Third International conference on Communication and Information Processing

26 - 27 June, 2021

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ICCIP 2021

Organized By

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S (NMVPM'S)

NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

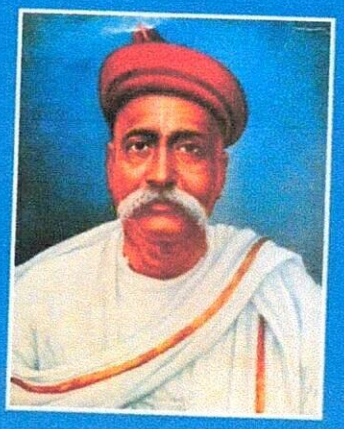
TALEGAON DABHADE, PUNE - 410507, INDIA

Under Management Support of Pimpri Chinchwad Education Trust (PCET)

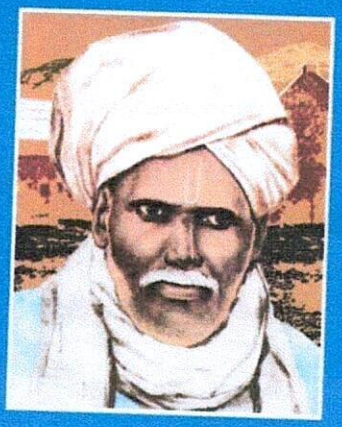
Approved By AICTE- New Delhi, Government of Maharashtra and DTE Mumbai

Affiliated To Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere

Our Inspiration



Lokmanya Bal Gangadhar Tilak



Annasaheb Vijapurkar

ESTD : 1906

NUTAN COLLEGE OF ENGINEERING & RESEARCH
योग कर्मसु कौशलम्
Skilled Engineers for Industry

Engineering Education through Modern Pedagogical Approach

Located in the Industry Hub of Taleagaon MIDC with over 200+ MNCs like GM, Mercedes Benz, JCB, TetraPak and Close to Hinjewadi, Bhosari, Pimpri Chinchwad MIDCs

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL's

NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

Under Management Support of Pimpri Chinchwad Education Trust (PCET)

Approved by All India Council for Technical Education (AICTE) - New Delhi, Affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere

www.NCERpune.in

NCER has been awarded with Best Skill Based Engineering Institute in Maharashtra, 2018-19 and Educational Institute with Best Academic and Industry Interface, 2019-20.

About Trust PCET & Nutan

NMVPM is a highly respected, well established and successfully operating education society for 113 years in Maharashtra with fonunder member Shri. Lokmanya Tilak and Shri. Annasaheb Vijapurkar. The organization has 14 institutions with senior, junior colleges and CBSE Schools under its ambit. Nutan Trust has been privileged to receive management support from the highly prestigious **Pimpri Chinchwad Education Trust (PCET).**

Industry & Skill Based 4 Year B.Tech. Courses

DTE CODE: 6419

No.	Course Name	Intake
01	Computer Science & Engineering	120
02	Computer Science Engg. (Artificial Intelligence)	60
03	Electronics & Communication Engineering	60
04	Mechanical Engineering	120

Eligibility : HSC (Science as per Maharashtra Govt. Norms)

About NCER

Looking at the current Industry requirement PCET & NMVPM has started a four year B.Tech. Degree course under the brand - Nutan College of Engineering and Research (NCER). NCER is an Industry and Skill based engineering college which is located in Pune affiliated to India's leading Technological University - Dr. Babasaheb Ambedkar Technological University (DBATU). The college plans to bring Industry and Academic Interaction through a Skill based hands on industry oriented syllabus. Due to its strategic location of being situated at the industrial hub of Pune, students get access to high quality technical education through immersive industrial experiences.

- Skill based Engineering College in Pune with excellent placements.
- Located in the Industrial Hub of Pune with over 2000+ MNCs
- 140+ MOUs with leading firms partnering with MIDC
- University and Industry tie-up promote and support start ups.
- Regular Industry visits to Promote Apprenticeship Model of Learning by Doing
- Exposure to foreign language like Japanese and German as part of extra Curriculum.
- Employability Skill Assessment test for everyone
- Daily Sports hour to promote Physical Fitness and to reduce mental stress
- Disciplined academic culture and Excellent academic results
- Innovative Syllabus with an Industry Immersive Course Structure and project based learning
- Dedicated 1 month Induction program to teach students Emotional Intelligence/ Negotiations/ Soft Skills
- Defined Internship is part of curriculum

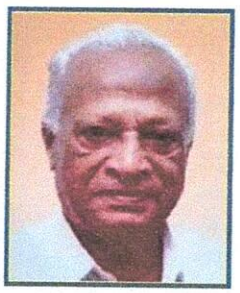
Central Placement Cell

(Maharashtra's Leading Placement Cell with a Renowned Legacy)

PCCOE, PCCOE&R, NMIET and NCER are having Common Central Training and Placement Cell

Management Team:-

Patron



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(Established by Government of Maharashtra and Governed by Dr. Babasaheb Ambedkar Technological University Act No. XXIX of 2014)

Vidyavihar, Lonere – Raigad 402 103 (Maharashtra)

www. dbatu.ac.in

Dr. S. B.Deosarkar

Professor and Officiating Registrar

It gives me an immense pleasure to know that the Second International Conference on Communication and Information Processing (ICCIP- 2021) is organized by Nutan College of Engineering & Research, Pune (Maharashtra)-India from 26th to 27th June 2021 under the aegis of Dr.Babasaheb Ambedkar Technological University, Maharashtra.

With the advent of new technologies in the field of Engineering and Management, it is necessary to bring all the scholars at one place to exchange varied methodologies in the discipline.

I am sure, this conference will benefit to the academicians, researchers, scientist, and policy makers of Engineering and Management. Further to it ICCIP 2021 undoubtedly provide the platform to showcase and recognize the outstanding research capabilities of the young researchers.

I express my sincere gratitude to the various Experts and Keynote speakers and Technical Program Committee for their erudite expertise. I must take this opportunity to congratulate the delegates and participants for their significant contribution at ICCIP - 2021.

I wish ICCIP - 2021 a Great Success!

Dr. S. B.Deosarkar

Nutan College of Engineering and Research "Vishnupuri" Taljai Road Pune 410 507 Talegaon Dabhade

Nutan Maharashtra VidyaPrasarakMandal's

NUTAN COLLEGE OF ENGINEERING AND RESEARCH

DTE Code- EN-6419
Under Administrative Support of PimpriChinchwad Education Trust
(Approved by A.I.C.T.E,New Delhi, Govt.of Maharashtra & Affiliated to DBATU,Lonere)
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President	Vice President	Secretary	Principal

Ref.No.: NCER/2020 -2021/

Date: 26/6/2021

General Chair's Message

It gives me immense pleasure to announce that the "2nd International Conference on Communication and Information Processing (ICCIP-2021)" is organized by Nutan College of Engineering and Research (NCER), Pune from 26th to 27th June 2021.

NCER-started in 2018, is an industry and skill based engineering college which offers B.Tech. degree in Engineering and Bachelor of vocational degree (B.VOC). NCER provides practical & industry based learning and has MoU with 140+ industries.

This conference will provide a forum to academic researchers, practicing engineers and industry experts to present and discuss their recent work, technical advancement and new products. The thrust of the conference is to initiate a global discussion on the next generation technologies to ease the life of mankind, irrespective of their social and economical status. I am sure; this conference will benefit all the attendees. I express my gratitude to various experts and key note speakers for their scholarly expertise.

I am also grateful towards delegates and participants for their significant contribution in research papers. I am indeed thankful to the management of Nutan Maharashtra Vidya Prasarak Mandal (NMVPM), Pimpri Chinchwad Education Trust (PCET) and Dr. Babasaheb Ambedkar Technological University (DBATU, Lonere) for giving the opportunity to organize the international conference. I wish, the conference a great success.

