RESEARCH & DEVELOPMENT CENTRE

Date : 19.05.2023

Recommended Project list for Financial Grant for the Academic year 2022-23

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students
Mrs.S.Senthazhai, AP Krishnasamy College of Engineering and Technology, Cuddalore.	An innovative wearable device for women safety using IBEACON technology WITHBLE	Keerthika.B Sathya.S	Electrical and Communication Engineering
Mr.S.Ramesh, AP Krishnasamy College of Engineering and Technology, Cuddalore.	IOT based monitoring and tracking of landslides	Narmatha.S Shanthini.A Sumaiya farveen.N Ummulnasiha.U	Computer Science and Engineering
Dr.P.Nammalvar, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Solar fed sensorless BLDC motor drive for water pumping application	Abinaya.T Divya.V Preethi.R	Electrical and Electronics Engineering
Mr.C. Kubendran, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Heat transfer through shell and tube exchanger using AL_2O_3 nano fluid	Arjunraj.R Murasolimaran.M Vignesh.V	Mechanical Engineering

Submitted to the
Principal

19/5/23

R&D In charge

Dr. B. RAMESH

AP-ECE

19/5/23

VICE-PRINCIPAL

PRINCIPAL

To

The Chairman,
Arunai Charitable Trust,
157/16, Siva Flats,
20th Main Road, Anna Nagar,
Chennai – 600 040.

19.05.2023

Respected Sir,

Sub: Submission of Application for Financial grand for the students' projects – 2022-23-Krishnasamy College of Engineering & Technology, Cuddalore – Reg.

Ref: Telephonic requisition for project grant recommendation, from your office Dated 10.05.2023

With reference to the above, I am herewith submitting the list of projects of our students which are recommended by our Research and Development Centre for financial grant after obtaining the approval from our Chairman, Dr. K. Rajendran. The particulars of the project, students name and Project supervisor name for the academic year 2022 -23 is enclosed herewith for your kind perusal.

I request, the recommended projects may kindly be considered and financial grant be sanctioned from your end.

Thanking you,

Yours truly,

PRINCIPAL

Encl : Recommended Project List.

o/c
19/5/23

MAA 570673022

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Chennai

03.06.2023

The Chairman,
Krishnasamy college of Engineering & Technology,
Nelikuppam Main Road,S Kumarapuram,
Cuddalore – 607 109

Sub : - Financial Grant to Recommended student – Reg.
Ref: - Recommendation letter dated 19.05.2023

With reference to the recommended applications for financial assistance for the student projects from you on 19.05.2023, We are enclosing the KVQ cheque No.000651 dated 03.06.2023 for Rs.20,000/–towards financial Grant assistance to the recommended four Projects @ Rs.5000/– each. Kindly acknowledge the receipt by signing the enclosed voucher and return back to us.

Thanking you.

Your Frienly,
For Arunai Charitable Trust

K.Chandrasekaran
(Treasurer)

CET - CUDDALORE-607109
Incoming Tapal No: 654
O.P | R.P | Courier | In Person | e-mail
06 JUN 2023
CHAIRMAN | ED | PRINCIPAL | VP | AO

Encl: KVB Cheque No. 000651 & Voucher

.Address for Communicatio : **K.Chandrasekaran**

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VOID

K. Chandra

TRUSTEE(S)/AUTHORISED SIGNATORY

Please sign above

⑈000651⑈ 600053005⑆ 000860⑈ 31

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#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. S. SENTHAZHAI

Associate Professor

Department of Electronics and Communication Engineering

2 Name of the student(s) :

B. Keerthika

S. Sathya

3 Title of the project : An Innovative wearable device for women safety using I BEACON Technology WITH BLE

4 Department/Institution Name & Address : Electronics and communication Engineering / Krishnasamy College of Engineering and Technology S. Kumarapuram, cuddalore - 607109

It is certified that a sum of Rs 5000 (Five Thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE

A PROJECT REPORT

Submitted by

B. KEERTHIKA (421318106006)

S. SATHYA (421318106015)

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

CUDDALORE-607109

ANNA UNIVERSITY: CHENNAI – 600025

JUNE-2022

ABSTRACT

According to the reports of WHO, NCRB-social-government organization 35%Women all over the world are facing a lot of unethical physical harassment in public places such as railway-bus stands, foot paths etc. This paper describes about a one touch alarm system for women's safety using IBEACON. In the light of recent outrage in Delhi which shook the nation and woke us to the safety issues for women, people are finding up in different ways to defend. Here we introduce a device which ensures the protection of women. This helps to identify protect and call on resources to help the one out of dangerous situations. Anytime you sense danger, all you had to do, is hold on the panic switch. The system resembles a normal wearable device which when activated, tracks the place of the women using Bluetooth low energy and sends emergency messages using GSM (Global System for Mobile communication), to SOS contacts and the police control room.The proposed work shows a flexible and interoperable combination of a device and application that will accessorize and empower the citizens and serve as a multifunctional device.

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Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. KEERTHIKA .B - ECE - IV Year of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022- 2023

Principal

Dr. K. Rajendran
Chairman

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Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. SATHYA.S, (ECE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

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#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Dr. S. RAMESH
Assistant Professor
Department of computer science and Engineering

2 Name of the student(s) : S. Nasmatha
A. Shanthini
N. Sumiya Parveen
V. Ummal Nasiha

3 Title of the project : IoT Based monitoring and Tracking of landslides

4 Department/Institution Name & Address : computer science & engineering Krishnasamy college of engineering and Technology, S. Kumarapuram cuddalore - 607109.

It is certified that a sum of Rs 5000 (Five Thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

C. Rajkha
Signature of the HOD

Signature of the Principal

IoT BASED MONITORING AND TRACKING OF LANDSLIDES

By

S.NARMATHA
A.SHANTHINI
N.SUMAIYA FARVEEN
U.UMMUL NASIHA

of

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
S.Kumarapuram, Cuddalore-607 109.

A PROJECT PROPOSAL

Submitted to the

Tamil Nadu State Council for Science and Technology

AUGUST 2022

IoT BASED MONITORING AND TRACKING OF LANDSLIDES

ABSTRACT

The slipping of rock, rubble, or dirty down a slope is known as a rock slide. A sort of "mass waste" that refers to any moving of rock and soil along a slope underneath the immediate impact of gravity is a slide. Landslides have a negative impact on a number of assets and are responsible for property damage, injuries, and fatalities. A avalanche is primarily caused by gravity, but there are additional factors that influence geotechnical and result in particular conditions that render a slope vulnerable to failure. Often, but not always, a particular incident (such as a lot of rain, an explosion, a slope being cut for a road, and numerous others) causes an avalanche to occur. The accessibility, amount, and water's quality can all be impacted by a landslide. Thus, limiting the disastrous effects of earthquakes requires significant investment in landslide monitoring. Our project's proposed system uses an Arduino UNO to detect and monitor the landslide. It conducts an actual analysis of the hilly region based on IoT sensors that identify landslides and alert locals via alert messages via GPS and GSM, as well as via buzzer in the event that system operation is lost.

INTRODUCTION

In a number of locations, including mountainous regions, coastal cliffs, or even underneath, where they are known as submarine landslide, extreme events can occur and are characterised whether by steep or gradual steeper slopes. A landslide is primarily caused by gravity, but there are additional elements that affect geotechnical and result in particular situations that make a hillside vulnerable to failure. Often, but not always, a particular incident (such as a lot of rain, an explosion, a slope being cut for a highway, and numerous others) causes a landslides to occur. It need domain competence to develop an early detection system for the surveillance and tracking of landslides, not merely to build the instrumentation but also to use them correctly and analyze their information for logical purposes. The term "Internet of Things" (IoT) refers to a collection of wireless sensor devices that are capable of interacting with one another and acting in concert. By exchanging this data across systems, a Common Operating Picture is created (COP). IoT has emerged from its infancy and is now the next breakthrough technology in converting the Internet into a completely integrated Future Internet, spurred by the adoption of a number of contemporary advancements.

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Certificate

This is to certify that Mr. / Ms. NARMATHA.S (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022- 2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. SHANTHINI. A (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. SUMAIYA FARVEEN. N. (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 202- 2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. UMMULNAISHA . U (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Dr. P. NAMMALVAR

Associate Professor
Department of Electrical and Electronics Engineering

2 Name of the student(s) :

ABinaya . T
Divya . V
Preethi R

3 Title of the project : Solar fed sensorless BLDC motor drive for water Pumping Application

4 Department/Institution Name & Address : Electrical and Electronics Engineering / Krishnasamy College of Engineering and Technology, S. Kumarapuram cuddalore - 607109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

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Certificate

This is to certify that ~~Mr.~~ / Ms. ABINAYA . T (EEE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr.~~ / Ms. DIVYA.V (EEE - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION, under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
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Certificate

This is to certify that ~~Mr~~. / Ms. PREETHI. R (EEE - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1	Name of the guide & Address	: Er. C. KUBENDREN Assistant professor Department of mechanical Engineering
2	Name of the student(s)	: Arjunraj . R Murasolimaran. M Vignesh . V
3	Title of the project	: Heat Transfer trough shell and Tube heat Exchanger using Al_2O_3 Nano fluid
4	Department/Institution Name & Address	: Mechanical Engineering / Krishnasamy College of Engineering and technology, kumarapuram, cuddalore 607109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

HEAT TRANSFER THROUGH SHELL AND TUBE HEAT EXCHANGER USING Al_2O_3 NANOFLUID

A PROJECT REPORT

Submitted by

R.ARJUNRAJ (421319114005)

M.MURASOLIMARAN (421319114024)

V.VIGNESH (421319114042)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE – 607 109

ANNA UNIVERSITY: CHENNAI – 600 025

MAY – 2023

ABSTRACT

Heat exchanger is a device which is used to transfer the heat due to temperature difference. Effectiveness of the heat exchanger is depends on the properties of the cooling medium. Nanofluid has higher thermal conductivity, which is used to transfer the larger amount of heat. Distilled water has less mineral content which is less corrosive effect. Shell and tube heat exchanger are predominantly used to transfer the heat in larger amount and it plays a major role to cool the engine. Al_2O_3 has higher thermal conductivity in the range of (20-30 W/m.k). The mixture o Al_2O_3 and distilled water in different proportions were tested as coolant.

The optimum proportion is found by using the cross flow heat exchanger, experimentally.

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Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / ~~Ms~~. ARJUNRAJ.R (ME - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.

Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / ~~Ms.~~ MURASOLIMARAN.M (ME - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Affiliated to Anna University
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Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / ~~Ms.~~ VIGNESH.V (ME - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 - 2023

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)
Anand Nagar, Nellikuppam Main Road, S.Kumarapuram, Cuddalore - 607 109.
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Prof. Dr. G. ELANGO, M.E., Ph.D.,
Principal

Lr. No. KCET/2022-23/Trust/124 **Date :10.01.2023**

From
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

To
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

Respected Sir,

Sub. : Project Funding – Reg.
Ref. : MoU dated 21.04.2021

The research project has been identified under the MoU of your esteemed organisation based on the recommendations of the Head of the Department and the Principal for the following batches. Thank you for your support and funding.

Academic Year 2022-2023				
Guide Name and Institution Address	**Title of the Project**	**Students Name**	**Department of the Students**	**Amount (Rs)**
Er.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental investigation of replacing E-Waste to coarse aggregate in concrete	Kalaiyarasan.G Krishnakumar.K Shyam.A	Civil Engineering	7500/-
MRS.A.Rajeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Partial replacement of cement with fly ash	Mathavan.M Rajasekar.K	Civil Engineering	7500/-

KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109.

Yours Sincerely,

PRINCIPAL
Krishnasamy College of Engineering & Technology, Kumarapuram, Cuddalore-607 109.

PRINCIPAL

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Date :17.01.2023

From
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

To
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

Respected Sir,

Sub. : Project Funding – Reg

Ref. : Lr. No. KCET / 2022-23/Trust/124

We are pleased to inform you that we approve your proposal based on the letter cited above as it is a very nice thought and we feel it definitely need to be encouraged. We would grant you a sum of amount INR.- 15000/-. We will support you throughout the execution of the idea.

The detailed report shall be forwarded to us and subsequent review discussions held by involving Engineers from Builders Association. It has been decided to sanction the funding as follows.

Academic Year 2022-2023

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Er.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental investigation of replacing E-Waste to coarse aggregate in concrete	Kalaiyarasan.G Krishnakumar.K Shyam.A	Civil Engineering	7500/-
MRS.A.Rajeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Partial replacement of cement with fly ash	Mathavan.M Rajasekar.K	Civil Engineering	7500/-

With Regards

STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE

PROJECT REPORT

Submitted by

KRISHNARAJ.R	**421315103011**
PREM KUMAR.B	**421315103019**
SUGUMAR.S	**421315103028**

in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI 600 025

MARCH 2019

ABSTRACT

At present the disposal of waste tyres is becoming a major waste management problem in the world. It is estimated that 1.2 billion of waste tyre rubber produced globally per year. It is estimated that 11% of postconsumer tyres are exported and 27% are sent to landfill, stockpiled or dumped illegally and only 4 % is used for civil engineering projects. Hence efforts have been taken to identify the potential application of waste tyres in civil engineering projects. In this context, our present study aims to investigate the optimal use of waste tyre rubber as coarse aggregate in concrete composite. Cubes are casted of M25 grade by replacing 15% and 30% percent of waste tyre with coarse aggregate and compared with regular M25 grade concrete. Fresh and hardened concrete strength were identified

Keywords: Rubber, Compressive strength, Material Properties.

