Proceedings of the Ninth National Conference on Innovations and Advancements in Electrical Sciences

NCIAES'24

Organized by

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

KPR Institute of Engineering and Technology

(Autonomous, NAAC "A")

Learn Beyond

PREFACE

The Ninth National Conference on Innovations and Advancements in Electrical Sciences (NCIAES'24) was organised by Department of EEE, KPR Institute of Engineering and Technology (KPRIET). The KPRIET promoted by KPR groups, is a renowned autonomous institution that focuses to offer quality education to the younger generation to strengthen our nation in the field of Engineering and Technology.

The NCIAES emphasis on "Greener Energy for future Generation". The conference accomplishes on recent trends in the field of Electrical, Electronics, Communication and Computer Science Engineering. A substantial number of technical papers has been received in variety of disciplines for deliberations, the outcome of which is aimed at emerging trends in the respective field.

We would like to thank all participants for their contributions to the conference and for their contribution to these proceedings. It is appropriate that we record our thanks to our fellow members of the organizing committee for their support to make the conference highly successful. We would also like to bestow our appreciation to all the faculty members in making excellent logistical arrangements. The efforts set has made a great contribution to the success. The continuing success of conference like this will lead for fruitful upliftment in a continuous series.

Dr. K. MOHANA SUNDARAM, HoD/EEE

MESSAGE FROM ORGANIZING SECRETARIES

On behalf of the Organizing Committee, it is our pride and privilege to invite you for Ninth National Conference on Innovations and Advancements in Electrical Sciences (NCIAES'24) to be held in KPR Institute of Engineering and Technology, Coimbatore. All the faculty members of our department are eagerly looking forward to welcome delegates from various part of the country. Our college has sprawling lush green lawns and is spacious with buildings of architectural excellence. Coimbatore, Manchester of South India is known for its textile, motor industry, auto component industry, medical tourism and hospitality. Apart from this, the city has more than 50 colleges and five universities and has become an education hub of Tamilnadu.

Improving quality in Engineering is the dream and aspiration of all Engineers. This kind of conferences will definitely create a forum for young budding engineers and technocrats to discuss the advancements in the various fields of engineering. Amidst the power packed technical sessions, we, the organizing committee is committed to host a conference conducive to a plethora of knowledge sharing through key note addresses of eminent personalities. We hope that this conference will be a positive contribution towards building the youngest generation with good quality of technical skills.

We look forward to welcoming you all to KPRIET, Coimbatore and assure that your stay would be pleasant and productive.

Dr.I.BARANILINGESAN
Dr.G.SARAVANAN
Organizing Secretaries

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ABOUT THE INSTITUTION

KPR Institute of Engineering and Technology, one of India's premier institutes in Engineering and Technology was established in the year 2009. Since its inception, the Institute has been the catalyst for innovative teaching techniques, significant research, and industry interaction and has emerged as a prolific institution with international standards in the region. As a proactive research institution, the students and faculty members experience world-class education and develop sustainable solutions for real-world problems. KPRIET is best known as a leading centre for innovation, entrepreneurship and industrial consultancy. Realizing the dream of inclusive development, the institute contributes towards knowledge mobilization and social welfare activities like Corporate Social Responsibilities and Green Energy Initiatives. KPRIET is well-represented in rankings (NIRF band 100-150) and surveys that identify its leadership in academic performance, affordability, and student satisfaction. KPRIET is a top-notch institute with a strength of 260 eminent faculty members, 4000+ students, and 280 administrative and support staff. A self-contained campus, located in a lush green environment of about 66 acres, lies in the suburbs of Coimbatore, a metropolitan city of Tamil Nadu, a southern Indian state. The Institute has 12 academic departments with cutting-edge research centres in a variety of engineering and pure science disciplines, encompassing nearly 65 laboratories. Centres of excellence at KPRIET focus on providing transformative learning-edge knowledge through training programmes in a wide arena turning out industry-ready graduates. The training programmes offered would ensure that the students are trained in accordance to the diversified needs and lazoom-icon technologies for upgrading their technical skill. Academic alliance and Memoranda of Understanding with various International and National Universities, and industries facilitate global education amidst the learners of KPRIET. The alliances promote the exchange of students, faculty and industrial experts and encourage joint research projects for mutual benefits. Students pursuing their research projects in Universities and industries have brought remarkable laurels to the Institution. The academic courses at KPRIET are integrated with emerging trends and developments in the relevant sectors and industries meeting the societal needs at national and international horizon. With the emergence of new-age technologies, the future holds places for enterprising and resourceful professionals with a vision to offer innovative solutions and learn beyond. KPRIET trains the young minds to work towards such a vision and marches ahead pacing the rapidly changing world to make even the impossible, possible.