Dr. Lalitkumar Wadhwa
Principal

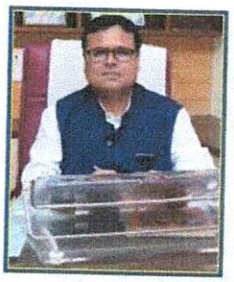
Nutan College of Engineering and Research "Vishnupuri" Tal.Maval Pune 410 507 Talegaon Dabhade

The Conference

General Chair

Dr. Girish Desai

Conference Chair



Dr. Lalitkumar Wadhwa

Principal

TPC Coordinator

Dr. Brijesh Iyer

Dr. BATU, Lonere

Conference Chair

Prof. Mrs. Aparna Pande

NCER, Pune

Preface

Dear Distinguished Delegates and Guests
Second International Conference on Communication and Information Processing (ICCIP-2021)" is organized by Nutan College of Engineering and Research (NCER), Pune from 26th to 27th June 2021.

We take this opportunity to express our deep gratitude to the speakers of keynotes and invited talks for accepting our request to share their words of wisdom. We also thank the reviewers and session chairs for their support. Let us thank the authors and delegates for their contributions and presence.

We are extremely grateful to Hon. Shri. Krishnarao Bhegade, Shri. Sanjay Bhegade, Shri. Santosh Khandge, Shri. Rajesh Mhaske, Shri Ramdas Kakade for their patronage and support from time to time.
Thanks are due to the administrative staff of the University for their Support. Finally, we have no words to thank all our colleagues, members of various committees, all the student volunteers, and research scholars without whose unflagging enthusiasm and delight efforts, this conference would not have seen the light of day.

We pledged to take this conference series to the greater heights in the years to come with the aim to put forward the need based research and innovation.
Thank you one and all.

Program Chair

Dr. Lalitkumar Wadhwa

Prof. Aparna Pande

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3rd International Conference on Communication and Information Processing (ICCIP) 2021

Nutan College of Engineering & Research, Talegoan, Pune, Maharashtra

26 June 2021 – 27 June 2021

The Schedule

Day & Date	Time	Event
Day 1 26th June 2021	10:30 AM to 11:30 AM	Inauguration of ICCIP 2021 Inaugural Talk by **Prof. Vishnu Priye** Director, IIIT, Ranchi-India
	12:00 PM to 12:45 PM	Plenary Talk by **Dr. Tamizharasan P S** Birla Institute of Technology & Science (BITS), Pilani Dubai Campus
	12:45 PM to 1:45 PM	Lunch
	2:00 PM to 5:00PM	Skype Three parallel Paper presentation sessions
Day & Date	**Time**	**Event**
Day 2 27th June 2021	10:30 AM to 11:15AM	Plenary Talk by **Dr. Satyanarayana Vollala** IIIT-Naya Raipur-India
	11:30 AM to 12:15 PM	Plenary Talk by **Dr. Sandeep Kumar** NIT Surathkal-Karnataka-India
	12:30 PM to 1:15 PM	Lunch
	1:30 PM to 5:00PM	Skype presentation session & Continuation of three parallel paper presentation sessions

ICCIP Schedule :-

Track: 1: Deep Learning and Machine Learning & Image Processing			
Date: 26-06-2021 Time:2 to 5 Pm Venue Skype Link:- https://join.skype.com/invite/Ur7Lb9SQ1GaR Volunteer:- Hritika(8108545679) & Ankita			
Session Chair: Dr. Swati Shinde, Professor,PCCOE,Pune			
Sr.	Paper ID	Title of the paper	Authors
1	2	SPDL-(Stock Price Prediction with Deep Learning)	Dr.Vaishali Ingle
2	10	Object Detection Techniques: A Survey on the State of the Art and Challenges	S.J.Fiona G.Sathiaraj
3	11	Proficient breakdown of malnourishment with machine learning exhausting CNN algorithm	Prasad Dhore
4	21	Agricultural Plant Leaf Disease Detection Using Deep Learning Techniques	Jashraj Karnik
5	33	A Review on Recent Challenges in Wireless Communication Channel Characteristic Identification	Niranjan S. Kulkarni
6	71	Music Generation Using Three-layered LSTM	Divit Adlakha
Image Processing			
7	5	Significance of dimensionality reduction techniques for fetal brain MRI analysis	Kavita Shinde
8	6	Role And Importance Of Image Fusion Techniques In Advanced Research	Vineeta Singh
9	17	3D Face Occlusion Detection and Face Recognition	Parth Agarwal
10	46	Survey Paper of the state of Sarcasm Detection and Explainable AILearning Techniques	Rupali Bagate
11	64	Handwritten character recognition using CNN	Sonara Hemangee
12	69	Image to Image Translation : Generating maps from Satellite Images	Pragati Patwal
13	89	Image Processing techniques for Inspection of fault in PCB	Kshitika Panhekar

Track: 2: Modern Technologies & Networking
Date: 26-06-2021 Time:2 to 5 Pm Venue Skype Link:- https://join.skype.com/wLlBKS8mcbSq Volunteer:- Ketan(8866325873) & Sonu
Session Chair: Dr. Sudip Thepade, Professor, PCCOE, Pune

Sr.	Paper ID	Title of the paper	Authors
1	30	4x4 Circularly Polarized Hexagonal Patch Antenna for Massive MIMO Base Station with Improved Isolation	Ravindra Bakale
2	62	M-ary QAM and M-ary PSK Modulation Techniques	Pranjal Dwivedi
3	66	Experiment Calculation of Material Dispersion in an Optical Fiber	Ratika Jadhav
4	67	Calculating Waveguide Dispersion in Optical Fiber	Samprit Gowd
5	73	Industrial Air Pollution Monitoring System Using LABVIEW AND ZIGBEE	Anjali Pachpute
Networking & Cloud Computing			
6	28	A novel approach for traffic accidents analysis using hierarchical clustering techniques	Kinnari Parikh
7	49	Cloud Computing based workload predication using cluster machine learning approach	Mukund Kulkarni
8	84	Mitigationof Virtual Machine (VM) Using Cloud	Mukund Kulkarni, Anil B. Nandgaonka
9	92	Study on Mechanical properties of FRP materials for Wind Turbine blade	Vishal Birajdar
10	96	Review Paper on Static Structural Analysis of Crankshaft of Single Cylinder Petrol Engine	Chinamy Dube
Track: 3: Embedded System Design			
Date: 26-06-2021 Time:2 to 5 Pm Venue Skype Link:- https://join.skype.com/wq0Ul9xse5wT Volunteer:- Dishant(8866325873) & Vaibhav			
Session Chair: Dr. D G Bhalake , Professor, AISSMS, Pune			
Sr.	Paper ID	Title of the paper	Authors
1	8	Robust Control Algorithm for Piezo-electric Energy Scavenging	Shailesh Shinde
2	12	Auto Power Control System From Four Different Sources	Vedant Kushwaha
3	29	3 Phase Induction Motor Protection and Parameter Monitoring using Arduino Uno based ATmega328 P microcontroller	Vaishnavi Fatate
4	31	Fingerprint door lock system by using arduino	Udayraj Patil
5	32	Accident Detection And Covid-19 Prevention Helmet	Gaurav Kakde
6	35	Development of low cost, portable, handy, uv sanitization unit.	Ayesha Pathan
7	37	0 Blackout avoidance by using Arduino	Akanksha Shiraskar
8	38	Railway Anti-Collision System Using Arduino Board	Kundansing Kayate
9	39	Light illumination control and precision system	Aniket Khachane
10	40	A Smart Safety Helmet for Covid Detection for Workers	Prajakta Hinge