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Ev. Pon. Sivamathi
Assistant Professor
Department of Civil Engineering

2 Name of the student(s) : G. Kalaiyarasan
K. Krishnakumar
A. Shyam

3 Title of the project : Experimental Investigation of Replacing E-waste to Coarse Aggregate in Concrete.

4 Department/Institution Name & Address : Civil Engineering
Krishnasamy College of Engineering and Technology
S. Kumarapuram, Cuddalore
- 607109

It is certified that a sum of Rs 7500 (Seven Thousand and Five hundred) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Pon. Sivamathi
Signature of the Guide

Signature of the HOD

Signature of the Principal

EXPERIMENTAL INVESTIGATION OF REPLACING E-WASTE TO COARSE AGGREGATE IN CONCRETE

A PROJECT REPORT

Submitted by

KALAIYARASAN. G	421319103008
KRISHNA KUMAR. K	421319103010
SHYAM. A	421319103017

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S. KUMARAPURAM, CUDDALORE - 607 109

ANNA UNIVERSITY: CHENNAI - 600 025

MAY - 2023

ABSTRACT

Waste materials from other industries are being utilized in concrete productions such as fly ash, silica fume etc. The waste materials from electronics and electrical industries are divided in two categories hazardous and inert waste materials. The inert waste is also known as ***e-wastes*** describes obsolete, discarded, and malfunctioned electrical or electronics devices. It is very difficult to dispose-off the e-waste materials. Due to increase in cost of normal coarse aggregate it has forced the civil engineers to find out suitable alternatives to it. The mix design of M30 grade of concrete for normal mix (without e-waste) and with a partial replacement of coarse aggregates with e-waste material with 0%, 10%, 20%, 30%, and 40% is to be carried out and the effect of e-waste particle size using less than 10 mm, between 10 to 15 mm and up to 20 mm on compressive strength of concrete cubes and flexural strength of beam is also studied. The compressive strength of concrete cubes and flexural strength of beam tests at 7 and 28 days to be determined with and without e-waste material.

Keywords: Compressive Strength, Durability, E-Waste, Flexural Strength

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Certificate

This is to certify that Mr. / Ms. G. Kalaiyarasan (CE - IV year) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Experimental Investigation of Replacing E-Waste to Coarse Aggregate in Concrete under Research / Project grant sponsored by the Majestic Builders during the academic year 2022-2023

Principal

Dr. K. Rajendran
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This is to certify that Mr. / Ms. K. Krishnakumar (CE - IV year) of

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This is to certify that Mr. / Ms. A. Shyam (CE – IV year) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Experimental Investigation of Replacing E-Waste to Coarse Aggregate in Concrete under Research / Project grant sponsored by the Majestic Builders during the academic year 2022- 2023

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MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Ev. A. RAJESWARI,
Assistant Professor,
Department of Civil Engineering

2 Name of the student(s) : M. Mathavan
K. Rajasekar

3 Title of the project : Partial Replacement of Cement with Fly Ash

4 Department/Institution Name & Address : Civil Engineering
Krishnasamy College of Engineering and Technology
S. Kumarapuram, Cuddalore -607109

It is certified that a sum of Rs 7500 (seven thousand and five hundred) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

A. Rajeswari
Signature of the Guide

Signature of the HOD

Signature of the Principal

PARTIAL REPLACEMENT OF CEMENT WITH FLY ASH

A PROJECT REPORT

Submitted by

MATHAVAN. M	**421319103013**
RAJASEKAR. K	**421310193016**

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S. KUMARAPURAM, CUDDALORE- 607 109

ANNA UNIVERSITY: CHENNAI- 600 025

MAY - 2023

ABSTRACT

This paper describes about the strength analysis of fly ash in concrete. The objective of this paper is to investigate and compare the compressive strength and flexural strength of fly ash concrete with M20 grade concrete. In this project the specimen has been casted for different ratio of replacement with fly ash of about 10%, 20%, 30%.

Keywords: Cement, Compressive Strength, Conventional Concrete, Flexural Strength, Fly Ash.

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This is to certify that Mr. / Ms. MATHAVAN . M. of

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under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

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LIST OF RESEARCH PROJECTS GRANTS RECEIVED

ACADEMIC YEAR 2021-2022

NAME OF THE RESEARCH PROJECT/ ENDOWMENT	NAME OF THE PRINCIPAL INVESTIGATOR/ CO-INVESTIGATOR	DEPARTMENT OF PRINCIPAL INVESTIGATOR	YEAR OF AWARD	AMOUNT SANCTIONED	DURATION OF THE PROJECT	NAME OF THE FUNDING AGENCY	TYPE (GOVERNMENT/NON-GOVERNMENT)
FABRICATION AND INVESTIGATION OF HEAT PIPE SOLAR COLLECTOR USING ALUMINIUM OXIDE NANO MATERIAL AS WORKING FLUID	ER. G. SENTHILVEL	MECHANICAL ENGINEERING	2021-2022	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
MEDI-CARE ROBOT FOR SERVING PATIENTS USING ATMEGA2560 MICROCONTROLLER	ER. C. REIKHA	COMPUTER SCIENCE AND ENGINEERING	2021-2022	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
AN EARLY DETECTION SYSTEM OF MILK ADULTERATION USING ARTIFICAL INTELLIGENCE	ER. R. RAJENDRAN	ELECTRONICS AND COMMUNICATION ENGINEERING	2021-2022	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
PHOTONIC CRYSTAL WAVE GUIDE BASED OPTICAL ENCODER	ER.V.SUDHA	ELECTRONICS AND COMMUNICATION ENGINEERING	2021-2022	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
MEDI CARE ROBOT FOR SERVING PATIENTS USING ATMEGA 2560 MICRO CONTROLLER	ER. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	2021-2022	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
A NOVEL DESIGN AND FABRICATION OF ROAD SWEEPER BY USING PHOTOVOLTAIC SYSTEM	ER. J. JAYAKUMAR	ELECTRICAL AND ELECTRONICS ENGINEERING	2021-2022	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
DEVELOPMENT ON HIGHWAY POWER GENERATION BY USING COMBINED VERTICAL AXIS WIND TURBINE	ER. K. KUMARAGURUBARAN	MECHANICAL ENGINEERING	2021-2022	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
EXPERIMENTAL STUDY ON CONCRETE BY USING POLYPROPYLENE FIBRE REINFORCED POLYMER	ER. N. VIMALRAJ	CIVIL ENGINEERING	2021-2022	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT
EXPERIMENTAL STUDY ON CONCRETE BY USING GLASS FIBRE REINFORCED POLYMER	ER. R. DHIVYA	CIVIL ENGINEERING	2021-2022	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT

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Dr.R.Srinivasan, M.Sc., Ph.D.,F.I.C.S., M.A.C.S.(USA).
Member Secretary

Lr.No.TNSCST/SPS/2021-2022/ 11.03.2022

To
The Principal
Krishnasamy College of Engineering and Tech
S.Kumarapuram, Cuddalore-607109

Sir/Madam,

Sub: TNSCST – Student Project Scheme (2021-2022) – approval intimation-grant release- reg

******

With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. You are requested to adhere to terms and conditions such as submission of UC and seminar paper in time.

No	Guide Name and Institutional Address	Title of the Project	Students Name	Project Code	Amount
1 (4)	Mr.M.Velmurugan Assistant Professor, Dept. of Mechanical Engineering Krishnasamy College of Engineering and Tech S.Kumarapuram, Cuddalore-607109	Fabrication and investigatoin of heat pipe solar collector using aluminum oxide nano material as working fluid	S.Praveen N.Yuvaraj N.Dineshkumar	EME-0056	7500/-
2 (5)	Er.C.Reikha Associate Professor, Department of Computer Science and Engineering Krishnasamy College of Engineering and Tech Cuddalore-607109.	Medi-care robot for serving patients using ATMEGA2560microcontroller	B.Bhakyalakshmi, B.Pavithra, D.Priyadharshini, T.Sneha	CSE-0401	7500/-
3 (6)	Mr.R.Rajendran Assistant Professor, Department of ECE Krishnasamy College of Engineering and Tech Cuddalore-607109	An Early detection system of milk adulteration using artifical intelligence	S.Aarthy, R.Girija	EEE-1436	7500/-

Herewith enclosed the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest.

Kindly send the utilisation certificate (format enclosed) and seminar paper (Ref.T&C-No.5&6) on completion of the project.

Thanking you,

Yours faithfully,

Member Secretary.

Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs. 22,500/- No: 207223 dt:11.03.2022

Copy to: The individual guides

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

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STUDENT PROJECT SCHEME 2021-2022

UTILISATION CERTIFICATE

1.	Name of the guide and address	:	**Mr. G. Senthilvel** Assistant Professor, Department of Mechanical Engineering Krishnasamy College of Engineering & Technology Nellikuppam Main Road, S. Kumarapuram Cuddalore-607 109.
2.	Name of the student(s)	:	N. Dinesh kumar S. Praveen N. Yuvaraj
3.	Title of the Project	:	Fabrication and Investigation of heat pipe solar collector using aluminium oxide Nano material as working fluid.
4.	Project code	:	EME-0056

It is certified that a sum of Rs. 7500/- sanctioned by the council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the
REGISTRAR/PRINCIPAL/DEAN
With seal

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PRINCIPAL,
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FABRICATION AND INVESTIGATION OF HEAT PIPE SOLAR COLLECTOR USING ALUMINIUM OXIDE NANO MATERIAL AS WORKING FLUID

N.DINESH KUMAR, N. YUVARAJ, S.PRAVEEN

Department of Mechanical Engineering, Krishnasamy College of Engineering and Technology, Cuddalore, Cuddalore -607109

Abstract

Heat pipe solar collectors (HPSCs) are heat exchangers that carry heat based on the phase change of the heat pipe working fluid. It is aimed to increase the operating temperature range of solar collectors by changing the phase of the working fluid in the heat pipe at low temperature. For this reason, it has become widespread to use Nanofluids obtained by mixing Nano sized metal oxide with base fluid in certain proportions in order to increase both the thermal conductivity of the solar heat pipe working fluids and to increase the specific heat closures. The main purpose of this study, which was conducted to evaluate the performance of HPSCs, is to increase performance, and an experimental study has been conducted in this direction. For this purpose, an HPSC designed and manufactured was used. Al_2O_3- water Nanofluids containing 2% nanoparticles were used in order to increase the performance. The experiments were carried out for pure water and Nanofluids mixed water, and their efficiency and strength were compared. The highest value of instantaneous efficiency was calculated.

Introduction

A heat pipe is a heat-transfer device that employs phase transition to transfer heat between two solid interfaces. The need for energy is increasing day by day in many countries, and the gap between production and consumption tends to open day by day. Among the most important reasons for this situation are as follows: factors such as population growth, technological development, industrialization, and increase in people's life comfort are at the top. Due to such an increase in energy demand and the widening of the difference between production and consumption, the efficient use of existing energy resources has become a very important issue for every country and has made countries take some precautions.

Motivation

Today widespread applicatiou of energy-saving equipment based on heat pipes makes a significant contribution to the task of resources saving. Heat pipes are widely used both to improve the outdated equipment, increase its efficiency, reliability and lifetime and in the creation of new high-quality and economic technology samples. Heat pipe solar collectors used in verity of application like heat exchanger.

Materials and Methods

Preparation of Nanofluids. Nanofluids are not a simple solid-liquid suspension. It should also provide the following features.

(i) Prepared suspension should be stable.
(ii) Clumping in the particles should be negligible,
(iii) The chemical properties of the fluid should not change over time.

The Nano fluids are prepared by two step method. The desired Nano particles are obtained first, and then, the Nano particles are dispersed into the basic fluid in a way that maintains its stability and homogeneity. Ultrasonic water baths is used to ensure homogeneous distribution.

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This is to certify that **Mr. N. Dineshkumar**, Krishnasamy College of Engineering and Technology, Cuddalore-607 109 has successfully completed the project titled "Fabrication and investigatoin of heat pipe solar collector using aluminum oxide nano material as working fluid" in the Sector MECHANICAL ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022

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25.11.2022

DR.R.SRINIVASAN
Member Secretary

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This is to certify that **Mr. N.Yuvaraj**, Krishnasamy College of Engineering and Technology, Cuddalore-607 109 has successfully completed the project titled "Fabrication and investigatoin of heat pipe solar collector using aluminum oxide nano material as working fluid" in the Sector MECHANICAL ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022

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This is to certify that **Mr. S. Praveen**, Krishnasamy College of Engineering and Technology, Cuddalore-607 109 has successfully completed the project titled "**Fabrication and investigatoin of heat pipe solar collector using aluminum oxide nano material as working fluid**" in the Sector MECHANICAL ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022.

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STUDENT PROJECT SCHEME 2021-2022

UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Er. C. REIKHA, ASSOCIATE PROFESSOR & HOD I/C /CSE, KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY, CUDDALORE

2. Name of the student(s) : B. BHAKYALAKSHMI
B. PAVITHRA
D. PRIYADHARSHINI
T. SNEHA

3. Title of the project : MEDI-CARE ROBOT FOR SERVING PATIENTS USING ATMEGA 256 MICROCONTROLLER

4. Project code : CSE - 0401

It is certified that a sum of Rs. 7,500 (Rupees SEVEN THOUSAND FIVE HUNDRED RUPEES ONLY) sanctioned by the Council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs. NIL remaining unutilized is refunded.