Vision of the Institute

To become a premier institute of academic excellence by imparting technical, intellectual and professional skills to students for meeting the diverse needs of the industry, society, the nation and the world at large.

Mission of the Institute

- Commitment to offer value based education and enhancement of practical skills.
- Continuous assessment of teaching and learning process through scholarly activities.
- Enriching research and innovative activities in collaboration with industry and institute of repute.
- Ensuring the academic process to uphold culture, ethics and social responsibilities.

Quality Policy

- KPRIET is committed to provide quality education and training for achieving academic excellence in the fields of Engineering and Technology to cater for the changing and challenging needs of industry and society
- KPRIET strives to consistently provide educational services to meet or exceed the requirements and expectations of students and other stakeholders
- KPRIET is committed to ensure a quality management system for conscious, consistent and catalytic improvement in all its core activities

VISION OF THE DEPARTMENT

To be a premier centre for quality education, innovation and research in the field of Electrical and Electronics Engineering to meet the global challenges with professional ethics and social consciousness.

MISSIONOF THE DEPARTMENT

- Provide a holistic environment to students through knowledge-centric and skill-based education
- Collaborate with industries for effective research and innovation in Electrical Engineering and allied areas
- Enable students to serve the society through prolific ideas with professionalism and ethical values

Department of Electrical and Electronics Engineering
KPR Institute of Engineering and Technology

KPRIET
Learn Beyond

"Ninth National Conference on Innovations and Advancements in Electrical Sciences"
(Hybrid Mode)

Meeting Link: https://meet.google.com/xit-agjz-ceq

Date and Session: 27/04/2024 FN & AN

Sl.No	Paper ID	Title	Authours	Time and Date
1	NCIAES 1013	NPK SENSOR	KARUNA PRAKASH M SATHESH A MANOJ K HARSHAVARDHAN M Dr.V.VIGNESH	09.30 AM-09.40 AM 27/04/2024
2	NCIAES 1014	DREAM DEFENDER	ABIRAMI K CHITHRA K SOWNDHARYA S VISHNU PRIYA V Dr.V.VIGNESH	09.40 AM-09.50 AM 27/04/2024
3	NCIAES 1015	SMART AGRICULTURAL SYSTEM USING IOT	JAIVANT S B RAGHAV S SUDHARSAN K V VINOTH S Dr.V.VIGNESH	09.50 AM-10.00 AM 27/04/2024
4	NCIAES 1016	IOT BASED ELECTRIC CYCLE	M.K.ANANDKUMAR DURGA PRASAD LIMBOO MOHAMMED MUKTHER.N SOUNDARRAJAN.R	10.00 AM-10.10 AM 27/04/2024