Track:3 Embedded System Design
Date : 27-06-2021|Time : 1:30 to 5 Pm

Session Chair: Dr. Vilas Deotare , NMIET, Pune

11	41	Solar tracking system using Arduino	Omprakash Pachphule
12	42	Automatic USB Controlled Power Switch	Gopal R Hambarde
13	48	Energy Distribution Using Renewable Energy Sources	Vaishali Sathe
14	50	Minimizing Industrial Power Consumption Penalty by Engaging APFC Unit	Amit Rathod
15	56	Modelling of Dc-Dc converter for solar based electric vehicle	Meghana Borole
16	59	Timetable display system using Raspberry Pi	Aditya Malpure
17	74	Design And Construction Of An Arduino Based Solar Power Parameter Measuring System With Data Logger	Aniket Badhekar
18	81	Self Activating Sanitizer with Battery Imposed System For Cleaning Hand	Pragati Choudhari
19	82	Mitigation Of Voltage Sag/Swell Using Dynamic Voltage Restorer	Bhushan Chopade
20	86	Smart irrigation system for smart polyhouse using arduino uno based atmega328 p microcontroller	Rohit Bhosale
21	88	Footstep power generation using Arduino Uno	Amit Sutrave

Track: 4: IoT

Date: 27-06-2021 Time: 1:30 pm to 5 pm Venue Skype Link:- https://join.skype.com/yv4b39O0gVhG
Volunteer:- Kamlesh(8329898221) & Tanaya

Session Chair: Dr. Sagar Joshi, NMIET, Pune

Sr.	Paper ID	Title of the paper	Authors
1	34	Automatic Fault Detection & Location In Power Transmission Line Using Gsm Technology	Sidheshwar Patil
2	36	Voice Control Home Automation System Using Arduino Uno.	Sagar Ghodake
3	43	Wireless Power Transmission	Priti Patil
4	45	Smart Drainage Blockage Early Indication System	Amol Shinde
5	47	GSM Based Agricultural Motor Control	Swapnil Pujari
6	51	IoT Based Smart Power Transformer	Gurunath Sutar
7	52	IoT Based Smart Energy Meter Monitoring With Identification Of Electricity Theft	Prashant Jawale

8	54	IoT Based Performance Analysis of Multipurpose AGROBOT.	Sayali Dhore
9	55	IoT Based Prepaid Energy Meter	Swati Bansode
10	95		Ravindra Bhegade
		Track:4: IoT **Date : 27-06-2021 | Time : 1:30 to 5 Pm**	**Session Chair: Dr. Satyajeet Chincholkar , NMIET, Pune**
10	57	IoT Based Smart Energy Meter Using ESP 32	Mayur Pimple
11	58	Battery Management System for Electric Vehicles Based on the Internet of Things	Vishal Dandage
12	65	Smart Home Appliances Control And Security Measures Using IoT	Vaibhav Suryavanshi
13	70	Forest fire detection using Arduino based wireless sensor network	Adesh Chavan
14	76	IoT Based Greenhouse Monitoring And Controlling System Using Arduino	Akash Borkar
15	77	IoT Based Electrical Device Surveillance and control system.	Kuldeep Shinde
16	79	IoT Based Smart Irrigation System	Shraddha Sadavarte
17	80	Wireless & IoT Based 11KV Substation Monitoring And Controlling	Kajal Mahabare
18	83	IoT Smart Road Safety and Vehicle Accident Prevention System For Mountain Roads	Kailas Shinde
19	97	Online Veggies Mart	

All Tracks Contributes Paper

ICCIP 2021

Robust Control Algorithm for Piezo-electric Energy Scavenging

Shailesh Shinde, Ashitosh Chavan, Aniket Gundecha, Kaliprasad Mahapatro

Abstract:

The paper proposes a robust control algorithm for the piezoelectric energy scavenging in the presence of uncertainties. The nonlinear dynamics makes the piezoelectric actuators unstable and shows substantial uncertainty and disturbances in the output. In this study a closed loop step down DC–DC converter along with the Extended State Observer (ESO) is implemented. This paper proposes step by step design of buck converter and its linear mathematical model. The output of a buck converter is taken as a feedback along with the heuristic implementation of ESO. Extended state observer is designed such that it estimates the state and lumped uncertainties. The proposed algorithm is addressed to maintain the output voltage constant in the piezoelectric energy harvester under the uncertainties. The efficacy of the proposed algorithm is verified using MATLAB Simulink and the result shown in this paper showcase a better voltage regulation in the presence of uncertainties and wide range of dynamic input voltage.

Auto Power Control System From Four Different Sources

Kiran Srivastava, Vedant Kushwaha, Vivek Kumar, Yatendra Narayan, Vivek Singh

Abstract:

In today's fast-growing world. The energy demand is increasing with respect to time. So, our project is designed to give a continuous power supply. This project can automatically give a continuous power supply to the load. We have used foursources of supply that are Solar, Main Supply, Generator, and Inverter. These four sources are controlled by Arduino UNO ATMEGA 328pu microcontroller which provides input signals. A relay driver is used and it will sense and generate the output signal to a microcontroller and that specific relay provide a continuous power input signal. The relay will sense the amount of voltage after that it will give to a microcontroller to provide a continuous supply. In this project, weused a lamp or bulb for load demonstration purposes. Whenever primary supply fails it automatically transfer to the next available source. We have also used LCD which shows the availability of power.

3 Phase Induction Motor Protection and Parameter Monitoring using Arduino Uno based ATmega328 P microcontroller

Kolpe Gauri, Gosavi Rutuja, Fatate Vaishnavi, Prof. Santosh Gadekar

Abstract:

The tremendously developed and increased industrial sector demands for reliability along with the continuous and uninterrupted operations of the industrial appliances. The robust and easy to control feature of the Induction motor makes it most suitable motor in the era of the industrial development. As there are large demands for production to be increased. Therefore, the instances of maintenance and breakdown must be avoided to keep the continuity in production. Protection systems plays very important role in keeping the machine operated continuously without damaging. In this paper the 3-phase induction motor protection and parameter monitoring are presented. Here in this project the Arduino Uno microcontroller is used to read the voltage, current, operating power factor and phase sequence of the 3-phase ac supply of the motor. The predefined reference values are set in the microcontroller and based on actual operating condition the microcontroller takes the action to turn off the supply to the motor. This method is best suitable for the small applications. As in small applications the control of a smaller number of parameters is required. This project successfully protects the induction motor and the overall reliability of operation in maintained.

Fingerprint Door Lock System by using Arduino

Udayraj Patil, Rakesh Tiwari, Nikhil Patil, Prof. Ganesh Lohote

Abstract:

This paper portrays the Fingerprint door lock system by using Arduino. A door entry device may have a variety of applications, ranging from a basic keypad to smart cards and biometrics. The Arduino-based Door Access System was created to address the problems with existing systems in terms of upgrades and maintenance. A Fingerprint scanner is input in this project. The output, on the other hand, is a magnetic Solenoid lock. As when an authorized person puts his finger on the fingerprint sensor the door will only open for that authorized person whose fingerprint is matched with the stored fingerprint. Any technique by which a person may be uniquely recognized by assessing one or more distinct biological attributes is referred to as biometric verification. Using fingerprints as the key to door locks can greatly reduce the security problem of losing the keys and also unauthorized people trespassing into our homes, shops, offices, and other places because duplication is impossible with such a key. So, with the help of Arduino, we'll try to build a system with characteristics that will improve security. This project is trustworthy because it may improve the security of a door access system by using a simple technique such as Arduino.

Accident Detection And Covid 19 Prevention Helmet

Gaurav R. Kakde, Komal S.Sonar, Lalit M. Kore, Amruta K. Kapse

Abstract:

The effect when a motorcyclist includes in a fast mishap without wearing a protective cap is exceptionally risky and can cause casualty. Wearing a head protector can diminish stun from the effect and may save a daily existence. There are numerous nations implementing a guideline that requires the cruiser's rider to wear a head protector when riding on their bike, Malaysia is a model. It additionally recognizes liquor and Temperature sensor in head protector is utilized to distinguish Temperature of Driving Person. A mishap recognition and Covid-19 anticipation head protector are an exceptional thought which makes cruiser driving more secure than previously. The working of this mishap identification and Covid-19 avoidance protective cap is straightforward, vibration sensors are put in better places of cap where the likelihood of hitting is more which are associated with microcontroller board. So, when the rider crashes and the head protector hit the ground, these sensors sense and provides for the microcontroller board, at that point regulator extricate GPS information utilizing the GPS module that is interfaced to it. At the point when the information surpasses least pressure limit then GSM module consequently sends message to emergency vehicle or relatives.