C. Reikha 24/5/22
Signature of the Guide

C. Reikha 24/5/22
Signature of the HOD

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KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109.

Dr. G. ELANGO, M.E.,Ph.D.
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MEDI-CARE ROBOT FOR SERVING PATIENTS USINGATMEGA 2560 MICROCONTROLLER

Bhakyalakshmi.B, Pavithra.B, Priyadharshini.D, Sneha.T

Department of Computer Science and Engineering
Krishnasamy College of Engineering & Technology, Cuddalore.

Abstract

The COVID-19 creates a pandemic situation all over the world and treating the COVID-19 patients is really a challenging task. Huge number of Medicare officials and workers sacrifices their life during the treatment all over the world. This project work has been proposed to design to pay tribute the Medicare frontline officials and workers. This project employs autonomous intelligent robots can perform desired tasks in any type of environment without the continuous guidance of human. A line follower programmed to follow a specific path. A line following robot carries the medicine to the patient whenever they need it based on the predefined path that can be either visible on a black line on a white surface or vice-versa. An IR sensor remote is used by the nurse or technician, based on which the data is sent to the system or the robot. Based on the request the care taker robot will serve the patients accordingly. In this project ATMEGA 2560 microcontroller is used to deliver the requested provisions by the patients in the hospital. It uses three levels of feedback for path alignment, rotation offset and for avoiding obstacles. Since the path of the wards remains same in the hospitals, so a fixed path is defined and is loaded to the Firebird V through codes.

Introduction

A Robot is or virtual artificial agent a electromechanical machine which is guided by a computer program and electronic circuitry. Robotics is a branch of technology which deals with the design, construction, operation, and application of robots along with these computer systems are used for their control, sensory feedback, and information processing. These robots can take the place of humans in dangerous environments or even in manufacturing processes. Autonomous robots are particularly desirable in fields like hospitals, household maintenance (such as cleaning) and delivering goods and services. For programming the ATMEGA2560 Robot AVR Studio from ATMEL which is feature rich free to IDE (Integrated Development Environment) for the robot is used. In this project AVR studio from the ATMEL in which at the

back-end WIN AVR uses open-source C compiler. In this project, we are using a Zigbee module for communication between the robot and the caretaker. microcontroller is used to deliver the requested provisions by the patients in the hospitals. Since the path to the wards remains same in the hospitals, the predefined path is loaded on to the robot memory so that it can travel on the path with the help of white line sensing method when the button is pressed on the IR sensor

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This is to certify that **Mr/Ms. B. Bhakyalakshmi,** Krishnasamy College of Engineering and Technology, Cuddalore-607 109. has successfully completed the project titled "**Medi-care robot for serving patients using ATMEGA 2560 microcontroller**" in the Sector COMPUTER SCIENCE ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022.

Chennai-600 025
25.11.2022

DR.R.SRINIVASAN
Member Secretary

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This is to certify that **Mr/Ms. B. Pavithra,** Krishnasamy College of Engineering and Technology, Cuddalore-607 109. has successfully completed the project titled "**Medi-care robot for serving patients using ATMEGA 2560 microcontroller**" in the Sector COMPUTER SCIENCE ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022.

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25.11.2022

DR.R.SRINIVASAN
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This is to certify that **Mr/Ms. D. Priyadharshini,** Krishnasamy College of Engineering and Technology, Cuddalore-607 109. has successfully completed the project titled "Medi-care robot for serving patients using ATMEGA 2560 microcontroller" in the Sector COMPUTER SCIENCE ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022.

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25.11.2022

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Member Secretary

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This is to certify that **Mr/Ms. T. Sneha,** Krishnasamy College of Engineering and Technology, Cuddalore-607 109. has successfully completed the project titled "Medi-care robot for serving patients using ATMEGA 2560 microcontroller" in the Sector COMPUTER SCIENCE ENGINEERING under **STUDENT PROJECTS SCHEME** sponsored by the Council during the academic year 2021-2022.

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PRINCIPAL
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STUDENT PROJECT SCHEME 2021-2022
UTILISATION CERTIFICATE

1. Name of the guide and address : Mr.R.Rajendran,
Assistant Professor/ECE,
Krishnasamy College of Engineering & Technology, S.Kumarapuram,
Cuddalore - 607 109.

2. Name of the student(s) : 1.Aarthy.S
2.Ginja.R

3. Title of the project : An Early Detection System of Milk Adulteration Using Artificial Intelligence.

4. Project code : EEE-1436

It is certified that a sum of Rs.7500 (Rupees Seven Thousand Five Hundred Only) Sanctioned by the council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs...Nil... remaining unutilized is refunded.

Signature of the guide

Signature of the HOD

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AN EARLY DETECTION SYSTEM OF MILK ADULTRATION USING ARTIFICIAL INTELLIGENCE

S.Aarthy and R.Girija
Department of ECE, Krishnasamy College of Engineering and Technology,
Cuddalore – 607109.

Abstract

Many places have seen an increase in the number of milk centers because of the current generation's need for milk. Drinkable high-quality milk is thick and devoid of contaminants. Milk is often adulterated to keep the industry alive and increase production. Recently, milk manipulation has become more of a social issue. If contaminated milk is taken by the people, it might cause major health issues. The detection and prevention of dairy adulteration must be precise and consistent. A spectral sensor is used to check for tainted milk and stored to Thingspeak cloud for data analytics. It is also important to keep the IoT platform up to speed with the most recent information gathered by the sample. By implementing this proposed method, the depositing of milk should be more apparent to everyone. In this setup, a microcontroller called an Arduino is employed. This Arduino is the brains of the milk analyzer system. The proposed system shows detecting effectiveness is high and feasible when compared to the conventional methods.

Introduction

Residents' well-being is greatly influenced by the safety of their food supply in both rural and urban locations. To ensure quality control and to make a reasonable and advantageous choice, it is necessary to build instruments that are continually and precisely detectable. This investigation focused on aspects of milk quality and quantity estimation. Real-time information on gas groups in crude milk is provided via an Internet of Things (IoT)-based system. Because of the long-term storage, the bacteria population in milk increases, resulting in an unpleasant odor and taste, as well as the presence of dangerous compounds. The detection and identification of milk spoilage and the production of a safe product both require a milk monitoring system.

Motivation

Humans consume milk and milk products as their main sources of nutrition. In general, dairy products are high in carbohydrates, sugar, protein, vitamins, enzymes, and minerals. Food fraud is a serious public health hazard because of its economic motivation. It is worse in poor and impoverished countries because of the lack of sufficient supervision and enforcement of the criminal justice system there. Chemical reactions can be used to detect adulterants in milk in a simple and straightforward manner, although quantitative detection is more complicated and varied. Second only to olive oil, milk powder is the most likely food item to be tainted by adulteration. Some of the most common adulterants in milk are the addition of whey and water, as well as the inclusion of vegetable protein and milk from different species.

Materials and Methods

The Arduino-based milk quality and quantity estimation is proposed in this paper. The Arduino based milk adulteration is estimated to monitoring milk color temperature, R, G, and B

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
GOVERNMENT OF TAMILNADU

CERTIFICATE

This is to certify that Ms. S. Aarthy, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "An Early detection system of milk adulteration using aritifical intelligence" in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under STUDENT PROJECTS SCHEME sponsored by the Council during the academic year 2021-2022.

Chennai-600 025
25.11.2022

DR.R.SRINIVASAN
Member Secretary

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
GOVERNMENT OF TAMILNADU

CERTIFICATE

This is to certify that Ms. R. Girija, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "An Early detection system of milk adulteration using aritifical intelligence" in the Sector under STUDENT PROJECTS SCHEME sponsored by the Council during the academic year 2021-2022.

Chennai-600 025
25.11.2022

PRINCIPAL
Krishnasamy College of Engineering & Technology
Kumarapuram, Cuddalore-607 109.

DR.R.SRINIVASAN
Member Secretary

KRISHANSAMY
COLLEGE OF ENGINEERING & TECHNOLOGY

Anand Nagar, S. Kumarapuram, Cuddalore – 607 109.

Research and Development Centre

Recommended Project list for Financial Grand in the Academic year – 2021-22

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students
Mrs.V.Sudha, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Photonic crystal wave guide based optical encoder	Abinaya.N Abinaya.V	Electrical and Communication Engineering
Mr.S.Ramesh, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Medi care robot for serving patients using ATMEGA 2560 MICRO CONTROLLER	Anitha.A Archana.D Deepika.P	Computer Science and Engineering
Mr.J.Jayakumar, AP Krishnasamy College of Engineering and Technology, Cuddalore.	A novel design and fabrication of road sweeper by using photovoltaic system	Prasanna.S Amaresh.R Mohammed Suhaib.A	Electrical and Electronics Engineering
Mr.K.Kumaragurubaran, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Development on highway power generation by using combined vertical axis wind turbine	Manimaran.J Raghul.N Rajkumar.R	Mechanical Engineering

Submitted to the Principal

13/9/22

R&D In charge

S. RAMESH
AP-CSE

12/9/22

Vice – Principal

Principal

13.04.2022

To
The Chairman,
Arunai Charitable Trust,
157/16, Siva Flats,
20th Main Road, Anna Nagar,
Chennai – 600 040.

Respected Sir,

Sub: Submission of Application for Financial grand for the students' projects – 2021-22-Krishnasamy College of Engineering & Technology, Cuddalore – Reg.

Ref: Your Telephonic information for project recommendation through our Chairman, dated 01.04.2022

Greetings. Hope this letter finds you in good health. First, we submit our gratitude for your financial grant support to our students for the pervious years which motivates our students and staff much.

With reference to your telephonic information regarding the project grant for this academic year, I am herewith submitting the list of projects of our students which are recommended by our Research and Development Centre for financial grant after obtaining the approval from our Chairman, Dr. K. Rajendran. The particulars of the project, students name and Project supervisor name for the academic year 2021 -22 is enclosed herewith for your kind perusal.

I request, the recommended projects may kindly be considered and financial grant be sanctioned from your end.

Thanking you,

Yours truly,

PRINCIPAL

Encl : Recommended Project List.

13/4/22

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Chennai

26.04.2022

The Chairman,
Krishnasamy college of Engineering & Technology,
Nelikuppam Main Road,S Kumarapuram,
Cuddalore – 607 109

Sub : - Financial Grant to Recommended student – Reg.
Ref: - Recommendation letter dated 13.04.2022

With reference to the recommendation for financial Grant of the student projects from you on 13.04.2022, We are enclosing the KVQ cheque No.000603 dated 26.04.2022 for Rs.20,000/–towards financial Grant assistance to the recommended four Projects @ Rs.5000/–each. Kindly acknowledge the receipt by signing the enclosed voucher and return back to us.

Thanking you.

Your Frienly,
For Arunai Charitable Trust

K.Chandrasekaran
(Treasurer)

KCET - CUDDALORE-607109
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CHAIRMAN	ED	PRINCIPAL	VP	AO

To AO / manager

27/5/22

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#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. V. SUDHA
Assistant Professor
Department of Electronics and Communication Engineering

2 Name of the student(s) : N. Abinaya
H. Abinaya

3 Title of the project : Photonic crystal wave guide based optical encoder

4 Department/Institution Name & Address : Electronics & Communication Engineering/ Krishnasamy college of Engineering and Technology, S. Kumarapuram, cuddalore - 607109

It is certified that a sum of Rs 5000 (five Thousand only). sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

PHOTONIC CRYSTAL WAVEGUIDE BASED OPTICAL ENCODER

A PROJECT REPORT

Submitted by

N.ABINAYA (421317106001)

V.ABINAYA (421317106002)

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

CUDDALORE-607109

ANNA UNIVERSITY :: CHENNAI – 600 025

MARCH-2021

ABSTRACT

In recent years, the micro photonic device is extraordinarily attractive for the optical digital signal processor as it is perfectly satisfied everlasting demands namely low power consumption; very low loss, long-term stability and fast response. Generally, the complex network in photonics is designed with more number of nodes; each of them needed a very high speed of operation with ultra-compact size for optical integrated circuits. In general, Photonic Crystals (PC), Micro Electro-Optical-Mechanical Systems (MEOMS), Planar Light wave Circuits (PLC) and Plasmonics platform are highly suitable for photonic integrated circuits. Among them, the PC based medium is a good candidate due to their attractive features such as flexible design, more temperature resilient, better lifetime, very low group velocity and low radiation loss.