5	NCIAES 1017	ONLINE EVENT MANAGEMENT SYSTEM	GAJENDRAN A SAKTHI VIGNESH MANOJ KUMAR Dr.V.VIGNESH	10.10 AM-10.20 AM 27/04/2024
6	NCIAES 1019	SMART HOME APPLICATIONS	ARUN PRASATH DARSHAAN.S.P HARISH RAGAVENDAR.C ABISHEK S Dr.D.PRABAKAR	10.20 AM-10.30 AM 27/04/2024
7	NCIAES 1021	AUTOMATED LEAF DISEASE DETECTION FOR CROP HEALTH MONITORING	EBEY RAJ J.Y M KUMARESAN AMAL SAJI MUHAMMED IHJAS N N MOHAMMED MUSHTHAQ RAHMAN	10.30 AM-10.40 AM 27/04/2024
8	NCIAES 1022	DESIGN AND CASCADED PI CONTROLLER BASED FOR CONTINUOUS CONDUCTION MODE SEPIC CONVERTER	Dr.S.ARUN M.SEETHALAKSHMI K.M.NIVEETHA	10.40 AM-10.50 AM 27/04/2024
9	NCIAES 1024	DESIGN AND IMPLEMENTATION OF FUEL DISPENSER USING RFID	VIBISHRAJ RAJPRABHAKAR.P SANJAY.M JEEVAN BABU Dr.MUTHANANTHA MURUGAVEL	10.50 AM-11.00 AM 27/04/2024
10	NCIAES 1026	AUTOMATIC VEHICLE ACCIDENT DETECTION AND MESSAGING SYSTEM	SHAKTHI R AKSHAYA HARSHITHA K S SIBINESH S JAYARAJ J Dr.D.PRABAKAR	11.00 AM-11.10 AM 27/04/2024
11	NCIAES 1027	DESIGNING IOT FACE RECOGNITION ROBOT	BENITTA ROSE VIDHARSHANA S GOWTHAM SARAVANA MOORTHI Dr.V.VIGNESH	11.10 AM-11.20 AM 27/04/2024
12	NCIAES 1028	AUTOMATED GATE OPENING SYSTEM FOR RESTRICTED AREA USING IOT	YASWANTH D DEEPAK KUMAR S DEEPAK Dr.D.PRABAKAR	11.20 AM-11.30 AM 27/04/2024
13	NCIAES 1031	AUTOMATIC MEDICINE DISPENSER USING IOT	JENISHTA A INDU SNEHA M	11.50 AM-12.00 PM 27/04/2024

			Dr.MUTHANANTHA MURUGAVEL	
14	NCIAES 1032	ARTIFICIAL INTELLIGENCE-ENABLED TRAFFIC MONITORING SYSTEM	NITHYA.S NITHYASREE PREETHI S MUHITA S Dr.MUTHANANTHA MURUGAVEL	12.00 PM-12.10 PM 27/04/2024
15	NCIAES 1033	MATRIX BASED TECHNIQUES IN CRYPTOGRAPHY	S. SANJAY P.K. SREE LOGESH K.P. THILAGAVATHY	12.10 PM-12.20 PM 27/04/2024
16	NCIAES 1034	SMART ENERGY METER AND MONITORING SYSTEM USING IOT	RAJKUMAR P SANTHOSH T PATHMANABAN T Dr.D.PRABAKAR	12.20 PM-12.30 PM 27/04/2024
17	NCIAES 1035	BOVINEWELL: INTEGRATED COW HEALTH MONITORING & LIVESTOCK MARKETPLACE	VIDHYABHARATHI J AMIRTHA YOHALAKSHMI A DEEPIKA A VIGHNESH L SEVUGAN RAJESH J	12.30 PM-12.40 PM 27/04/2024
18	NCIAES 1036	INVESTING DEEP LEARNING BASED BREAST CANCER SUBTYPING USING MULTI-OMIC DATA	E. THANGADURAI S. RADHA R. LOGAMBAL A. GUNASUNDARI	12.40 PM-12.50 PM 27/04/2024
19	NCIAES 1037	IOT ENABLED PILL BOX FOR ENHANCED ELDERLY CARE	S. KAVIYA J. SURYA R. VASANTH VEL R. SAI ABISHEK	12.50 PM-01.00 PM 27/04/2024
20	NCIAES 1038	VOLTAGE SOURCE H-BRIDGE FIVELEVEL DEMAND BASED BOOST INVERTER	V.NIJANTHAN MIVIZHI Y SANKAR V SEETHA B	02.00 PM-02.10 PM 27/04/2024
21	NCIAES 1039	CASCADE MULTILEVEL INVERTER BASED ON SOFT COMPUTING TECHNIQUES	Dr.GUNASEKARAN R CHRISTA KAPLIN ESTHER P SHINE VARGHESE ABHINASH N.V RAGUL M	02.10 PM-02.20 PM 27/04/2024
22	NCIAES 1040	AI-POWERED SKIN CANCER ANALYSIS USING MACHINE LEARNING FOR EARLY CANCER DETECTION	YAZID MUSTHAFAA M KUMARESANB M I SHAIK ABDUL KADERC	02.20 PM-02.30 PM 27/04/2024