DEVELOPMENT OF LOW COST, PORTABLE, HANDY, UV SANITIZATION UNIT

Ayesha Pathan, Gopal Rahane, Prashant Shinde, Prof. Swapnil Narkhede

Abstract:

Here is presented a room/hand disinfection device based in Ultraviolet-C radiation. Firstly, it was planned for the intermittent training of culture rooms. it has manually system that turns off and on the system. The system here defined is easily mountable to generate higher ultraviolet dosages addition more UV-C lamps. The experimental tests showed the very high efficiency of this device to eliminate large bacterial inocula. The sanitizing technique labouring by this device affects a very wide range of microorganisms and it has some advantages respect to chemical based-sanitizing methods. The total cost to make this opensource device is below 2000 Rs and it is easily customizable which is different respect to proprietary commercial devices actually we can available. This device represents an open source, secure, fast equipment for room hand and our personal equipment disinfecting. The device is arranged in less than three minutes.

Zero BLACKOUT AVOIDANCE BY USING ARDUINO

Akanksha Shiraskar, Shruti Patil, Amruta Pandharpatte, Prof.Krishnakant Kasar

Abstract:

Shortcoming area Isolation and administration rebuilding (FLISR) innovations are one of the conveyance mechanization devices projects are sent to give administrators more prominent into unsettling influences and naturally reroute ability to diminish the quantity of influenced clients from brought down electrical cables, deficiencies, or different aggravations. Despite of less and more limited blackouts for clients, FLISR innovations assist utilities with improving their standard unwavering quality measurements, for example, the framework normal interference recurrence file. In numerous states, upgrades in subsequent measurements are attached to utility monetary motivating forces, regularly through execution principles. Is Smart Grid usefulness that is getting more important in power conveyance networks these days, to guarantee the nature of force supply

Railway Anti-Collision System Using Arduino Board

Kundansing S. Kayatea , Sayali V. Chavhanb , Vinayak M. Panirec , Ganesh Lohoted

Abstract:

Indian Railways is one among the world's largest railway networks within the world, transporting over 18 million passengers and quite 2 million tonnes of freight daily. Hence, the safety of Indian railways becomes indispensible. The illegal removal of fish plates and collision on an equivalent track results in crash. our aim is to develop a radical system for monitor of fish plat es with help of relays and real time signalling by detecting plates removal. In our proposed system we record the trains on an equivalent track using the IR module. IR module interfaced with an ARDUINO board reads the geographical coordinates of the train’s position in order that the trains are often halted by applying emergency brakes and sending signals to both the train brake and control rooms. if this technique is implemented widely, train collisions and accidents are often avoided and amount of losses might be negated.

LIGHT ILLUMINATION CONTROL AND PRECISION SYSTEM

Khachane Aniket, Lohare Rameshwar, Kamble Akshay, Prof. N D Anwat

Abstract:

Based on the principle of firing angle control of thyristors, can control the illumination of lamp. A display unit displays the complete intensity or any percentage and one can enter the specified percentage to scale back the intensity[5]. The firing angle would be automatically adjusted to take care of the load power to the lamp such the entered intensity matches the specified one. The above operation is carried out by using two no's of SCRs connected in back to back or a TRIAC in series with the AC load. It uses microcontroller from 8051 family.

A Smart Safety Helmet for Covid Detection for Workers

Prajakta D. Hinge, Gayatri S. Gangapure, Priya G.Jagdale, Prof. Krishnakant. B. Kasar

Abstract:

According to a partner estimate, around fifty-a million people are rectangular degrees engaged with inside the creation-associated jobs in India. Last year, the speedy unfolding of the coronavirus pandemic got here as a critical blow to the globe's economic system that carries a huge effect on the industries and team of workers. While performing at the paintings, if abruptly someone begins to evolve to go through any abnormalities like boom in temperature or any abnormalities in heartbeat this causes the huge loss to the human fitness and commercial enterprise conjointly. To lessen this loss and to live in a wholesome putting this SH is introduced. SH includes a heartbeat detector, and a temperature detector. This may be familiar with coming across the temperature and consequently the odd heartbeat of the man or woman while working in commercial enterprise. This helmet will offer partner interest to the partner operator that minimizes the injuries

Solar Tracking System Using Arduino

Pachphule Omprakash, Waghmare Sunil, Valande madhavrao, Prof. Nitesh D. Anwat

Abstract:

This paper depicts the Solar Tracking System Using Arduino. The usage of non-environmentally friendly power sources and the ozone exhausting substances spread is a creating stress of the general gathering. Accordingly, the imaginative work of elective sources are compelling down the costs related with manageable force sources. Photovoltaic essentialness creation is the best instance of these remarkable creating rates at the latest years. Nevertheless, the yield control gave through the photovoltaic change measure depends upon sun-based brightening, and the step by step and infrequent improvements explicitly impact the power of radiation got in the sun-situated finders. Remembering the ultimate objective to improve the essentialness creation, this paper portrays the progression of a negligible exertion, twofold hatchets daylight-based tracker (DAST) with low force use.

Automatic USB Controlled Power Switch

Gopal R Hambarde, Shivkumar R Chandapure, Prasad G Bochre, Prof.Nitesh Anwat

Abstract:

Thet concept is to supply a circuit which uses the USB port of electronic devices as an automatic switch to regulate the input supply to the device. Energy wastage is one among the foremost severe problem faced nowadays.The wastage of energy from home appliances or electronic devices takes a major role in this problem. All electronic devices come with one or more USB port. The circuit uses these USB port to control the input supply. When TV or any other electronic devices is switched off using remote, its SMPS will consume a small amount of power which leads to the wastage of energy. This circuit gives a solution for such problem. Thus, as soon because the device get transitioned using remote, the whole supply to the device get turned off and saves energy. The device can again be switched on by pressing the push button in the circuit. The circuit protects the electronic devices from harmful initial surges.

Energy Distribution Using Renewable Energy Sources

Vaishali V.Sathe, Randhir J. Jadhav, Mahesh S. Akkalwad, Ganesh R. Lohote

Abstract:

Now a day's power is most required office for the person. All the standard energy assets square measure draining step by step . along these lines we've to move from standard to non-traditional energy assets . during this the blend of 2 energy assets is happens for example wind and elective energy. This technique castigates the property energy assets while not harming the character . we will give continuous force by exploitation half breed energy framework. essentially this method involves the combination of 2 energy system that may provide continuous power. star panels square measure utilized for changing elective energy and wind turbines square measure utilized for changing breeze energy into power. This force will use for varied purpose. Age of power are happens at cheap price. This project manages the age of power by exploitation 2 sources blend that winds up in produce power with cheap price while not harming the character balance.

Minimizing Industrial Power Consumption Penalty by Engaging APFC Unit

Amit Rathod, Sahil Jagtap, Jayesh Suryawanshi, Krishnakant Kasar

Abstract:

This paper introduces a technique to reduce power losses with the help of shunt capacitors in industries. Loss of power issue is illustrated in light of the fact that the quantitative connection of real power to apparent power. Thus, the increase in imaginary power leads to increase in power losses. By having low power loss issue, industrial sector wants a ton of energy to fulfill its interest that the strength diminishes. During this framework, we will in general extend the interference between zero voltage pulse and no current pulse delay produced by proper operation amp circuits in comparator mode and took care of into 2 intrude on pins in microcontroller. Microcontroller shows power losses due to inductive load by using alphanumeric display. By bringing the shunt capacitors into load by victimization relays, the designed system tries to reduce losses to zero. Here AVR family based 8-bit microcontroller is used.