In this present work, ultra-high speed nano-optical encoder is proposed and designed using a two-dimensional photonic crystal platform. The proposed logic device contains dual nanocavity coupled ring resonator, five waveguides and reflector in a square lattice with barium titanate rods arranged in the air-substrate. The proposed nano-encoding platform is working based on the resonance and interference effect. The photonic band diagram and performance characteristics of the encoder namely bit rate, delay time, switching speed and optical signal distribution are analyzed using Finite Difference Time Domain (FDTD) method. The simulation results show that the designed encoder is capable of working four logic states accurately. Furthermore, the presented device has numerous advantages such as very low power consumption, high data rate and a good contrast ratio. Hence, it is tremendously suitable for optical logic systems and photonics integrated circuits

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Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that ~~Mr.~~ / Ms. N. ABINAYA. (ECE - IV YEAR). of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Photonic crystal wave guide based optical encoder.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021- 2022

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr~~. / Ms. V. ABINAYA (ECE - IV YEAR), of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Photonic Crystal Wave Guide based optical encoder.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021- 2022

Principal

Dr. K. Rajendran
Chairman

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Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : S. RAMESH
Assistant Professor
Department of computer science & Engineering

2 Name of the student(s) : A. Anitha
D. Archana
P. Deepika

3 Title of the project : Medi care Robot for serving Patients using ATMEGA 2560 MICRO CONTROLLER
Computer Science & Engineering /

4 Department/Institution Name & Address : Krishnasamy College of Engineering and Technology, S. Kumarapuram, cuddalore - 607109

It is certified that a sum of Rs 5000 (Five Thousand only). sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

C. Rajeha
Signature of the HOD

Signature of the Principal

MEDEICARE ROBOT FOR SERVING PATIENTS USING ATMEGA 2560 MICRO CONTROLLER

A PROJECT REPORT

Submitted by

A.Anith

D.Archana

P.Deepika

In partial fulfillment for the award of the

degree Of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING &

TECHNOLOGY CUDDALORE- 607109

ANNA UNIVERSITY:: CHENNAI – 600025

SEPTEMBER-2021

MEDI-CARE ROBOT FOR SERVING PATIENTS USING ATEMGA 2560 MICROCONTROLLER

ABSTRACT

The COVID-19 creates a pandemic situation all over the world and treating the COVID-19 patients is really a challenging task. Huge number of Medicare officials and workers sacrifices their life during the treatment all over the world. This project work has been proposed to design to pay tribute the Medicare frontline officials and workers. This project employs autonomous intelligent robots can perform desired tasks in any type of environment without the continuous guidance of human. A line follower programmed to follow a specific path. A line following robot carries the medicine to the patient whenever they need it based on the predefined path that can be either visible on a black line on a white surface or vice-versa. An IR sensor remote is used by the nurse or technician, based on which the data is sent to the system or the robot. Based on the request the care taker robot will serve the patients accordingly. In this project ATMEGA 2560 microcontroller is used to deliver the requested provisions by the patients in the hospital. It uses three levels of feedback for path alignment, rotation offset and for avoiding obstacles. Since the path of the wards remains same in the hospitals, so a fixed path is defined and is loaded to the Firebird V through codes.

Keywords: COVID-19 patients, Medicare treatment, Automatic Intelligent Robots, Embedded System, ATMEGA-2560.

INTRODUCTION

A Robot is or virtual artificial agent a electromechanical machine which is guided by a computer program and electronic circuitry. Robotics is a branch of technology which deals with the design, construction, operation, and application of robots along with these computer systems are used for their control, sensory feedback, and information processing. These robots can take the place of humans in dangerous environments or even in manufacturing processes. Autonomous robots are particularly desirable in fields like hospitals, household maintenance (such as cleaning) and delivering goods and services. For programming the ATMEGA2560 Robot AVR Studio from ATMEL which is feature rich free to IDE (Integrated Development Environment) for the robot is used. In this project AVR studio from the ATMEL in which at the back-end WIN AVR uses open-source C compiler. In this project, we are using a Zigbee module for communication between the robot and the caretaker. microcontroller is used to deliver the requested provisions by the patients in the hospitals. Since the path to the wards remains same in the hospitals, the predefined path is loaded on to the robot memory so that it can travel on the path with the help of white line sensing method when the button is pressed on the IR sensor remote. The path to the room is fed onto the

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Certificate

This is to certify that ~~Mr~~. / Ms. P. DEEPIKA [CSE - IV YEAR]. of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Medi Care Robot for Saving Patients Using ATMEGA 2560 MICRO CONTROLLER.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022.

Principal

Dr. K. Rajendran
Chairman

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This is to certify that ~~Mr~~. / Ms. D. ARCHANA. [CSE - IV YEAR]. of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Medi Care Robot for Serving Patients Using ATMEGA 2560 MICRO CONTROLLER.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022

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Certificate

This is to certify that ~~Mr~~. / Ms. A. ANITHA. [CSE- IV. YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Medi care robot for Serving Patients Using ATMEGA 2560 MICRO CONTROLLER. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022

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Dr. K. Rajendran
Chairman

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Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. J. JAYAKUMAR
Assistant- Professor
Department of Electrical and Electronics Engineering

2 Name of the student(s) : Prashanna.S
Amoolesh. R
Mohammed Suhaib. A

3 Title of the project : A Novel Design and fabrication of road sweeper by using photovoltaic system.

4 Department/Institution Name & Address : Electrical and Electronics Engineering | Knithraamy College of Engineering and Technology, S. Kunnarapuram, Cuddalore - 607109.

It is certified that a sum of Rs 5000 (Five Thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

A NOVEL DESIGN AND FABRICATION OF ROAD SWEEPER BY USING PHOTOVOLTAIC SYSTEM

A PROJECT REPORT

Submitted by

S. PRASANNA	421317105019
R. AMARESH	421317105301
A. MOHAMED SUHAIB	421317105303

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRICAL AND ELECTRONICS ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY,

CUDDALORE – 607 109

ANNA UNIVERSITY:: CHENNAI 600 025

APRIL 2021

ABSTRACT

In our country, Governments are taking some actions towards the avoidance of accidents by placing dividers on the major roads of the city. But there is a usage of heavy trucks and loaded vehicles are polluting the roads by dust which is not a major concern but one of the issues that the bikers are skidded by the dust-sand enclosed along the dividers. Multinational companies are concentrating on this with high cost of Sweepers with Diesel Engines but this proposed scheme would help to solve in the case of low cost of manufacturing and effective way of renewable energy resource. This Photovoltaic based sweeper come with solar powered vacuum cleaner with spiral sweepers, automated divider tracker and a loader bag thus this total system is operated only using the renewable energy resource. This would make the platform that all the corners of the roads are clean with less traffic accidents and economical to the municipalities to change over with this efficient system.

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Certificate

This is to certify that Mr. / ~~Ms~~. S. PRASANNA. (EEE- IV YEAR), of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled A novel design and fabrication of Road Sweeper by Using Photovoltaic System. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / ~~Ms~~. R. AMARESH. (EEE. IV-YEAR), of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A Novel Design and fabrication of Road Sweeper by Using Photovoltaic System.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022

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Chairman

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Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / ~~Ms~~. A. MOHAMMED SUHAIB. (EEE. IV YEAR), of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A Novel Design and fabrication of Road Sweeper by Using Photovoltaic System.

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Principal

Dr. K. Rajendran
Chairman

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(Estd 1994)

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Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : Er. K. kumaragurubaran
Assistant - professor
Department of mechanical Engineering

2 Name of the student(s) : mani maran.J
Ragul.N
Raj kumar.K

3 Title of the project : Development on highway power generation by using combined vertical Axis wind turbine

4 Department/Institution Name & Address : Mechanical Engineering
Krishnasamy college of Engineering and technology S.kumarapuram cuddalore 607109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

DEVELOPMENT ON HIGHWAY POWER GENERATIOIN BY USING COMBINED VERTICAL AXIS WIND TURBINE

PROJECT REPORT

Submitted by

MANIMARAN.J (421318114010)

RAGUL.N (421318114302)

RAJKUMAR.R (421318114303)

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

In

MECHANICAL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE - 607 109

ANNA UNIVERSITY : CHENNAI - 600 025

JUNE 2022

ABSTRACT

This project combines the advantage of the two popular design of vertical axis wind turbine (Savonius and Darrieus). By using modified simple J-Shaped profile is designed for eliminating a fraction of pressure side of the airfoil. Hence, it also overcomes the drawbacks of the presently available turbine design. The fabrication of the turbine was done using basic materials and simple tools. The characteristics of the turbine like tip speed ratio, coefficient of power generation were calculated using mathematical equations. Moreover, by employing this vertical axis wind turbine to improve the self-starting of the turbine and power generation on highway applications.This project focuses on use of air on highway 'divider with the help of combined vertical axis wind turbine. When the vehicle passed on the highway it produces a considerable amount of air due to its speed. This air strikes on the blade of the vertical axis wind turbine and its makes a rotation of the turbine.

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Certificate

This is to certify that Mr. / ~~Ms.~~ J. MANI MARAN. [MECH - IV. YEAR] of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Development on Highway Power Generation by Using Combined Vertical axis Wind Turbine under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021-2022

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / ~~Ms~~. N. RAGUL. [MECH. IV. YEAR]. of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Development on Highway Power Generation By using Combined Vertical axis Wind Turbine under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021- 2022

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / ~~Ms~~. R. RAJKUMAR [MECH - IV - YEAR] of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Development on Highway Power Generation by Using Combined Vertical axis Wind Turbine under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2021 2022

Principal

Dr. K. Rajendran
Chairman

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Date :03.03.2022

From
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

To
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

Respected Sir,

Sub. : Project Funding – Reg

Ref. : Lr. No. KCET / 2021-22/ Trust/123

We are pleased to inform you that we approve your proposal based on the letter cited above as it is a very nice thought and we feel it definitely need to be encouraged. We would grant you a sum of amount INR.- 15000/-. We will support you throughout the execution of the idea.

The detailed report shall be forwarded to us and subsequent review discussions held by involving Engineers from Builders Association. It has been decided to sanction the funding as follows.

Academic Year 2021-2022

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Mr.N.Vimalraj Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental study on concrete by using polypropylene fibre reinforced polymer	Gireevalamoorthy.D	Civil Engineering	7500/-
Ms.R.Dhivya Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental study on concrete by using glass fibre reinforced polymer	Raghuram.N	Civil Engineering	7500/-

With Regards

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)
Anand Nagar, Nellikuppam Main Road, S.Kumarapuram, Cuddalore - 607 109.
☎ (04142) 285 601 - 604 | info@kcet.in | www.kcet.in

Prof. Dr. G. ELANGO, M.E., Ph.D.,
Principal

Lr. No. KCET/2021-22/Trust/123 **Date :23.02.2022**

From
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

To
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

Respected Sir,

Sub. : Project Funding – Reg.

Ref. : MoU dated 21.04.2021

The research project has been identified under the MoU of your esteemed organisation based on the recommendations of the Head of the Department and the Principal for the following batches. Thank you for your support and funding.

Academic Year 2021-2022				
Guide Name and Institution Address	**Title of the Project**	**Students Name**	**Department of the Students**	**Amount (Rs)**
Mr.N.Vimalraj Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental study on concrete by using polypropylene fibre reinforced polymer	Gireevalamoorthy.D	Civil Engineering	7500/-
Ms.R.Dhivya Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental study on concrete by using glass fibre reinforced polymer	Raghuram.N	Civil Engineering	7500/-

KRISHNASAMY COLLEGE OF ENGG & TECH ★ CUDDALORE 607 109.

Yours Sincerely,

PRINCIPAL

PRINCIPAL
Krishnasamy College of Engineering & Technology, Kumarapuram, Cuddalore-607 109

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. N. VIMALRAJ
Assistant professor
Department of civil Engineering

2 Name of the student(s) : Sivasalamoorthy

3 Title of the project : Experimental Study on concrete by using polypropylene fibre reinforced polymer

4 Department/Institution Name & Address : Civil Engineering /
Krishnasamy college of Engineering & Technology . S. Kumarapuram
Cuddalore – 607109

It is certified that a sum of Rs 7500 [Seventy thousand five hundred] sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

KRISHNASAMY
COLLEGE OF
ENGINEERING & TECHNOLOGY

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. D. Girivalamoorthy (CE - IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Experimental study on concrete by using Polypropylene fibre Reinforced Polymer

under Research / Project grant sponsored by the Majestic Builders during the academic year 2021 - 2022

Principal

Dr. K. Rajendran
Chairman

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2021-2022

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. R. DHIVYA
Assistant professor
Department of Civil Engineering

2 Name of the student(s) : Raghuram. N.

3 Title of the project : Experimental Study on Concrete by using Glass fibre reinforced polymer.

4 Department/Institution Name & Address : CIVIL ENGINEERING / Krishnasamy College of Engineering and Technology, B.Kamarapuram, cuddalore-607109.

It is certified that a sum of Rs Rs 7000 (Seven thousand five hundred only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

KRISHNASAMY
COLLEGE OF
ENGINEERING & TECHNOLOGY
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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / Ms. N. Raghuram (CE - IV year) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Experimental Study on Concrete by Using Glass fibre Reinforced Polymer under Research / Project grant sponsored by the Majestic Builders during the academic year 2021 - 2022

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of
ENGINEERING & TECHNOLOGY
Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

LIST OF RESEARCH PROJECTS GRANTS RECEIVED
ACADEMIC YEAR 2020-2021

NAME OF THE RESEARCH PROJECT/ ENDOWMENT	NAME OF THE PRINCIPAL INVESTIGATOR/ CO-INVESTIGATOR	DEPARTMENT OF PRINCIPAL INVESTIGATOR	YEAR OF AWARD	AMOUNT SANCTIONED	DURATION OF THE PROJECT	NAME OF THE FUNDING AGENCY	TYPE (GOVERNMENT/NON-GOVERNMENT)
EXPERIMENTAL ANALYSIS OF WASTE FOUNDRY SAND AS A PARTIAL REPLACEMENT OF FINE AGGREGATE IN CONCRETE	ER. PON SIVAMATHI	CIVIL ENGINEERING	2020-2021	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT
FOAM CONCRETE FULLY REPLACEMENT OF FINE AGGREGATE BY USING BOTTOM ASH WITH MIXING OF OYSTER AND PLASTIC FIBRES	ER. C. SURESH KUMAR	CIVIL ENGINEERING	2020-2021	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)
Anand Nagar, Nellikuppam Main Road, S.Kumarapuram, Cuddalore - 607 109.
☎ (04142) 285 601 - 604 | info@kcet.in | www.kcet.in

Prof. Dr. G. ELANGO, M.E., Ph.D.,
Principal

Lr. No. KCET/2020-21/Trust/122 **Date :15.02.2021**

From
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

To
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

Respected Sir,

Sub. : Project Funding – Reg.