			I SHAJAHAND S SHANMUGA PRIYANE	
23	NCIAES 1041	SINGLE PHASE 11 LEVEL CASCADED MULTILEVEL INVERTER WITH HARMONIC MITIGATION	A.KUPPUSWAMY S.RANJANI P.MAHALAKSHMI S.ANGALEESWARI	02.30 PM-02.40 PM 27/04/2024
24	NCIAES 1043	DESIGN AND FABRICATION OF CUP BENZION MAKING MACHINE	Dr.T. VARUNKUMAR M. NAGARAJ R. PAVEEN R. PRIYADHARSHINI K.S. SANJAI NITHISH	02.40 PM-02.50 PM 27/04/2024
25	NCIAES 1044	IOT BASED SMART STAIRCASE LIGHT SYSTEM	PRADEEP KUMAR R MUTHUKRISHNAN S KAVIN KUMAR M PAVUN RAJ S Dr.V.VIGNESH	02.50 PM-03.00 PM 27/04/2024
26	NCIAES 1030	SMART WASTE MANAGEMENT SYSTEM USING IOT	RITHIKHAA LOGESHWARI I DHARSINI A SWETHA V Dr.D.PRABAKAR	03.00 PM-03.10 PM 27/04/2024
27	NCIAES 1012	SMART ZEBRA CROSSING SYSTEM USING IOT	AJMAL KHAN Dr.D.PRABAKAR	03.10 PM-03.20 PM 27/04/2024

Paper ID:NCIAES 1013

NPK Sensor

Karuna Prakash M [1], Sathesh A [1], Manoj K [1], Harshavardhan M [1], Dr.V.Vignesh[2]
[1]UG Scholar [2]Associate Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

In present day agriculture, optimizing nutrient control is pivotal for accomplishing sustainable crop manufacturing and ensuring meals safety. This assignment explores the usage of an NPK sensor to revolutionize traditional farming practices via enabling precise measurement of key soil nutrients: nitrogen (N), phosphorus (P), and potassium (K). The NPK sensor gives real-time, non-unfavorable analysis of soil nutrient ranges, empowering farmers to make informed decisions regarding fertilizer utility. Through the combination of advanced sensor era, this challenge pursuits to decorate agricultural productivity by using facilitating targeted nutrient control. By as it should be assessing soil nutrient popularity, farmers can optimize fertilizer usage, limit waste, and mitigate environmental affects related to excessive fertilizer application. Moreover, the NPK sensor permits the implementation of website online-precise nutrient control techniques, tailor-made to the precise requirements of man or woman fields or plants. The implementation of the NPK sensor holds extensive promise for enhancing crop yield and quality while reducing input costs and environmental footprint. By harnessing the strength of precision farming, this challenge seeks to make contributions to the advancement of sustainable agricultural practices, making sure the lengthy-term viability of worldwide meals production structures.

Paper ID:NCIAES 1014

Dream Defender

Abirami K[1], Chithra K [1], Sowndharya S[1], Vishnu Priya V[1], Dr.V.Vignesh[2]
[1]UG Scholar, [2]Associate Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