MODELLING Of DC-DC Converter For Solar Based Electric Vehicle

Meghana Borole, Akash Bansode, Ambadas Kachave, Nilam N.Ghuge

Abstract:

Presently a days we are searching for substitute sources like electric vehicles, to chop down the contamination from cars which are developing quickly. In electric vehicles, A DC-DC converter is used to boost the voltage from solar photo voltaic (PV) array and isolated bidirectional DC-DC converter (IBDC) is used to charge and discharge the battery. In this paper, the proposed utilization of quadratic twofold lift converter (QBC) instead of DC-DC converter, which has high increase when contrasted and ordinary converter. In disengaged bidirectional DC-DC converter, delicate exchanging is accommodated lessen the turning misfortunes and weights on switches. The proposed two DC-DC converters are demonstrated and mimicked utilizing MATLAB Simulink and results are appeared in this paper.

TIMETABLE DISPLAY SYSTEM USING RASPBERRY PI

Aditya Malpure, Khushali Bhivsan, Harshawardhan Tule, Nitesh Anwat

Abstract:

Presently a days for the most part dealt with issue by numerous establishments was planning the schedule according to the Changes if a worker is missing. There are different programmed plan booking frameworks as of now exist yet the issue emerges when any individual of power can't go to work for that day. The primary point of this is to plan the work process and make change in the work process of an association when unexpected changes are required. The progressions can be effortlessly done when any worker can't be available at his work then it should be finished or supplanted by another representative. So here Raspberry Pi is utilized to deal with the framework work process, which have booted with data about the timetable and associated with other framework for alterations, which can be even changed by the authority with the assistance of android application with the assistance of Wi-Fi immediate or static IP address.

Design of an Arduino Based Solar Power Parameter Measuring System with Data Logger

Aniket Badhekar, Abhijit Badhekar, Mahesh Ghante, Krishnakant Kasar

Abstract:

Accurate observance and menstruation of star electrical phenomenon panel parameters are vital for solar energy plant analysis to judge the performance and predict the longer-term energy generation. There are perpetual challenges of obtaining such information without delay offered thanks to an immense quantity of cash to be spent on state-of-the-art instrumentation or the acquisition of reliable satellite weather information. This study geared toward the event of a cheap parameter-measuring system for a star electrical phenomenon panel exploitation Arduino silicon chipboard. The systems live 5 parameters, as well as voltage, current, intensity level, temperature, and pressure. The accuracy of the made device was observed by scrutiny the measured parameters thereupon of standard normal menstruation instruments that show sensible agreement.

Self-Activating Sanitizer with Battery Imposed System ForCleansing Hands

Pragati Chaudhari, Pratiksha Dake, Swapnali Jagtap, Swapnil Narkhede

Abstract:

This undertaking offers a short arrangement in regards to the mechanized hand wash sanitizer. The engine siphons the sanitizer fluid or answer to the human where as police examination the IR locator. The IR identifieris that the photodiode utilized for discovery the human hand finding and it's wont to the executives the engine siphon from the fluid. The engine is associated with A RC clock postpone arrangement and furthermore the lineassociated with a reducer territory unit wont to the board the streaming fluid of the sanitizer.

Mitigation of Voltage Sag/Swell Using Dynamic VoltageRestorer

Bhushan Chopade, Lakhan Chandapure, Farddin Inamdar, Santosh Gadekar

Abstract:

Force Quality drawback during a framework brings about changed unsettling influences like voltage variances, drifters and waveform contortions that winds up in a miss-activity or a disappointment of client instrumentation. This task gives the insights regarding procedure of rectifying the stock voltage list and swell conveyed framework. DVR upheld VSI rule. A DVR might be an arrangement pay gadget that infuses a voltage offbeat with that infuses a current into the framework to address the office quality issues. This paper depicts a savvy framework activity with PI regulator. Results region unit given to survey the presentation of gadgets as a potential custom force goal. Improve dynamic voltage the board thus increment framework load capacity. This paper gives specifying about plan in Simulink.

SMART IRRIGATION SYSTEM FOR POLYHOUSE USING ATMEGA328 P MICROCONTROLLER

Rohit Bhosale, Shriprasad Chate, Akshay Lad, Prof. S. D. Gadekar

Abstract:

When it comes to agricultural, irrigation is crucial. Because India is known for its agricultural outputs, numerous ways for irrigating a farm field are based on personnel, water resources, and most significantly, water availability. So, in order to save both time and water, we propose a method in which manual Labour is replaced with an automated system capable of autonomously irrigating fields without human intervention. Here is an automated system for a poly-house that includes a soil moisture sensor that detects the soil's moisture content and, based on that, the system operates the pumps and the irrigation process is carried out. Another parameter is the temperature within the poly-house, which will be sensed using a temperature sensor and the temperature cooling mechanism will be activated. Android will serve as a user interface via which the user may manage the machine while also receiving information about their agricultural land.

Footstep Power Generation Using Arduino UNO

Amit Sutrave, Yogiraj Chavan, Govind Dante, Nitesh Anwat

Abstract:

This project is to develop a brand new supply of renewable energy with low-priced budget with the assistance of Arduino Uno because the microcontroller. The footstep power generation system is to capture the usually wasted energy close a system and remodelling it into electricity. The technique employed in gaining the energy is via electricity materials. This methodology employs electricity parts wherever deformations created by dissimilar suggests that area unit directly reworked into electrical charge through piezoelectricity. Afterwards, the electricity may be regulated or keep for additional use. During this project, we have a tendency to area unit generating power as a non-conventional methodology by merely walking or running because the input supply.

AUTOMATIC FAULT DETECTION & LOCATION IN POWER TRANSMISSION LINE USING GSM TECHNOLOGY

Patil Siddeshwar, Mirajkar Saurabh, Kawale Mayur, Prof.Ganesh Lohote

ABSTRACT:

Numerous power transmission organizations across the world and Ghana, specifically, are constantly searching for approaches to use current advances, to improve the dependability of force supply to shoppers. These transmission organizations basically depend on circuit pointers (FCIs) to help with finding explicit spots inside their transmission lines where a force deficiency had occurred.[1] In this paper, a savvy GSM-based flaw recognition and area framework was utilized to satisfactorily and precisely demonstrate and find the specific spot where the shortcoming had happened. This will guarantee a more limited reaction time for the specialized group to amend these shortcomings and hence help save transformers from harm and debacles. The framework utilizes a current transformer, a voltage transformer, Atmega328 Microcontroller, a RS-232 connector, and a GSM modem.

VOICE CONTROL HOME AUTOMATION SYSTEM USING ARDUINO UNO.

Sagar Ghodake, Aishwarya Bilgunde, Aarti Hulwan, Prof. Amruta Kapse

ABSTRACT

This paper presents the development of home automation system(HAS) based on voice command using Android phone and Arduino uno. This system has been designed to assist and provide the support to elderly and disabled people at home to control the home appliances using Arduino uno. Voice control application has been used as voice recognition and process the voice input from the smart phone. the voice input has been captured by the android and it will be sent to the Bluetooth module in Arduino Uno received the signal and processed the input signal to control the light and fan. The proposed system intended to control electrical appliances with relatively user-friendly interface and ease of installation. We have demonstrated up to 10meter of range to control the home appliances via Bluetooth

WIRELESS POWER TRANSMISSION

Priti Patil , Rutuja Palwe , Shubhangi Pawar, Prof.Ganesh Lohote

Abstract

Wireless Power transmission means the transmission of power from power source to load circuit wirelessly. It is complex process but demand for electricity is more than amount being produced. The principle of Project is based on Faraday's Law of Electromagnetic induction. In this project we runs the High AC Frequency power transfer operation.