Ref. : MoU

The research project has been identified under the MoU of your esteemed organisation based on the recommendations of the Head of the Department and the Principal for the following batches. Thank you for your support and funding.

Academic Year 2020-2021

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Mrs.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental Analysis of waste foundry sand as a partial replacement of fine aggregate in concrete	Arun.E Kaviya Priya.R	Civil Engineering	7500/-
Mr.C.Sureshkumar Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Foam concrete fully replacement of fine aggregate by using bottom ash with mixing of oyster and plastic fibres	Arivazhagan.A Jeganathan.A Raman Abdullah.L	Civil Engineering	7500/-

Yours Sincerely,

KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109.

PRINCIPAL
PRINCIPAL
Krishnasamy College of Engineering & Technology,
Kumarapuram,
Cuddalore-

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Date :24.02.2021

From
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

To
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

Respected Sir,

Sub. : Project Funding – Reg

Ref. : Lr. No. KCET / 2020-21/Trust/122

We are pleased to inform you that we approve your proposal based on the letter cited above as it is a very nice thought and we feel it definitely need to be encouraged. We would grant you a sum of amount INR. 15000/-. We will support you throughout the execution of the idea.

The detailed report shall be forwarded to us and subsequent review discussions held by involving Engineers from Builders Association. It has been decided to sanction the funding as follows.

Academic Year 2020-2021

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Mrs.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental Analysis of waste foundry sand as a partial replacement of fine aggregate in concrete	Arun.E Kaviya Priya.R	Civil Engineering	7500/-
Mr.C.Sureshkumar Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Foam concrete fully replacement of fine aggregate by using bottom ash with mixing of oyster and plastic fibres	Arivazhagan.A Jeganathan.A Raman Abdullah.L	Civil Engineering	7500/-

With Regards

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2020-2021

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. Pon. Siva Mathi
Assistant Professor
Department of Civil Engineering

2 Name of the student(s) : Arun. E.
Kaviya Priya. R.

3 Title of the project : Experimental Analysis of waste foundary Sand as a Partial replacement of fine aggregate Concrete.

4 Department/Institution Name & Address : Civil Engineering /
Krishnasamy College of Engineering and Technology.
S. Kumarapuram, Cuddalore. 607109.

It is certified that a sum of Rs 75000 (Seven Thousand and five hundred only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Pon. Sivamathi
Signature of the Guide

Signature of the HOD

Signature of the Principal

EXPERIMENTAL ANALYSIS OF WASTE FOUNDRY SAND AS A PARTIAL REPLACEMENT OF FINE AGGREGATE IN CONCRETE

A PROJECT REPORT

Submitted by

ARUN.E **421317103002**

KAVIYA PRIYA.R **421317103005**

In partial fulfilment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY CHENNAI - 600 025

APRIL – 2021

ABSTRACT

This project describes the usage of Waste Foundry Sand in Concrete as a Partial Replacement of Fine Aggregate. As an attempt to reuse the Waste Foundry Sand as building Material, this experimental analysis would give its strength. In this project, initially we have prepared the standard conventional concrete of cubic and prismatic specimens with M30 grade and its Compressive Strength & Flexural Strength were determined. Then we have partially replaced the Fine Aggregate with 0%, 15%, 30% & 45% of Waste Foundry Sand in the concrete and the Compressive Strength &Flexural Strength of the respective cubic and prismatic specimens were determined. Finally, the strengths of standard conventional concrete specimens and partially replaced concrete specimens were compared to find out the usage of Waste Foundry Sand in concrete and its effects.

All the relevant details pertaining to this project are included from different IS Code Practice and Reference Journals. Experiments have been done in accordance with the Laws and Code Provisions.

Keywords: *Compressive Strength, Flexural Strength, Foundry Sand and Waste Foundry Sand.*

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.

Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. Arun.E (CE - IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Experimental Analysis of Waste foundry Sand as a Partial Replacement of fine Aggregate in Concrete under Research / Project grant sponsored by the Majestic Builders during the academic year 2020- 2021

Principal

Dr. K. Rajendran
Chairman

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Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / Ms. R. Kaviya Priya (CE- IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Experimental Analysis of Waste foundry Sand as a Partial Replacement of fine Aggregate in concrete under Research / Project grant sponsored by the Majestic Builders during the academic year 2020-2021

Principal

Dr. K. Rajendran
Chairman

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2020-2021

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. C. Suresh Kumar
Assistant Professor
Department of Civil Engineering

2 Name of the student(s) : Arivazhagan. A
Jeganathan. A
Raman Abdullah. L.

3 Title of the project : Foam Concrete Using Replacement of fine Aggregate by using bottom Ash with mixing of oyster and plastic fibres.

4 Department/Institution Name & Address : Civil Engineering,
Krishnasamy College of Engineering and Technology, S. Kumaramangalam,
Cuddalore - 607109.

It is certified that a sum of Rs 7500 [Seven Thousand and five hundred only] sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

FOAM CONCRETE FULLY REPLACEMENT OF FINE AGGREGATE BY USING BOTTOM ASH WITH MIXING OF OYSTER AND PLASTIC FIBRES

A PROJECT REPORT

Submitted by

A.ARIVAZHAGAN	421317103001
A.JEGANATHAN	421317103004
L.RAMAN ABDHULLAH	421317103302

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI - 600 025

APRIL 2021

ABSTRACT

This project researches the Foam Concrete in which the fine aggregate was fully replaced by Bottom Ash in addition to Plastic Fibre and Oyster. To use the light weight concrete as a good construction material, we have attempted to check its compressive and flexural strength with the addition of plastic fibre & oyster and reuse the Bottom ash as a fully replacement of fine aggregate.

In this project, we have collected the required materials, calculated mix design for M30 grade of concrete and mix proportioning. Then the concrete materials were weighed and mixed in according to the general process of concreting. The concrete cubes and beams were casted and cured for 7days and 28 days and their strengths were calculated respectively. Thus, the materials such as Bottom ash, plastic fibre, foaming agent, oyster and their influence in concrete was observed and studied in this project

Keywords: Bottom ash, Foam concrete, Plastic Fibre, Oyster.

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COLLEGE OF
ENGINEERING & TECHNOLOGY
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Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / Ms. A. Arivazhagan (CE - IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Foam Concrete fully Replacement of fine Aggregate by using bottom ash with mixing of oyster and plastic fibres under Research / Project grant sponsored by the Majestic Builders during the academic year 2020-2021

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
COLLEGE OF
ENGINEERING & TECHNOLOGY

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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. A. Jaganathan (CCE - IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Foam Concrete fully Replacement of fine Aggregate by using bottom ash with mixing of oyster and plastic fibres under Research / Project grant sponsored by the Majestic Builders during the academic year 2020 2021

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
COLLEGE OF
ENGINEERING & TECHNOLOGY

Approved by AICTE | *Creating Professionals! Creating Future India!* | Affiliated to Anna University

Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607109.
Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. L. Raman Abdullah (CCE - IV year) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Foam Concrete fully Replacement of fine Aggregate by using bottom ash with Mixing of Oyster and Plastic fibres under Research / Project grant sponsored by the Majestic Builders during the academic year 2020- 2021

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of
ENGINEERING & TECHNOLOGY
Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

LIST OF RESEARCH PROJECTS GRANTS RECEIVED

ACADEMIC YEAR 2019-2020

NAME OF THE RESEARCH PROJECT/ ENDOWMENT	NAME OF THE PRINCIPAL INVESTIGATOR/ CO-INVESTIGATOR	DEPARTMENT OF PRINCIPAL INVESTIGATOR	YEAR OF AWARD	AMOUNT SANCTIONED	DURATION OF THE PROJECT	NAME OF THE FUNDING AGENCY	TYPE (GOVERNMENT/NON-GOVERNMENT)
DESIGNING THE AIR QUALITY CONTROL SYSTEM IN A VEHICLE FOR TRAFFIC POLLUTION	ER. R. RAJENDRAN	ELECTRONICS AND COMMUNICATION ENGINEERING	2019-2020	0.05	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING	ER. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	2019-2020	0.05	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
WOMEN SAFETY USING IBEACON TECHNOLOGY	ER. S. AMIRTHA	ELECTRICAL AND ELECTRONICS ENGINEERING	2019-2020	0.05	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE	ER. E. VAIRAVI	CIVIL ENGINEERING	2019-2020	0.05	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
STUDY AND EXPERIMENTAL ANALYSIS OF HYDROPHOBIC CONCRETE BY USING OLEIC ACID	ER. A. RAJESWARI	CIVIL ENGINEERING	2019-2020	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT
TREATMENT OF SUGARCANE WASTE WATER USING PSEUDOMONAS PUTIDA	ER. E. SANTHIPRIYA	CIVIL ENGINEERING	2019-2020	0.075	6 MONTHS	MAJESTIC BUILDERS	NON-GOVERNMENT

To

The Chairman,
Arunai Charitable Trust,
157/16, Siva Flats,
20th Main Road, Anna Nagar,
Chennai – 600 040.

31.08.2019

Respected Sir,

Sub: Submission of Application for Financial grand for the students' projects – 2019-20-Krishnasamy College of Engineering & Technology, Cuddalore – Reg.

Ref: Your office letter, dated 29.07.2019

With reference to your office letter cited above, I am herewith submitting the list of projects of our students which are recommended by our Research and Development Cell for financial grant after obtaining the approval from our Chairman, Dr. K. Rajendran. The particulars of the project, students name and Project supervisor name for the academic year 2019 -20 is enclosed herewith for your kind perusal.

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students
Mr.R.Rajendran, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Designing the air quality control system in a vehicle for traffic pollution	Jeevitha.G Karthika.R	Electrical and Communication Engineering
Mr.S.Ramesh, AP Krishnasamy College of Engineering and Technology, Cuddalore.	A compact gesture recognition for visually challenged people using machine learning	Abinaya.P Fahima.A Nivetha.V Rehana.Y	Computer Science and Engineering
Mrs.S.Amirtha, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Women safety using IBEACON technology	Priyadharshini.A Ramya.R	Electrical and Electronics Engineering
Ms.E.Vairavi Krishnasamy College of Engineering and Technology, Cuddalore.	Study on partial replacement of coarse aggregate by rubber in concrete	Krishnaraj.R Prem kumar.B Sugumar.S	Civil Engineering

I request, the recommended projects may kindly be considered and financial grant be sanctioned from your end.

Thanking you,

Yours truly,

PRINCIPAL

31/8/19

ARUNAI CHARITABLE TRUST

(Estd 1994)

Chairman	Managing Trustee	Secretary	Treasurer	Jt. Secretary
N.C.Vivekananthan	**A.S.Subramanian**	**Prabhakaran.V**	**K.Chandrasekaran**	**S. Ganesh**
Cell : 99442061799	Cell : 9442061799	Cell : 9962343400	Cell : 9444793700	Cell : 98843 06830

Chennai

09.09.2019

To
Ao/cashier
for n.a
13/9/19

The Chairman,
Krishnasamy college of Engineering & Technology,
Nelikuppam Main Road,S Kumarapuram,
Cuddalore – 607 109

Sub : - Financial Grant to Recommended student – Reg.
Ref: - Recommendation letter received from you.

With reference to the recommended applications for financial assistance for the student projects from you on 31.08.2019, We are enclosing the Karurvysya bank cheque No.000549 dated 09.09.2019 for Rs.20,000/– towards financial assistance to the recommended Students Projects. Kindly acknowledge the receipt by signing the enclosed voucher and return back to us.
Thanking you.