Dream Defender is a fascinating internet software designed to interact kids with a lovely assortment of mini-video games, puzzles, and sports. Tailored to entertain and train, Dream Defender offers a safe and immersive virtual environment where young minds can explore, study, and feature a laugh Employing HTML, CSS, and JavaScript, Dream Defender provides a sequence of fascinating mini-games within an internet-based platform. Each recreation is cautiously crafted to undertaking gamers' cognitive abilities and trouble-fixing abilities, all even as weaving in eventualities that highlight the significance of safe visitors' practices. In addition to math puzzles, Dream Defender offers interactive quiz games that take a look at kid's information throughout diverse topics, consisting of science, geography, history, and literature. With a wide variety of subjects to discover and ranging degrees of issue, those quizzes encourage curiosity and exploration while selling studying in a playful manner. For those seeking traditional enjoyment, Dream Defender features the liked sport of Tic Tac Toe. Whether gambling against the laptop or competing with friends and circle of relatives, Tic Tac Toe offers timeless fun and strategic thinking, providing kids with a acquainted and attractive gaming revel in. Throughout their journey on Dream Defender, children are furnished with a safe and secure online environment, wherein privateness and safety are paramount. With colorful pictures, intuitive controls, and baby-friendly content material, Dream Defender guarantees that each gaming experience is not only enjoyable however additionally enriching and educational.

Paper ID:NCIAES 1015

Smart Agricultural System Using IoT

Jaivant S B[1],Raghav S[1],Sudharsan K V[1],Vinoth S[1], Dr.V.Vignesh[2]
[1]UG Scholar, [2]Associate Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

The agriculture quarter is undergoing a significant transformation propelled by means of improvements in technology, specifically the Internet of Things (IoT). This paper presents a comprehensive evaluation of a Smart Agricultural System (SAS) empowered via IoT technologies, aimed toward improving agricultural productivity, sustainability, and aid efficiency. The proposed system integrates numerous IoT gadgets along with sensors, actuators, drones, and self sufficient cars, interconnected thru wi-fi networks. These gadgets accumulate actual-time records on critical parameters such as soil moisture, temperature, humidity, crop increase levels, and environmental conditions. The accrued information is processed using superior analytics techniques which include machine learning algorithms and records mining to derive actionable insights. Key functionalities of the Smart Agricultural System consist of precise irrigation management, well timed pest and ailment detection, optimized aid usage, and automated monitoring and control of farm operations. By leveraging IoT technologies, farmers can remotely monitor and control their agricultural activities, main to progressed decision-making, decreased operational costs, and extended yields. Furthermore, the implementation of IoT-enabled SAS enables the adoption of sustainable agricultural practices by way of minimizing water wastage, lowering chemical inputs, and mitigating environmental influences. The gadget also promotes interoperability and statistics sharing amongst stakeholders, fostering collaboration throughout the rural value chain. Overall, the integration of IoT in agriculture offers huge capacity to revolutionize traditional farming practices, paving the way for a extra green, resilient, and environmentally sustainable agricultural surroundings. This paper contributes to the ongoing discourse on clever farming through providing insights into the design, implementation, and benefits of IoT-driven Smart Agricultural Systems.

Paper ID:NCIAES 1019

Smart Home Applications

Arun Prasath [1], Darshaan.S.P [1], Harish Ragavendar.C [1], Abishek S [1], Dr.D.Prabakar[2]
[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

In current years, the mixing of smart technologies into residential spaces has won substantial traction, enhancing convenience, performance, and energy conservation. This mission affords the development and implementation of a cellphone-controlled smart home lighting gadget leveraging Arduino technology. The system permits customers to remotely manage and manage their household lights via a devoted mobile application, providing unparalleled flexibility and convenience in domestic illumination. The core of the gadget lies in an Arduino board, which serves as the valuable manipulate unit interfacing with each the phone software and the lighting components. Utilizing Bluetooth or Wi-Fi connectivity, the Arduino board communicates with the phone application, permitting customers to show lighting fixtures on/off, adjust brightness levels, and agenda lighting routines effects from anywhere with an internet connection. Furthermore, the venture consists of considerations for scalability and interoperability, allowing for seamless integration with other clever home gadgets and systems. This interoperability opens up possibilities for destiny enlargement and integration with rising technology, together with voice manipulate interfaces and sensor-based automation. Overall, the telephone-managed smart home lights system offered on this undertaking gives a sensible and on hand solution for modernizing residential lighting infrastructure, enhancing consumer consolation, and promoting sustainable dwelling practices thru green electricity control.