Smart Drainage Blockage Early Indication System

Amol Shinde, Prasad Amrutkar, Rihal Shaikh, Prof. Nitesh Anwat

Abstract

As There Are Many Blocked and Un-Cleaned Open Drains in The Country Which Causes Nonhygienic Situations Which Lead to Various Health Problems in Humans. Due to the Waterlogged street, There Are Many Road Accidents Which Lead to Harm To Men-Life. Sometimes Drains Are Not Regularly Cleaned by Drain Cleaners and There Is No Monitoring or Reporting of This. This Causes Blockage and Unhygienic Drain Leading to Bad Health. If Drainage System Gets Blocked and Water Overflows It Can Be Identified by The Sensor System. And That Sensor Sends Information Via the Transmitter Which Is Located in That Area to The Corresponding Managing Station. Smart drainage blocking System Checks for Blockage by Determining the Level of Water In The Drain, It Also checks The Level Of Harmful Gases (Methane Gas). If There Is Any Abrupt Increasing Change in Any of The Parameters, The System Directly Connects to The Municipality and Informs About This Along With the Location Where It Has Been Placed Through Message. also The Data Collected and stores Is Pushed To Cloud For Further Analysis Of The Area To Take Any Action to prevent heavy damage.

GSM Based Agricultural Motor Control

Pujari Swapnil, Raje Akashkumar, Sawant Akshay, Prof. Lohote Ganesh

ABSTRACT

This paper presents the IOT based smart energy meter to track the energy consumption automatically of the residential load. This meter is capable of sending the consumptions to the consumer as well as electricity supplier. The readings are taken automatically by using HLW8012 sensor. Then a predefined set of program calculates the total bill of energy consumed over the selected interval using ESP32 microcontroller. The bill is updated in the smartphone by employing a network of Internet of Things. This system eliminates the involvement of operator for manual methods of taking the meter reading and updating in the server for bill. The user can check the number of units consumed by the load at any time using the smartphone. In future this idea can be implemented for prepaid metering, which will eventually increase the revenue of the electricity distribution company.

Battery Management System for Electric Vehicles Based on the Internet of Things

Dandge Vishal, Bari Kunal, Kulkarni Mahesh, Nilam Ghuge

Abstract

The use of the Internet of Things (IoT) in monitoring the operation of an electric vehicle battery is described in this study. It is obvious that an electric car is completely reliant on a battery as a source of energy. The amount of energy given to the vehicle, on the other hand, is gradually reducing, resulting in performance decline. This is frequently a major source of concern for battery manufacturers. The idea of monitoring the performance of the vehicle using IoT techniques is proposed in this study, so that monitoring can be done directly. The suggested IoT-based battery monitoring system has two main components: a monitor and an interface. The system is capable of detecting deteriorated battery performance and sending notification messages to the user for further action, based on experimental results.

Smart Home Appliances control and security measures using IOT

Vaibhav Suryavanshi, Omkar Panchal, Mayur More, S. Narkhede

Abstract

Home automation structures have gotten commonness currently, paralleling advances within the risk of the web of Things. This endeavour exhibits the use of associate retiring home mechanization system, within the structure of helpful advancement. The system utilization depends upon the Arduino microcontroller together with Wi-Fi correspondences capability, and it's projected to be used by the older and other people with insufficiencies. The structure is something however tough to use, with associate instinctual interface dead on associate humanoid based mostly propelled mobile phone. Showings exhibit that the structure empowers management of home devices, lights, warming, cooling systems and security devices by the organized customers, i.e. the older and halting.

FOREST FIRE DETECTION USING ARDUINO BASED WIRELESS SENSOR NETWORK

Adesh Chavan, Rajeshree Gaikwad, Kalyani Kale , Nilam Ghuge

Abstract

This paper portrays forest fire detection using Arduino based wireless sensor network. Forest fire is repetitive phenomena, natural or man-made in many parts of world. In order to fight against this disaster, it is needful to carry a broad, adoptable approach that enable situational awareness and instant responsiveness. In this work, system that detect presence of fire via sensor and send information to monitoring center. The important feature is ability to remotely send an alert to server using node MCU where fire detected. This system also alerts the user using GPS module. Advantage of this system is it detect early fire.

IOT Based Greenhouse Monitoring and Controlling System Using Arduino

Shubham Bhujbal, Akash Borkar, Vrushabh Bhalerao, Manjusha Patil

Abstract

As the limitation of existing greenhouse plants is that it is not operated automatically and has to be operated manually with different records. For achieving better plant growth continuous monitoring and controlling of environmental parameters such as temperature, humidity, soil moisture, light intensity etc. are necessary for our greenhouse system. The system will show the undeniable common conditions, such as moistness, soil immersion, temperature, closeness of fire, etc. If any condition crosses certain limits related actuator will be turned ON. The sensors gives the signal and our microcontroller read it and choose correct action. The all information can easily get user by the android mobile phones.

IOT Based Electrical Device Surveillance and control system

Anil Gaikwad, Kuldeep Shinde,Swapnil Kamble, Krishnakant Kasar

Abstract

This research paper represent a design and prototype implementation of new surveillance and control system of electrical devices that uses Wi-Fi technology based upon IOT. With advancement in internet in terms of speed and knowledge, IOT (Internet Of things) is taking the market on next level and knocking the door with new opportunities for inventions. IOT based surveillance and control system helps save energy and allows to control from a distant place. Schedule, monitor and improve various aspects of our energy consumption.

Anil Gaikwad, Kuldeep Shinde,Swapnil Kamble, Krishnakant Kasar

IOT Based Smart Irrigation System

Shraddha Sadavarte, Priyanka More,Pratibha Tapkire,Manjusha Patil

Abstract

The Internet of Things(IoT) is reworking the agriculture business and sanctioning farmers to content with huge challenges they face during observation, conservation observation and plant & soil observation area unit the challenges wherever IoT are often an answer. The innovative IoT applications address the problems in agriculture and increase the standard, quantity, property and price effectiveness of agricultural production. Today's massive and native farms will leverage IoT to remotely monitor sensors that may discover soil wetness, crop growth and discover blighter and management their good connected harvesters and irrigation equipment.

IOT Based Monitoring and Controlling of 11KV Substation

Kajal Mahabare, Anushka Mund, Shukracharya Sathe, Nilam Ghuge

Abstract

This paper presents the IOT Based monitoring and controlling circuit breakers. Circuit Breaker is a significant segment of Industrial Electrical System. It is utilized for security and exchanging. Thus, dependable activity of Circuit Breaker is fundamental. Circuit Breaker ages over the long run and number of activities. This raises a worry with respect to unwavering quality of electrical switch activity. To discover dependability of electrical switch, it is general practice to complete preventive upkeep at fixed time spans. The principle detriment of this support approach is superfluous personal time and disconnected utilization of discrete diagnostics gear albeit the circuit breaker is sound. This builds the upkeep cost of circuit breakers.
Kajal Mahabare, Anushka Mund, Shukracharya Sathe, Nilam Ghuge

IOT Smart Road Safety and Vehicle Accident PreventionSystem for Mountain Roads

Kailas Shinde, Pranjal Shinde, Shivani Valhvankar, Swapnil Narkhede

Abstract

Within the upgrading countries accident is that the major reason for death. If we tend to remark dangerous roads within the world then all of them area unit mountain roads and curve roads. The intensity of the deaths area unit additional in incurved roads. Within the mountain roads there'll be slim roads with tight curves. In such forms of things the driving force of a vehicle cannot see vehicles coming back from alternative aspect. As a result of this downside thousands of individuals lose their lives every year. Whereas we tend to area unit talking regarding mountain roads here alternative aspect can be cause a drop-off.

A novel approach for traffic accidents analysis using hierarchical clustering techniques

Kinnari Parikh, Dr. Gayatrri S Pandi(Jain)

Abstract:

Reliably, two or three thousand people are dies on Indian road and a huge number get harmed. The most notable, forever happening purposes behind road accidents consolidate powerlessness to agree to the norms of the road traffic, low driving aptitudes got together with a vulnerability assessment of the situation making the rounds, nonappearance of adequate road structure similarly as helpless particular conditions of vehicles. It regardless of various measures that are being taken to improve security on roads, the quantity of dead and harmed due to road accident is still very high and the hardships procured by the general public are high too. We utilize hierarchical agglomerative cluster analysis for finding similarities in crash data variables, this cluster analysis use for improving the analysis of road accidents. It is created to recognize benchmark and fundamental districts for effective road security procedures.