Your Frienly,
For Arunai Charitable Trust

K.Chandrasekaran
(Treasurer)

Encl: KVB Cheque No. 000549 & Voucher

.Address for Communicatio : **K.Chandrasekaran**
157/16,Siva Flatss,20th Main Road,AnnanagarWest,Chennai-600 040

Karur Vysya Bank

THE KARUR VYSYA BANK LIMITED दि करूर वैश्य बैंक लिमिटेड
CHENNAI - ANNA NAGAR, DEVS ARK, AD-79, 80,, 5TH AVENUE,, ANNA NAGAR,, CHENNAI, TAMIL NADU - 600040
IFSC : KVBL0001154

Valid for 3 months from the date of issue
Payable at all branches

09092019

Pay अदा करें Krishnasamy college of Engineering & Technology Bearer या धारक को

Rupees रुपये Twenty thousand only ₹ 20,000/-

A/c. No. खाता क्र.	1154172000004904	INITIAL आद्याक्षर	

For ARUNAI CHARITABLE TRUST

TRUSTEE(S)/AUTHORISED SIGNATORY

Please sign above

"000549" 600053005: 000000" 31

MANIPAL TECHNOLOGIES LIMITED, CHENNAI / CTS-210

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. R. RAJENDRAN
Assistant Professor
Department of Electrical and communication Engineering

2 Name of the student(s) : G. Jeevitha
R. Karthika

3 Title of the project : Designing the our quality control system in a vehicle for traffic pollution.

4 Department/Institution Name & Address : Electronics and communication Engineering / Krishnasamy college of Engineering and technology, S. Kumarapuram, cuddalore 607 109

It is certified that a sum of Rs 5000 (five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

R. Raj
Signature of the Guide

Signature of the HOD

Signature of the Principal

DESIGNING THE AIR QUALITY CONTROL SYSTEM IN A VEHICLE FOR TRAFFIC POLLUTION

A PROJECT REPORT

Submitted by

G.JEEVITHA (421316106006)

R.KARTHIKA (421316106009)

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGYCUDDALORE- 607109

ANNA UNIVERSITY:: CHENNAI – 600025

SEPTEMBER-2020

ABSTRACT

The Emissions of many air pollutants have been shown to have variety of negative effects on public health and the natural environment. Emissions that are principal pollutants of concern include: Hydrocarbons- A class of burned or partially burned fuel, hydrocarbons are toxins. Hydrocarbons are a major contributor to smog, which can be a major problem in urban areas. Prolonged exposure to hydrocarbons contributes to asthma, liver disease, lung disease, and cancer. Regulations governing hydrocarbons vary according to type of engine and jurisdiction. Methane is not directly toxic, but is more difficult to break down in a catalytic converter, so in effect a "non-methane hydrocarbon" regulation can be considered easier to meet. Since methane is a greenhouse gas, interest is rising in how to eliminate emissions of it. This project attempts to develop an effective solution for pollution monitoring & Controlling by using RFID & IOT on a real time basis namely real time wireless air pollution controlling system. Commercially available gas sensors for sensing concentration of gases like CO2, CO are calibrated using appropriate calibration technologies.

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr.~~ / Ms. JEEVITHA. G (ECE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled DESIGNING THE AIR QUALITY CONTROL SYSTEM IN A VEHICLE FOR TRAFFIC POLLUTION. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr.~~ / Ms. KARTHIKA.R (ECE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled DESIGNING THE AIR QUALITY CONTROL SYSTEM IN A VEHICLE FOR TRAFFIC POLLUTION. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : S. RAMESH
Assistant Professor
Department of Computer Science & Engineering

2 Name of the student(s) : P. Abinaya
A. Fahima
V. Nivetha
Y. Rehana

3 Title of the project : A compact Gesture Recognition for visually challenged people using Machine learning.

4 Department/Institution Name & Address : Computer Science & Engineering
Krishnasamy College of Engineering and Technology, S. Kumarapuram, Cuddalore. 607 109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

C. Radha
Signature of the HOD

Signature of the Principal

A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING

A PROJECT REPORT

Submitted by

P.Abinaya

A.Fahima

V.Nivetha

Y.Rehana

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY CUDDALORE- 607109

ANNA UNIVERSITY:: CHENNAI – 600025

SEPTEMBER-2020

A compact Gesture Recognition for Visually Challenged People using Machine Learning

I. ABSTRACT

In our society we have people with disabilities. The technology is developing day by day but since no significant developments are taken for the betterment of these blind people.This innovation is mainly focuses on sign way of communication is one of the most effective communication tool for the people who are not able to speak or hear anything. It is also useful for the person who are able to speak but not able to hear or vice versa. Sign language is boon for the deaf and dumb people. Sign language is the combination of different hand gesture, shape, size and movement of human hands and other facial expressions. With the help of sign language, these physical impaired people express their emotions and thoughts to other person. Hence sign language recognition has become empirical task. The main aim is to developing an deaf and dumb gesture recognize system for establishing communication between the deaf & dumb and the blind people using machine learning and image processing. The proposed system is able to recognize static and dynamic gestures using k-nearest neighbor and SVM classification methods. This system can learn to classify the specific gesture patterns of any person.

II. INTRODUCTION

In our society we have people with disabilities. The technology is developing day by day but no significant developments are undertaken for the betterment of these people. About nine billion people in the world are deaf and dumb. Communications between deaf-mute and a visually challenged person have always been a challenging task. In the current system, a glove with attached flex sensor is worn on the hand. The sensor attached with glove captures the hand movement and position. In this method hand detection is not required. One of the advantage of this method that it provides accurate position, orientation of the hand, fingers of the palm. The demerit of this method is that it requires the user to connect with the computer physically which make it very uncomfortable technique. This method is also expensive due to the use of sensor gloves.

Sign language helps deaf and dumb people to communicate with blind people. Nowadays, the importance of adaptive and personalized human-computer interfaces, as opposite to systems designed for an "average" user, is widely recognized in a large variety of applications. Machine learning algorithms for automatic analysis of facial expressions and body

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College of Engineering & Technology

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Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr~~. / Ms. ABINAYA.P (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020.

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)
Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr.~~ / Ms. FAHIMA . A (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

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Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr.~~ / Ms. NIVETHA .V (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020.

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

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Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that ~~Mr.~~ / Ms. REHANA . Y (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled A COMPACT GESTURE RECOGNITION FOR VISUALLY CHALLENGED PEOPLE USING MACHINE LEARNING. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020.

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : MS. S. AHIRTHA
Assistant Professor
Department of Electrical and Electronics Engineering

2 Name of the student(s) : A. Priya Darshini
R. Ramya

3 Title of the project : Women safety using IBEACON Technology.

4 Department/Institution Name & Address : Electrical and Electronics Engineering | Krishnasamy college of Engineering & Technology S. Kumarapuram cuddalore - 607 109

It is certified that a sum of Rs 5000 (five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

WOMEN SAFETY USING IBEACON TECHNOLOGY

A PROJECT REPORT

Submitted by

A. PRIYA DARSHINI 421316105016

R. RAMYA 421316105021

in partial fulfillment for the award of the degree

of

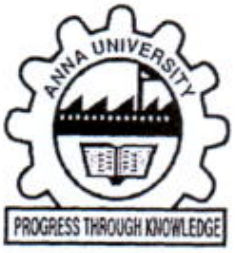
BACHELOR OF ENGINEERING

in

ELECTRICAL AND ELECTRONICS ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE-607 109



ANNA UNIVERSITY::CHENNAI 600 025

MAY 2020

ABSTRACT

According to the reports of WHO, NCRB-social-government organization 35%Women all over the world are facing a lot of unethical physical harassment in public places such as railway-bus stands, foot paths etc. This paper describes about an one touch alarm system for women's safety using IBEACON. In the light of recent outrage in Delhi which shook the nation and woke us to the safety issues for women, people are finding up in different ways to defend. Here we introduce a device which ensures the protection of women. This helps to identify protect and call on resources to help the one out of dangerous situations. Anytime you sense danger, all you had to do, is hold on the panic switch. The system resembles a normal wearable device which when activated, tracks the place of the women using bluetooth low energy and sends emergency messages using GSM (Global System for Mobile communication), to sos contacts and the police control room. The proposed work shows a flexible and interoperable combination of a device and application that will accessorize and empower the citizens and serve as a multifunctional device.

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College of Engineering & Technology

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Certificate

This is to certify that ~~Mr.~~ / Ms. PRIYADHARSHINI.A (EEE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled WOMEN SAFETY USING IBEACON TECHNOLOGY under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

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(Approved by AICTE & Affiliated to Anna University - Chennai)

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Certificate

This is to certify that ~~Mr~~. / Ms. RAMYA . R (CEEE – IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled WOMEN SAFETY USING IBEACON TECHNOLOGY. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

h/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : MS. E. VAIRAVI
Assistant professor
Department of civil Engineering

2 Name of the student(s) : Krishnaraj. R
Bramkumar. B
Sugumar. S

3 Title of the project : Study on partial replacement of coarse Aggregate by Rubber in concrete

4 Department/Institution Name & Address : Civil Engineering
Krishnasamy College of Engineering & Technology, S. kumarapuram,
Cuddalore - 607109

It is certified that a sum of Rs 5000 [Five thousand only] sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE

PROJECT REPORT

Submitted by

KRISHNARAJ.R	**421315103011**
PREM KUMAR.B	**421315103019**
SUGUMAR.S	**421315103028**

in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI 600 025

MARCH 2019

ABSTRACT

At present the disposal of waste tyres is becoming a major waste management problem in the world. It is estimated that 1.2 billion of waste tyre rubber produced globally per year. It is estimated that 11% of postconsumer tyres are exported and 27% are sent to landfill, stockpiled or dumped illegally and only 4 % is used for civil engineering projects. Hence efforts have been taken to identify the potential application of waste tyres in civil engineering projects. In this context, our present study aims to investigate the optimal use of waste tyre rubber as coarse aggregate in concrete composite. Cubes are casted of M25 grade by replacing 15% and 30% percent of waste tyre with coarse aggregate and compared with regular M25 grade concrete. Fresh and hardened concrete strength were identified

Keywords: Rubber, Compressive strength, Material Properties.

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Certificate

This is to certify that Mr. / ~~Ms.~~ KRISHNARAJ.R CCE - IV YEAR of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020.

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

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Certificate

This is to certify that Mr. / ~~Ms.~~ PREM KUMAR.B (CE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

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College of Engineering & Technology

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Certificate

This is to certify that Mr. / ~~Ms.~~ SUGUMAR. S (CCE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

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Prof. Dr. G. ELANGO, M.E., Ph.D.,
Principal

Lr. No. KCET/2019-20/Trust/121 **Date :08.01.2020**

From
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

To
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

Respected Sir,

Sub. : Project Funding – Reg.

Ref. : MoU dated 21.04.2021

The research project has been identified under the MoU of your esteemed organisation based on the recommendations of the Head of the Department and the Principal for the following batches. Thank you for your support and funding.

Academic Year 2019-2020

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Mrs.A.Rajaeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Study and experimental analysis pf hydrophobic concrete by using OLEIC ACID	Mohammed Arshath.M Santhosh.K Karthick .S.M	Civil Engineering	7500/-
Mrs.E.Shanthipriya Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Treatment of sugarcane waste water using pseudomonas putida	Manibalan.K Madhumathi.S	Civil Engineering	7500/-

Yours Sincerely,

KRISHNASAMY COLLEGE OF ENGG. & TECH ★ CUDDALORE 607 109.

PRINCIPAL

PRINCIPAL
Krishnasamy College of Engineering & Technology
Kumarapuram.
Cuddalore

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Date :23.01.2020

From
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

To
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

Respected Sir,

Sub. : Project Funding – Reg

Ref. : Lr. No. KCET / 2019-20/ Trust/121

We are pleased to inform you that we approve your proposal based on the letter cited above as it is a very nice thought and we feel it definitely need to be encouraged. We would grant you a sum of amount INR.-15000/-. We will support you throughout the execution of the idea.

The detailed report shall be forwarded to us and subsequent review discussions held by involving Engineers from Builders Association. It has been decided to sanction the funding as follows.

Academic Year 2019-2020

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Mrs.A.Rajaeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Study and experimental analysis pf hydrophobic concrete by using OLEIC ACID	Mohammed Arshath.M Santhosh.K Karthick .S.M	Civil Engineering	7500/-
Mrs.E.Shanthipriya Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Treatment of sugarcane waste water using pseudomonas putida	Manibalan.K Madhumathi.S	Civil Engineering	7500/-

With Regards

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. A. Rajeswari
Assistant Professor.
Department of Civil Engineering

2 Name of the student(s) : Mohammed Arshath. M
Santhosh. K
Karthick. S M

3 Title of the project : Study and Experimental analysis of hydrophobic Concrete by using OLEIC ACID

4 Department/Institution Name & Address : Civil Engineering /
Krishnasamy College of engineering and Technology, S. Kumarapuram, cuddalore - 607109.

It is certified that a sum of Rs 7500 (Seven thousand five hundred only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

A. Rajeswari
Signature of the Guide

Signature of the HOD

Signature of the Principal

STUDY AND EXPERIMENTAL ANALYSIS OF HYDROPHOBIC CONCRETE BY USING OLEIC ACID

A PROJECT REPORT

Submitted by

M.MOHAMMED ARSHATH - 421316103012

K.SANTHOSH - 421316103016

S.M.KARTHICK - 421316103301

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI - 600 025

APRIL 2020

ABSTRACT

The water-repellent and anti-permeability properties of cement are crucial for the durability and safety of concrete structures. In this work, we prepared a hydrophobic concrete by using oleic acid. Fly ash was firstly reacted with oleic acid by the dry milling method, and the modified fly ash was used to prepare the hydrophobic concrete. Using the fly ash with oleic acid significantly decreased the water uptake and gas permeability of the prepared cement paste samples. Hydrophobic concrete is demonstrated by the capability of a surface to repel water and is characterized by contact angle. The contact angle of hydrophobic concrete is over 90° surface. Generally speaking, to fabricate a super-hydrophobic surface water contact angle,150°. The hydrophobic concrete was optimal when the content of the fly ash in the cement was 30% wt and after the cement was cured for 28 days. In this study the percentage of Oleic acid by weight of cement from 0%, 2%, 3% and 4% as the dosage of internal curing compound was fixed for M25 mixes.