Paper ID:NCIAES 1021

Automated Leaf Disease Detection for Crop Health Monitoring

Ebey Raj J.Y[1], M Kumaresan[2], Amal Saji[1], Muhammed Ihjas N N[1], Mohammed Mushtha[1] Rahman[1]
[1] UG Scholar, Dept.of Mechatronics Engg, Hindusthan College of Engg and Tech., Coimbatore
[2] Assistant Prof., Dept. of Mechatronics Engg, Hindusthan College of Engg and Tech., Coimbatore

Abstract:

The increasing demand for sustainable agriculture necessitates innovative solutions to enhance crop management and yield. This project presents a comprehensive plant monitoring system designed to assess environmental conditions crucial for plant growth. Integrating camera modules and light and humidity sensors with an Arduino Nano, the system captures real-time data, which is transmitted to a designated PC folder. The collected data forms the basis for a machine learning program, contributing to intelligent decision-making in agriculture. The report outlines the project's background, objectives, and methodology, emphasizing the calibration of sensors and the programming intricacies of the Arduino Nano. The architecture of the system, both hardware and software components, is detailed, showcasing the seamless integration that facilitates efficient data transmission. The data storage and management section elucidate the organization of information in the PC folder and the creation of a structured database. Furthermore, the project explores the integration of machine learning for data analysis. An overview of machine learning in plant monitoring sets the stage for discussions on data preprocessing, model training, and the subsequent evaluation of results. The report concludes with a comprehensive analysis of findings, including performance metrics and a comparison with existing literature. Challenges encountered during the project are addressed, providing insights for future work.

Paper ID:NCIAES 1022

Design and Cascaded PI Controller Based for Continuous Conduction Mode SEPIC Converter

Dr.S.Arun[1], M.Seethalakshmi[2],K.M.Niveetha[3],
[1]Associate Professor Dept. of EEE, P.A. College of Engineering and Technology, Pollachi
[2,3] UG Scholar, P. A. College of Engineering and Technology, Pollachi

Abstract:

In the field of power electronics converters constitute a major portion of studies and practical applications. Cascade PI Controller of a DC-DC boost converter is presented. Non-minimum phase behavior of the boost converter due to right half plane zero constitutes a challenge and its non-linear dynamics complicate the control process while operating in continuous conduction mode (CCM). The proposed control scheme efficiently resolved complications and challenges by using features of cascade PI control loop in combination with properties of MRAC. The accuracy of the proposed control system's ability to track the desired signals and regulate the plant process variables in the most beneficial and optimized way without delay and overshoot is verified using MATLAB/Simulink by applying comparative analysis with single PI and cascade PI controllers

Paper ID:NCIAES 1024

Design and Implementation of Fuel Dispenser using RFID

Vibishraj[1], Rajprabhakar.P[1], Sanjay.M[1], Jeevan Babu[1] , Dr.Muthanantha Murugavel [2]
[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

This task proposes an RFID-primarily based gasoline dispenser gadget to modernize traditional systems, addressing inefficiencies, security vulnerabilities, and barriers in tracking and monitoring gasoline transactions. IoT is a unexpectedly expanding application presently for blending all gadget things like (sensors, devices, hardware and so forth) bring together and embed people with programming growing our own gadgets. The petroleum pump is strolling

physically nowadays. It's an pastime this is essentially a drawn out time and requires greater body of workers. Additionally, placing fuel stations in away zones is extremely highly-priced. So acquire an automated gasoline filling machine using internet era to clear up those troubles. There are dense proposed structures which goal to improve the fueling operation on the way to make it less hard and extra dependable and more-secure, guaranteeing that the patron gets the identical amount of gasoline in exchange for what he/she pays, on the way to help to end fraud at distinct gasoline stations. These structures take human-software program interplay with the aid of the web-enabled manner, for that reason keeping off all errors made by way of people.