CLOUD COMPUTING-BASED WORKLOAD PREDICTION USING CLUSTER MACHINE LEARNING APPROACH

Mukund Kulkarni , Dr. A.B. Nandgaonkar , S.L. Nalbalwar

Abstract:

In current history, cloud computing has dramatically changed the media. Despite the many advantages, certain problems often arise. Dynamic resource scaling and power usage are the major problems in cloud computing. These considerations contribute to an unreliable and expensive cloud framework. The working load forecast is one of the factors that enhance cloud reliability and operating costs. Exactness is the main element in predicting workload and current methods lag in achieving 100% reliable outcomes. Scientists are still continuously striving to better it. Throughout this article, we introduce a framework of workload prediction utilizing a cluster-based approach to machine learning. We consider a way of predicting that same amount of time even before the expected time to allow enough time for the job schedule based on the forecast workload. We add a clustering-based prediction approach to further increase the prediction accuracy. Initially, we group all activities in many classes and afterwards train a prediction model for every class.

MITIGATION OF VIRTUAL MACHINE (VM) USING CLOUD COMPUTING

Mukund Kulkarni , A.B. Nandgaonkar , S.L. Nalbalwar

Abstract:

Cloud computing allows users to migrate their calculations to a distributed environment which will utilize more resources to complete execution quickly. Virtualization means multiple virtual machines (VM) on a single physical machine. During the process of migration, VM moves one physical machine to another. In offline migration, the process is stopped till the virtual machine can continue on a target machine, while the live migration process can execute without interruption. Live migration is a migration during which the VM seems to be responsive all the time from the clients' perspective. A virtual machine (VM) is an emulation of a particular computer system. In cloud computing, Virtual machine migration is a useful tool for migrating Operating System instances across multiple physical machines. It is used to load balancing, fault management, low-level system maintenance, and reduce energy consumption. There are various techniques and parameters available for VM migration. This paper presents the various virtual machine migration techniques.

SPDL-(Stock Price Prediction with Deep Learning)

Vaishali Ingle ,Sachin Deshmukh

Abstract:

Stock market variation data is collected in the form of breaking news from various business web sites. The stock market trend changes with key financial reforms, weather conditions and political events. The dataset is created using financial news text data . The dataset features consists of TF-IDF of various companies of Bombay Stock Exchange (BSE) along with open, high, low price parameters for prediction. Research considers next day's stock price prediction using deep learning framework (SPDL). The data set is transformed by various deep learning techniques to get more accurate results. The proposed model produces approximately 85 % of accurate prediction with deep learning framework. The market trends in terms of high and low stock values are matching exactly. The research work is converted to Shiny Application (SPruH) .Google analytics is used to analyze usage of application. The results can be improved with use of high frequency trading algorithms in future.

Object Detection Techniques: A Survey on the State of the Art and Challenges

S J Fiona G Sathiaraj, S J Evelyn G Sathiaraj, Laxmi Bewoor

Abstract:

Object detection is a field of tremendous research as it has applications in a wide range of areas. Various machine learning and deep learning methods have been developed to date with deep learning leading the edge in the field of computer vision and object detection. Of the methods used till date, deep learning methods have proved to be very efficient in producing the most optimized outcome. The You Only Look Once (YOLO) method is a deep learning method to detect objects with the advantage of scanning through the entire image only once as against the other methods that scan the image multiple times thus producing efficient results in minimal time. We discuss various state of the art methods used for object detection along with the advantages and disadvantages of each of them.

Proficient Breakdown of Malnourishment With Machine Learning Exhausting CNN Algorithm

Prasad Dhore, Dr. Pramod Kumar, Dr. Prashant Kumbharkar

Abstract:

In this system we are elaborating concept of disease detection of human body using nail image of human fingers and analyzing data from the image of basic of nail color. In this paper the procedure of disease detection is as follows: The input to the system is a person nail image. The system will process an image of nail and extract feature of nail which is used for disease diagnosis. Here, first training data is prepared using Machine Learning from nail image of patient of specific disease. A feature extracted from input nail image is compared with training data set. In this paper we found that color feature of nail image are correctly matched with training set data. The final conclusion is to predict disease, this paper will use an abstract color feature of a human nail picture. The framework is based on human nail color analysis and relies on image recognition. The fitness of an individual may be determined by looking at their nails. A camera in this system is used to get an image of a human nail. The picture is uploaded to our device, and the nail area's region of concern is manually picked from the image. Additional therapy is then applied to the selected region in order to minimize nail features such as color. This nail color feature is matched using a basic training data set for disease prediction. As a consequence, the approach is beneficial for predicting early stages.

Agricultural Plant Leaf Disease Detection Using Deep Learning Techniques

Jashraj Karnik, Dr. Anil Suthar

Abstract:

Agricultural domain plays the vital role in our daily life. So, it is important to clear that measures are taken to detect any diseases on agricultural plants leaf. Plant leaf disease are major problem or factor to losses on crop in agricultural framing. As it become more important in detecting the disease some farmers are able to know all the disease name and how to prevent them. In different season different plant leaf disease comes. This can be solved through deep learning-based approach by detecting the region part images of plant leaf disease, so as it helps farmer to understand better about disease. Nowadays, in appealing area of research using preprocessing image techniques it involves the feature extraction for plant leaf disease, it will help farmer to make optimal decision quickly and accurate. In this research we have perform image pre-processing and data augmentation techniques to get better image, it will process better further. In this we have perform yolov3 classification for classifying plant leaf disease of pepper bell, potato and tomato. This proposed in divided into two stage part first classifier and second stage classifier where in first classifier it will preprocess of median filter and data augmentation is used and trained in yolov3 algorithm and in second stage classifier it will perform the extract plant leaf image output using Resnet50 based. So, it two step classification approach. Based this research work we achieved 94% accuracy of detection lead diseases.

A Review on Challenges in Wireless Communication Channel Characteristic Identification using Machine Learning

Niranjan S. Kulkarni, Sanjay L. Nalbalwar, Anil B. Nandgaokar

Abstract:

Channel characteristic identification is an important step in network engineering. Next-generation network is depending upon many parameters and tuning these parameters we can efficiently and intelligently manage the applications. Lately, AI-based network management technics are widely used in wireless communication. These technics gives an upper hand in detecting and managing network parameters intelligently. In this view, this research work focusses on recent progress in channel engineering with the help of various Machine Leaning algorithms and identifies challenges in channel engineering considering various applications.

Music Generation Using Three-layered LSTM

Vaishali Ingale, Anush Mohan, Divit Adlakha, Krishna Kumar and Mohit Gupta

Abstract:

This paper explores the idea of utilising Long Short-Term Memory neural networks (LSTMNN) for the generation of musical sequences in ABC notation. The proposed approach takes ABC notations from the Nottingham dataset and encodes it to be fed as input for the neural networks. The primary objective is to input the neural networks with an arbitrary note, let the network process and augment a sequence based on the note until a good piece of music is produced. Multiple tunings have been done to amend the parameters of the network for optimal generation. The output is assessed on the basis of rhythm, harmony, and grammar accuracy.