Keywords: *Fly ash, Hydrophobic concrete, Oleic acid, Water repellent.*

KRISHNASAMY
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(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that Mr. / Ms. M. Mohammed Arshath of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled "Study and Experimental Analysis of Hydrophobic Concrete by using OLEIC ACID" under Research / Project grant sponsored by the Majestic Builders during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that Mr. / Ms. K. Santhosh of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled "Study and Experimental Analysis of Hydrophobic Concrete by using OLEIC ACID" under Research / Project grant sponsored by the Majestic Builders during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that Mr. / Ms. S. M. Karthick of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled "Study and Experimental Analysis of Hydrophobic Concrete by using OLEIC ACID" under Research / Project grant sponsored by the Majestic Builders during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2019-2020

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. E. SIVANTHIPRIYA
Assistant professor
Department of Civil Engineering

2 Name of the student(s) : Manibalan. K
Madhumathi. S

3 Title of the project : Treatment of Sugarcane waste water using Pseudomonas putida.

4 Department/Institution Name & Address : Civil Engineering |
Krishnasamy College of Engineering and Technology, S. Kumarapuram, Cuddalore - 607 109.

It is certified that a sum of Rs 7500 (Seven thousand five hundred only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

TREATMENT OF SUGARCANE WASTE WATER USING PSEUDOMONAS PUTIDA

A PROJET REPORT

Submitted by

421316103009- MANIBALAN.K
421316103702- MADHUMATHI.S

in partial fulfilment for the award of the degree
of
BACHELOR OF ENGINEERING
IN
Civil ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY
S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI 600 025
SEPTEMBER 2020

ABSTRACT

Sugar industry is one of the industries that produce a high amount of pollutant since its wastewater contains high amount of organic material, inorganic substances, if this waste is discharged without an improper treatment into the watercourse, it can cause problem to aquatic life and environment. For the primary treatment process, sugar waste water can be treated by using micro-organism such as psedomonas putida. Treatment of wastewater with micro-organisms based system have the ability to remove nutrients (Nitrogen, Phosphorus),toxic substances (both organic and inorganic), BOD, COD and other impurities present in the wastewater by using the micro-organisms growth, which needs water food and O2 for growth .

Which helps in treating the wastewater by converting into ring water.

Keywords: micro-organism – pseudomonas putida, waste removal, wastewater treatments .

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College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109.

Certificate

This is to certify that Mr. / Ms. K. Maribalan of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled "Treatment of Sugarcane waste water using Pseudomonas putida"

under Research / Project grant sponsored by the Majestic Builders during the academic year 2019-2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of Engineering & Technology

(Approved by AICTE & Affiliated to Anna University - Chennai)

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Certificate

This is to certify that Mr. / Ms. S. Madhumathi of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled "Treatment of Sugarcane waste water using Pseudomonas Putida".

under Research / Project grant sponsored by the Majestic Builders during the academic year 2019- 2020

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
College of
ENGINEERING & TECHNOLOGY
Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

LIST OF RESEARCH PROJECTS GRANTS RECEIVED

ACADEMIC YEAR 2018-2019

NAME OF THE RESEARCH PROJECT/ ENDOWMENT	NAME OF THE PRINCIPAL INVESTIGATOR/ CO-INVESTIGATOR	DEPARTMENT OF PRINCIPAL INVESTIGATOR	YEAR OF AWARD	AMOUNT SANCTIONED	DURATION OF THE PROJECT	NAME OF THE FUNDING AGENCY	TYPE (GOVERNMENT/NON-GOVERNMENT)
SMART STICK FOR ELDERS SAFETY	DR. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	2018-2019	0.075	6 MONTHS	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
SOLAR OPTIVERTER-A NOVEL HYBRID APPROACH TO THE PHOTOVOLTAIC MODULE LEVEL POWER ELECTRONICS	ER. K. INDHUMATHI	ELECTRICAL AND ELECTRONICS ENGINEERING	2018-2019	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
ULTRA-COMPACT OPTICAL ENCODER USING PHOTONIC CRYSTAL PLATFORM	ER. R. RAJASEKAR	ELECTRONICS AND COMMUNICATION ENGINEERING	2018-2019	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
RECURRENCE AND NON-RECURRENCE PREDICTION OF UTERUS CANCER IN BIG DATA	ER. P.M. KAMATCHI	COMPUTER SCIENCE AND ENGINEERING	2018-2019	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
INVESTIGATE AND EFFECT ON PERFORMANCE OF DIAMOND AND CIRCULAR SHAPE PIN-FIN ARRAYS	ER. G. SETHILVEL	MECHANICAL ENGINEERING	2018-2019	0.050	6 MONTHS	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT

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College of
ENGINEERING & TECHNOLOGY
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Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

COMMUNICATION RECEIVED FROM TNSCST (2018-19)

	Dept. of Computer Science and Engineering Velammal Engineering Velammal Nagar Chennai - 600 066				
083	Ms.S.Vanitha Assistant Professor Dept. of Computer Science and Engineering Dr.N.G.P. Institute of Technology Coimbatore - 641 048	Voice Based email system for blinds	M.Gowtham P.R.Harshitha B.Nireen Bharathi	CSE-008	5000/-
084	Dr.J.Yogapriya Dean (R &D) Dept. of Computer Science and Engineering Kongunadu College of Engineering and Technology Tholurpatti Trichy - 621 215	Automated external nipah virus defect dectection system in banana	Bharanidharan.P Shanmugaraj.K.R Parameshwari.M Shalini.P	CSE-009	5000/-
085	Dr.J.Nirmaladevi Associate Professor Dept. of Computer Science and Engineering Excel Engineering College Komarapalayam-637303, Namakkal Dt.	Implementation on Intelligent assistive mechanism for deaf-dumb	Monisha.M Rajeshwari.A Karthikeyan.V	CSE-010	7000/-
086 (7)	Mr.S.Ramesh Assistant Professor Krishnasamy College of Engineering and Technology S.Kumarapuram Cuddalore - 607 109	Smart Stick for Elders safety	D.Lakshmi Devi K.Dhanalakshmi V.Ishwarya K.Kanga Preetha	CSE-011	7500/-
087	Mr.T Anto Theepak Assistant Professor Dept of Information Technology Francis Xavier Engineering College,Tirunelveli-627003	Energy Saver and GSM Based Smart Energy Meter for Automatic Instant billing of Electricity Changes	Nesan Jose Rajan Y Natlar Shashikant Ashok Mani Barathi C	CSE-012	7500/-
088	Mrs.D.Murugeswari Assistant Professor Dept. of Information Technology Panimalar Institute of Technology,Poonamallee Chennai - 600 123	Child safety monitoring by android app using IoT	Shruthi.S Sushma.S.B Swethalakshmi.S Kamaleswari RA	CSE-013	6000/-
089	Mrs.V.Rathinapriya Assistant Professor Dept. of Computer Science and Engineering Easwari Engineering College Ramapuram Chennai-89	An imperative aid that assists the dyslexic to read	Harigovinth.R Hari Eshwar.G Hari Ganapathy.K Maheswar.A	CSE-014	7500/-
090	Mr.B.K.Parthipan Assistant Professor Dept. of Mechatronics Kamaraj College of Engg. and Technology K.Vellakularm Virudhunagar-625701	Design and fabrication of hand gesture into voice conversion system for deaf and mute people	S.Senthil Rajan N.Sankaranarayanan M.Thamarai	CSE-015	4000/-
091	Dr.J.Vandarkuzhali Associate Professor	Mobile app based trauma alert of two - wheeler crash injuries and	T.Dhanasekaran R.Paramasivam	CSE-016	5000/-

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

DOTE CAMPUS, CHENNAI-600 025

STUDENT PROJECT SCHEME 2018-2019

UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Mr. S. RAMESH,
ASSISTANT PROFESSOR,
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING,
KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY,
S. KUMARAPURAM, CUDDALORE-607109

2. Name of the student(s) : D. LAKSHMI DEVI
K. DHANALAKSHMI
V. ISHWARYA
K. KANAGA PREETHA

3. Title of the project : SMART STICK FOR ELDERS SAFETY

4. Project code : CSE-011

It is certified that a sum of Rs 7,500 (Rupees SEVEN THOUSAND FIVE HUNDRED RUPEES ONLY) sanctioned by the Council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs. NILL remaining unutilized is refunded.

Signature of the Guide

Signature of the HOD

Signature of the
REGISTRAR/PRINCIPAL/DEAN
with seal

KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109

PRINCIPAL
Krishnasamy College of
Engineering & Technology,
Kumarapuram,
Cuddalore 607 109.

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SMART STICK FOR ELDERS SAFETY

Dhanalakshmi. K, Iswarya. V, Kanaga Preetha. K, Lakshmi Devi. D
Department of Computer Science Engineering,
Krishnasamy College of Engineering and Technology, Cuddalore

Abstract

Fall related injuries caused have been a leading cause of fatalities among the elderly. Lots of aging people rely on a cane as a help device to overcome such problem as balance loss, leg weakness and other fall incidents. In this respect, the internet of thing may turn out to be critically helpful, by offering disabled people the assistance and support necessary for achieving a good quality of life. In this project, a Care-Cane design is proposed with a comprehensive monitoring of disabled people by which sudden fall detection can be maintained through the use of their connected walking stick. This project aims to shorten the time between the movement of heart attack and the arrival of medical personal. The warning before the emergency call will give the elder people a chance to avoid heart attack and also unfortunate faints. We propose to install a three axis acceleration sensor is fixed on the cane which continually collects acceleration data. The proposed Smart Android Application which will track the position of the attached person and also to monitor all sudden fall and Irregular Attacks using sensors. By analyzing the data, it is possible to detect whether the attacks of fall happened. A GPS system is employed to provide the detailed location information so that the emergency unit is able to arrive at the location where it happens.

Introduction

In recent years, fall-induced injury has become one of the leading causes of death among elderly people. About one third of people aged over 65 in America fall every year, and the statistics is almost three times higher for those living in nursing homes. Common injuries sustained from falls include soft and connective tissue damages, bone fractures, and head injuries. Not only does fall pose a serious threat to the health and well-being of the elderly population, fall-induced injuries can also incur an average annual health care cost of nearly $20,000 for a person's first fall, which amounts to an estimated lifetime cost of $12.6b for persons aged 65 and over.

Scope of the Project

The main objective of the project is to design the smart stick that tracks the elders with the help of an integrated GPS and sensors and alerts the authority when the person crosses the virtual zone boundary using GSM and With Android Phone. It aims to share out a novel idea of the implementation of a smart safety cane for detecting and notifying sudden fall and medical emergencies using existing smart phone hardware and software.

Hardware requirements

ARDUINO UNO microcontroller, Ultrasonic sensor, Temperature sensor, Heartbeat & Touch sensor, Switch ,Wire and Screws etc, Accelerometer, GPS Transmitter and Receiver

Arduno Uno Microcontroller

The Arduino Mega 2560 is a microcontroller board based on the ATmega2560. It has 54 digital input/ output pins (of which 15 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button.

Ultrasonic Sensor

Ultrasonic ranging module HC - SR04 provides 2cm - 400cm non-contact measurement function, the ranging accuracy can reach to 3mm. The modules includes ultrasonic transmitters, receiver and control circuit.

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU

CERTIFICATE

This is to certify that **Ms.D.Lakshmi Devi**, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "Smart Stick for Elders safety" in the Sector COMPUTER SCIENCE AND ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2018-2019.

Chennai-600025
20.07.2019

DR.R.SRINIVASAN
Member Secretary

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU

CERTIFICATE

This is to certify that **Ms.K.Dhanalakshmi**, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "Smart Stick for Elders safety" in the Sector COMPUTER SCIENCE AND ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2018-2019.

Chennai-600025
20.07.2019

DR.R.SRINIVASAN
Member Secretary

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU

TNSCST

CERTIFICATE

This is to certify that Ms.V.Ishwarya, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "Smart Stick for Elders safety" in the Sector COMPUTER SCIENCE AND ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2018-2019.

Chennai-600025
20.07.2019

DR.R.SRINIVASAN
Member Secretary

No.CSE-011/2019

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU

TNSCST

CERTIFICATE

This is to certify that Ms.K.Kuhaga Preetha, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled "Smart Stick for Elders safety" in the Sector COMPUTER SCIENCE AND ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2018-2019.

Chennai-600025
20.07.2019

DR.R.SRINIVASAN
Member Secretary

No.CSE-011/2019

To

The Chairman,
Arunai Charitable Trust,
157/16, Siva Flats,
20th Main road, Anna Nagar,
Chennai – 600 040.

01.08.2018

Respected Sir,

Sub: Submission of Application for Financial grand for the students projects – Krishnasamy College of Engineering & Technology, Cuddalore – Reg.

Ref: Your office letter, dated 11.06.2018.

Greetings. First, we submit our heartfelt gratitude for your kind financial grands rendered to our student projects during the last year academic year.

With reference to your office letter cited above, I am herewith submitting the list of four different projects of our students which are recommended by our Research and Development Cell for financial grant. The particulars of the project, students name and Project supervisor name for the academic year 2018 -19 is enclosed herewith for your kind perusal.

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students
Ms.K.Indhumathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Solar Optiverter-A novel hybrid approach to the photovoltaic module level power electronics	**Akalya.D Janani.R**	Electrical and Electronics Engineering
Mr.R.Rajasekar Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Ultra-compact optical encoder using photonic crystal platform	**Sivaranjani.J Sridevi.S Madhuharani**	Electrical and Communication Engineering
Ms.P.M.Kamatchi Assistant professor Krishnasamy College of	Recurrence and Non recurrence prediction of	**Aruna.M Malathi.S Thamizh selvi.K**	Computer Science and Engineering

Engineering and Technology, Kumarapuram, Cuddalore-607109.	uterus cancer in big data		
Mr.G.Sethilvel Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Investicate and effect on performance of diamond and circular shape PIN-FIN arrays	**Asfaq Ahamed.S Harikeerthi.M Jeeva.M**	Mechanical Engineering

The recommended project proposal for financial grant is forwarded after getting the acceptance from, **Dr. K. Rajendran**, Chairman, Sri Krishnasamy Reddiar Educational Trust, Cuddalore.

I request, the recommended projects may kindly be considered and financial grant be sanctioned from your end.

Thanking you,

Yours truly,

PRINCIPAL

o/c

7/2/18

10/9/18

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Chennai

10.09.2018

The Chairman,
Krishnasamy college of Engineering & Technology,
Nelikuppam Main Road,S Kumarapuram,
Cuddalore – 607 109

Sub : - Financial Grant to Recommended student – Reg.
Ref: - Recommendation letter dated 01.08.2018

With reference to the recommended applications for financial assistance for the student projects from you on 01.08.2018, We are enclosing the KVQ cheque No.000525 dated 09.09.2018 for Rs.20,000/–towards financial assistance to the recommended Students Projects. Kindly acknowledge the receipt by signing the enclosed voucher and return back to us.
Thanking you.

Your Frienly,
For Arunai Charitable Trust

K.Chandrasekaran
(Treasurer)

Encl: KVB Cheque No. 000525 & Voucher

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Research/Project Grant 2018-2019

UTILISATION CERTIFICATE

1 Name of the guide & Address : MS. K. INDHUMADHI
Assistant profesor
Department of Electrical and Electronics Engineering

2 Name of the student(s) : D. AKalya
R. Janani

3 Title of the project : Salar optixerter - A Novel hybrid approach to the Pholovaltaic module level power electronics

4 Department/Institution Name & Address : Electrical and Electronics Engineering, Krishnasamy College of Engineering and Technology, B. Kumarapuram Cuddalore - 607109.

It is certified that a sum of Rs 5000 (Five thousand only). sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

SOLAR OPTIVERTER – A NOVEL HYBRID APPROACH TO THE PHOTOVOLTAIC MODULE LEVEL POWER ELECTRONICS

A PROJECT REPORT

Submitted by

D.AKALYA 421315105001

R.JANANI 421315105008

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRICAL AND ELECTRONICS ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE-607 109

ANNA UNIVERSITY::CHENNAI 600 025

MARCH 2019

ABSTRACT

Power supply from the national grid is inefficient and unreliable hence the need to provide alternative source of power. It is imperative that if the country is to be self-sufficient in power generation, transmission and distribution. It must be based largely on indigenous engineering initiative and researches to design develop and manufacture local based renewable energy. In this project the concept of an Optiverter is proposed as a novel ciass of photovoltaic (PV) module level power electronics systems. Functionally, the Optiverter is a hybrid technology that combines the ultra-wide maximum power point tracking (MPPT) voltage window of the PV power optimizers with the direct AC connectivity and inherent safety of the PV microinverters. The advanced multimode control with variable DC-link and the shade-tolerant MPPT algorithm, the proposed Optiverter ensures efficient energy harvest from the PV module in different shading scenarios.

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Certificate

This is to certify that ~~Mr.~~ / Ms. AKALYA.D (EEE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled SOLAR OPTIVERTER -A NOVEL HYBRID APPROACH TO THE PHOTOVOLTAIC MODULE LEVEL POWER ELECTRONICS under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
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Certificate

This is to certify that ~~Mr.~~ / Ms. JANANI.R (EEE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled SOLAR OPTIVERTER - A NOVEL HYBRID APPROACH TO THE PHOTOVOLTAIC MODULE LEVEL POWER ELECTRONICS under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018-2019.

Principal

Dr. K. Rajendran
Chairman

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Research/Project Grant 2018-2019

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. R. RAJASEKAR
Assistant professor
Department of Electrical & communication Engineering

2 Name of the student(s) : Sivaranjani. J
Sridevi. S
Madhuharani

3 Title of the project : Ultra Compaul -optical Encoder using photonic crystal plbct from

4 Department/Institution Name & Address : Electrical & communication Engineering/ Krishnasamy college of Engineering and Technology, S. Kumarapuram, Cuddlore 607109

It is certified that a sum of Rs 5000 (five thousand only). sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

ULTRA COMPACT OPTICAL ENCODER USING PHOTONIC CRYSTAL PLATFORM

A PROJECT REPORT

Submitted by

J.SIVARANJANI (421315106025)

S.SRIDEVI (421315106026)

V.MADHU BARANI (421315016701)

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHOLOGY

CUDDALORE -607 109

ANNA UNIVERSITY:: CHENNAI - 600 025

MARCH-2019

ABSTRACT

Optical encoders are circuits that are used in the design of optical processor. To reduce the size of optical devices, it is necessary to design small-scale logic circuits. In this study an all-optical 4x2 encoder based on 2D photonic crystals, was designed and simulated. This simple structure of this optical encoder makes it possible build it in optical integrated circuits. Owing to its low dimensional structure and the use of simple defect paths, the delay time of the encoder will be reduced and so, the data bit rate will be increased. Another characteristic of the proposed optical encoder is that the output optical power in "0" logic state is very low, which increases the contrast ratio as compared to the previous work. Finite-difference time-domain and plane-wave expansion methods where used to analyze the structure and optimize the optical encoder.Furthermore, the presented device has numerous advantages such as simple structure very low power consumption, high speed of operation, high data rate and a good contrast ratio.

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Certificate

This is to certify that ~~Mr.~~ / Ms. Sivaranjani. J. (ECE - IV year) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled Ultra - Compact Optical Encoder using Photonic Crystal Platform under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr.~~ / Ms. SRIDEVI.S (ECE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled ULTRA-COMPACT OPTICAL ENCODER USING PHOTONIC CRYSTAL PLATFORM under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019.

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr.~~ / Ms. MADHUHARANI (ECE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled ULTRA - COMPACT OPTICAL ENCODER USING PHOTONIC CRYSTAL PLATFORM. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019.

Principal

Dr. K. Rajendran
Chairman

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Research/Project Grant 2018-2019

UTILISATION CERTIFICATE

1 Name of the guide & Address : Ms. P.M. Kamatchi.
Assistrant profever
Department of computer science and Engneering.

2 Name of the student(s) : Aruna.M
Malathi.S
Thamizh Selvi.K

3 Title of the project : Revverence and non reverence prediction of cubrecus concer in big data

4 Department/Institution Name & Address : Computer Science & Engneering
krishnasamy college of Engneering and Technology
S.Kumarapuram. Cuddalore. 607109.

It is certified that a sum of Rs 5000 (five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

P.M. Kamatchi
Signature of the Guide

C. Rathika
Signature of the HOD

Signature of the Principal

RECURRENCE AND NON RECURRENCE PREDICTION OF UTREUS CANCER IN BIG DATA

A PROJECT REPORT

Submitted by

M.Aruna

S.Malathi

Tamilselvi

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY CUDDALORE- 607109

ANNA UNIVERSITY:: CHENNAI – 600025

SEPTEMBER-2018

RECURRENCE AND NON RECURRENCE PREDICTION OF UTREUS CANCER IN BIG DATA

Mrs.P.M.Kamatchi, M.Aruna, S.Malathi, K.Thamizh selvi.

Department of Computer Science, Krishnasamy College of Engineering and Technology, Cuddalore,

Abstract

Women have recovered from breast cancer always fear its recurrence. This project aims to compare the accuracy of a few existing data mining algorithms in predicting uterus cancer recurrence and non- recurrence period. The early prediction of the recurrence and non-recurrence can help the patient receive treatment earlier. The recurrence and non-recurrence period are predicted through the three renowned classifiers namely, Neural Networks, Hidden Markov model and Linear Filtering. The prediction of the uterus cancer recurrence period is done by analyzing the image format health records of the patient.

Keywords: Data mining, Convolutional neural network (CNN), Hidden Markov Model, Cervical Cancer

Introduction

Early detection and treatment of cancer is essential to increase the survival rate and life quality of patients with cancer. According to Cancer Research UK, for breast cancer and prostate cancer, the most common cancer in women and men respectively, a five-year survival rate is almost 100 percent if diagnosed at/before stage

Currently, cancer is typically not diagnosed until patients show symptoms, such as vomiting and dizziness. However, in most cases symptoms are only noticeable at later stages, and both patients and doctors will not suspect cancer in the first place even if symptoms appear. It is thus preferable to find a reliable method to check cancer using routine check-up samples (*e.g.*, blood samples), and to "red-flag" suspected cancer samples for further tests even before the symptoms appear.

Mass spectrometry offers an affordable and fast solution to collect chemical information as much as possible from saliva, blood, or other samples, which has been widely applied in pharmaceutical companies for drug screenings and testing.

In general, mass spectrometry differentiates chemicals by their weight or mass, and it is of high sensitivity even with low concentration of chemicals. Moreover, the mass spectrometry analysis typically uses tiny samples (milligrams), takes minutes to finish, and can be easily coupled with robotic sample preparation techniques, which is an ideal approach for high throughput chemical screening and testing.

However, too much information means that it is difficult to find which mass is determinant for cancer diagnosis, even for experienced professionals. Common practice is that people predict cancer based on a limited number of known cancer determinant chemicals (or standards), which will cause lots of misclassification due to sample variances.

Big Data Health Informatics

Big data in the sense it has huge collection of the information, it is normally represented by using the velocity, veracity, volume, variety and value terms [11]. In big data volume represents the size of the data, veracity represents that the genuineness of the information, velocity measures the pace at new data generation, variety represents that the different complexity of the information and value used to measure the quality of the data. Thus the big data approach is used to store the health informatics which is used during the disease diagnoses and the treatment. In this paper the big data based data set is used to analyse and detect the ovarian cancer because, the data set consist of multi scale information such as MRI details, recording, treatment, disease related symptoms, DNA micro data and so on. In the health informatics data set having different level [12] of health information which are mention as follows, bioinformatics, neuro informatics, clinical informatics, public health information, micro level data which means molecules, tissue level data, MRI details, patient level data such as monitored information, mission data and social data which are retrieved from the social medias such as Face book, twitter, Google and so. The social media data having the list of patient and user queries, doubts and general symptoms which are used during the diagnosis, treatment and prescription. Then the overall goal of big data analysis in the health informatics is providing the different variety of data's with low cost and high quality.

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Certificate

This is to certify that ~~Mr.~~ / Ms. ARUNA. M (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled RECURRENCE AND NON RECURRENCE PREDICTION OF UTERUS CANCER IN BIG DATA. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
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Certificate

This is to certify that ~~Mr.~~ / Ms. MALATHI. S. (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled RECURRENCE AND NON RECURRENCE PREDICTION OF UTERUS CANCER IN BIG DATA under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019.

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr~~. / Ms. THAMIZH SELVI . K (CSE - IV YEAR) of Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled RECURRENCE AND NON RECURRENCE PREDICTION OF UTERUS CANCER IN BIG DATA. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2018- 2019

Principal

Dr. K. Rajendran
Chairman

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(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2018-2019

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mr. G. SENTHIL VEL
ASSistant - professor
Department of Mechanical Engineering

2 Name of the student(s) : Asfaa Ahamed . S
Harikoorthi . M
Jeeva . M

3 Title of the project : Investicale and effect on performance of Diamond and Circular shape PIN-FIN Arrays.

4 Department/Institution Name & Address : Mechanical Engineering
Krishnasamy college of Engineering and Technology,
B. kumarapuram, cuddalore
PIN - 607109

It is certified that a sum of Rs 5000 (five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

Signature of the HOD

Signature of the Principal

INVESTICATE AND EFFECT ON PERFORMANCE OF DIAMOND AND CIRCULAR SHAPE PIN-FIN ARRAYS

A PROJECT REPORT

Submitted by

ASFAQ AHAMED.S	421315114003
HARIKEERTHI.M	421315114010
JEEVA.M	421315114012

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

DEPARTMENT OF MECHANICAL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE – 607 109

ANNA UNIVERSITY: CHENNAI – 600 025

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ABSTRACT

Now a day in electronic components and many industrial applications, internal heat generation can cause serious over heating problems and sometimes leads to system failure. The temperature of modern electronic components should not exceed the manufacturer's recommendations, so that reliable operation can be ensured. Due to wide applications and miniaturization of electronic components an efficient cooling technique is needed

An experimental investigation has been performed to study the heat transfer and pressure drop characteristics for circular fins. The effect of pin-fin spacing in both the stream wise and span wise directions and the rate of heat dissipation from the heat exchanger for different air flow rates have been examined.. From the experimental result it is observed that the heat transfer rate is higher at lower inter fin distance. Further heat transfer co-efficient increases with increasing mass flow rate in both stream wise and span wise directions. The better heat transfer rate was achieved when the clearance ratio is zero compared to C/H=0. From the experimental results it is observed that the square pin-in array gives better performance than the circular arrays.

A brief Introduction about the pin-fin array is given in Chapter 1, Chapter 2 gives the various Literature survey from reputed international journals. The heat transfer from protruding surfaces and different types of cooling systems are given in chapters 3 and 4. Experimental used in this study is explained in chapter 5. In chapter 6 working process of measurement described. In chapter 7 the data reduction and Results and Discussion are given. In Chapter 8 deals with a brief conclusion.

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