4x4 Circularly Polarized Hexagonal Patch Antenna for Massive MIMO Base Station with Improved Isolation

Anil B Nandgaonkara , S. B. Deosarkarb , Ravindra S Bakale

Abstract

In this paper we propose a circularly polarized 4x4 planar array antenna with mutual coupling less than -20 dB for Massive MIMO Base Station application. The design and implementation of 5G will be done with the help of Massive MIMO antenna. The proposed antenna contains four Hexagonal micro strip antenna using suspended substrate technique to enhance the bandwidth. The antenna have eight ports in the design process. Circular polarization is achieved using dual coaxial probe feed and arranging it orthogonally. The diagonal elements of antenna array have same CP while designing so that isolation is improved. Inter-element spacing of 4x4 antenna arrays is analyzed using ANSOFT HFSS for different spacing such as 0.57λ0, 0.64λ0 and 0.71λ0 where λ0 is free space wavelength of signal at 3.60GHz. Improved isolation is achieved at a spacing of 0.64λ. The antenna is fabricated on a FR4 substrate having dielectric constant of 4.4. The designed antenna has impedance bandwidth of 430 MHz (at S11= -10dB) and gain of 7.36 dB per port with axial ratio < 3dB over the operating impedance bandwidth. Measured and simulated results are found in good agreement

Simulation of M-ary QAM and M-ary PSK Modulation Techniques Using MATLAB GUI

Pranjal Dwivedi, Alok Ranjan, Ashish Srivastava

Abstract

The world has seen a transformation due to the recent pandemic. The field of education is drastically affected by it. There is a need to move from classroom teaching to online teaching, and the biggest hurdle is to impart practical knowledge. This paper attempts to study the concepts like M-ary Phase shift keying (PSK) and M-ary Quadrature amplitude modulation (QAM), used in modern-day communication systems, using a simulation platform. For this purpose, simulation using a graphical user interface (GUI) is proposed to study various M-ary PSK and M-ary QAM types. MATLAB is used to implement the GUI. The modulation, transmission, demodulation, and recovery of a signal implemented through the GUI will help learners understand the concepts better. Moreover, the constellation diagrams for M-ary PSKs and M-ary QAMs can be examined using the developed GUI.

Experimental Analysis of Calculation of Material Dispersion in Optical Fibers

Ratika Jadhav

Abstract

The intended evaluation of material dispersion in an optical fiber. Material dispersion occurs due to different optical wavelengths propagate at different velocities inside the fibers and it depends on refractive index of the material used in the fiber core. In this paper, the material dispersion of an optical fiber is calculated and studied.

Study of Waveguide Dispersion in Optical Fiber

Samprit Gowd

Abstract

Dispersion is a significant parameter in systems based on optical fiber. The numbers of channels those can be transmitted simultaneously are reduced by dispersion. The principle objective of this paper is to compute the waveguide dispersion and study the nature of graph. Different values of wavelength and refractive index are used. In this paper SciLab, an open source programming is utilized. Some other sort of dispersion and furthermore different parameters can be assessed utilizing SciLab.

Industrial Air Pollution Monitoring System Using LABVIEW AND ZIGBEE

Anjali Pachpute , Mansi Patil, Sapna Pawar , Swapnil Narkhede

Abstract

A ZigBee based remote sensor network is executed in this paper which is of minimal expense sun oriented controlled air quality observing framework. The principle objective of the proposed engineering is to interfacing different sensors to gauge the sensor simple information and showed in LABVIEW on the screen utilizing the graphical UI (GUI). The ongoing encompassing air quality checking in shrewd urban communities is of more noteworthy importance for the strength of individuals. The remote organization sensor hubs are put at various traffic lights in the shrewd urban areas which gather and report continuous information on various gases which are available in the climate like carbon monoxide (CO), nitrogen dioxide (NO 2), methane (CH4) and stickiness.

Study and Prototype Implementation of Basic Non-CAN and CAN Based Communication in Context with Automotive Applications

Umesh B. Pawar, Sunil. G. Bhirud, Satish R. Kolhe

Abstract

Controller Area Networks (CAN) are frequently utilised in vehicles to provide communication between Electronic Control units (ECUs) and sensors. The use of CAN implementations enables message based communication among different sections of vehicles. This results in reduction of complex and dedicated wiring for communication. The CAN has five significant benefits such as low cost application because multiple nodes communicate via a single bus, centralized system reduces the probabilities of error, CAN bus provides robustness, reliability, and flexibility with task priority management, and CAN bus provides robustness, reliability, and flexibility with task priority management. This paper focuses on study of Non-CAN based system which was used earlier inside the automotive applications. Also study of open source hardware like Arduino along with CAN Controllers like MCP 2515.In later part of the paper described laboratory experimentation of Non CAN based communication , CAN based communication by using ARM as well as Arduino. The prototype is successfully implemented and verified the outputs with the help of serial monitor. The visual output is observed and reported on LCD and LEDs.

Predictive Analysis of Type-1 and Type-2 Diabetes Mellitus Using Machine Learning

Jayanta Kiran Shimpi , Dr. L. Shakkeera

Abstract

Health care domain is important field where the predication and classification of value. The health care problem recognizes by WHO that the world suffers diabetics. Health care domain is a very hues volume of data needs to be handle very carefully and confidentially, various machine learning technique to examine the data, this data provide useful knowledge if the certain data mining technique are apply to this kind of data. Health care professional required to reliable prediction system to diagnose the diabetes. In the health care domain accuracy and efficiency is more important, so using the various classification technique and algorithmic strategy to address the problem's efficiently.

Review Paper on Static Structural Analysis of Crankshaft of Single Cylinder Petrol Engine

Chinmay Dube ,Neeraj Mohite, Bhushan Pawar, Mukund Kharde

Abstract

Crankshaft is one of the major component for efficient and accurate operation of the internal combustion engine. In this study, a static simulation is performed & presented related to crankshaft of a 4-stroke, single-cylinder petrol engine. This study addresses the tested single-cylinder engine crankshaft. It consists of static structural analysis of single cylinder engine crankshaft. Identifies and solves the problem using modeling and simulation techniques. The theme was chosen because of the growing interest in higher loads, lower weight, and greater efficiency. A three-dimensional model of petrol engine crankshaft is created using the CATIA software. Finite Element Analysis (FEA) is performed to get the magnitude of stress in the critical location of crankshaft. The preliminary static analysis is performed for the base design using ANSYS. The boundary conditions are applied according to the engine installation conditions. The analysis is performed to find the critical position on the crankshaft. Deformation, Von Mises stress obtained from the FEA study. Same Crankshaft is used for topological optimization. The same contour conditions are used for further study. The primary objective of the study is to minimize the weight of a crankshaft. Optimization is implemented by considering different production, feasibility and cost limits. The optimization process include geometry changes compatible with the current engine, reduced weight compared to existing design, cost of the crankshaft, without changing connecting rod or engine block.

Keywords — Crankshaft, Catia, Deformation, FEA , Stress, Ansys, Topology optimization,

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Study on Mechanical properties of FRP materials for Wind Turbine blade

Vishal Birajdar

Abstract

Wind Turbine is a mechanical device which converts kinetic energy of wind into the electrical power. From different components of the wind turbine, major components such as turbine case and blades are made up of glass fibers and carbon fibers for better strength and low corrosion resistance but the main limitations of these materials are non-biodegradable, health hazardous, their availability and its manufacturing cost hence the main aim of this research is to replace these materials with environment friendly, recyclable, low cost natural fibers. In this research work usability of natural fibers reinforced with different composites, their properties, strengths and defects are reviewed as well as future scope for natural fibers replacing glass fibers and carbon fibers as material for wind turbine blade is discussed.

Keywords— wind turbine blades, natural fibers, polymers, synthetic fibers, fiber reinforced composites.

Deployment of 5G technology and its effect on environment

Ravindra Bhegade

Abstract

It is expected that by end of year 2021 deployment of 5G networks will begin in India as many countries have already deployed 5G technology and have started its implementation. In India some environmentalist are opposing its deployment . But it is inevitable and due to huge demand in increased data rates it will be necessary to deploy 5G networks.. By 2030, the production and operation of 5G network equipment installed in the mobile networks is expected to cause emissions at a level of 0.018 Mt CO2e per year of network operation.

Therefore, as 5G mobile networks will cause only a small fraction of the GHG footprint of the ICT sector , measures to keep the GHG-footprint of ICT in small should target not only 5G mobile networks, but the whole ICT sector.

The selected use cases which benefit from 5G networks can avoid GHG emissions between 0.1 and 2.1 Mt CO2e by 2030. On the other hand, the non-5G equipment required for implementing the use cases will roughly cause additional emissions between 0.03 and 0.16 Mt CO2e by 2030.

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