Paper ID:NCIAES 1026

Automatic Vehicle Accident Detection and Messaging System

Shakthi R[1], Akshaya Harshitha K S [1],Sibinesh S[1],Jayaraj J[1].Dr.D.Prabakar [2]
[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

The generation development has extended the extra traffic hazards and street coincidence due to loss of emergency facilities. Our paper will offer a strategy to this problem. The dangerous driving may be detected using accelerometer in car alarm utility. It used as crash or roll over detector car throughout twist of fate or after twist of fate. An accelerometer obtains the signal which is used to recognize the severe coincidence. In this paper, when vehicle met with an twist of fate or roll over the vibration sensor will come across the signal and sends it to ATMEGA 8A controller. GSM ship alert message to police manage room or rescue team from microcontroller. Now police can trace the vicinity to the GPS after receiving the facts. Then after conforming the region important movement can be taken. During the accident, if the individual did now not get damage or if there is no severe danger to all and sundry's life, then the alert message can be stopped by using driver via a switch provided. In order to keep away from the

losing the time of the rescue crew. This is used to discover the accident with the aid of vibration sensor.

Paper ID:NCIAES 1027

Designing IoT Face Recognition Robot

Benitta Rose[1], Vidharshana S [1],Gowtham [1],Saravana Moorthi[1], Dr.V.Vignesh [2]
[1]UG Scholar, [2]Associate Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

The detection of human facial feelings is a chief goal within the contemporary world of technology. Robotic applications are utilized in almost all domain names. In order for us to communicate effectively with robots, face reputation is vital. The assignment goals to expand and implement a brand new face popularity device based on CV (Computer Vision) and IoT (Internet of Things). The application is revealed in many facial photographs of humans from one-of-a-kind backgrounds and backgrounds. This creates a education database that allows in facial reputation. Then, when the robotic detects a human face, it initiates a face recognition algorithm that makes use of the Local Binary Pattern (LBP) method.

Paper ID:NCIAES 1028

Automated Gate Opening System for Restricted Area using IoT

Yaswanth D[1], Deepak Kumar S[1], Deepak [1], Dr.D.Prabakar [2]
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[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

In this paper, we endorse an automatic gate beginning machine for confined vicinity. Improvement of cutting-edge era might also affect the speedy increase of the wireless security-based applications. Many gate automation systems were designed and implemented the use of different types of wi-fi communique technologies however in this paper, we proposed a gadget,

that is applied using RFID (Radio Frequency Identification) Technology and Arduino board. Radio Frequency Identification (RFID) era is a wi-fi technology that can offer better ways to put in force an inexpensive structures for protection reason. In this paper, the proposed system has a RFID reader is positioned close to the gate, whenever vehicle which having RFID card/tag with precise ID variety comes nearer to the gate, RFID reader reads the information from RFID card/tag and compares it with saved facts within the companies database. If the captured data healthy with stored records then gate will opens and permits automobiles to go into into the restricted areas, in any other case now not. In addition, admin can monitor the number of entries and exits of vehicles to the constrained areas. This sort of systems may be operated with none manual attempt and may be utilized in limited regions like defense organizations, huge industries, authorities forest areas and so forth.

Paper ID:NCIAES 1030

Smart Waste Management System using IoT

Rithikhaa [1], Logeshwari I [1],Dharsini A [1],Swetha V L[1].Dr.D.Prabakar [2]
[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

The paper is based totally at the concept of Automation used in waste management system beneath the domain of Cleanliness and Hygiene. Dumping garbage onto the streets and in public regions is a common synopsis determined in all developing countries and this mainly emerge as affecting the surroundings and growing several unhygienic situations. In order to cope with those issues Smart netbin is an ideology recommend which is a combination of hardware and software technologies i.E. Connecting Wi-Fi machine to the everyday dustbin a good way to provide free internet centers to the person for a particular time period. The era awards the person for retaining the encircling smooth and as a result paintings hand in hand for the right waste control in a locality. Smart netbin makes use of multiple technology first of all the era for

measuring the quantity of trash dumped secondly the motion of the waste and ultimately sending important alerts and connecting the user to the WiFi gadget. The proposed device will feature on purchaser server version, a purpose with the intention to assure smooth surroundings, exact fitness, and pollutants free society.

Paper ID:NCIAES 1031

Automatic Medicine Dispenser using IoT

Jenishta A[1], Indu [1], Sneha M [1],Dr.Muthanantha Murugavel [2]
[1]UG Scholar, [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

There are numerous challenges that old humans face, and of them is taking their drug treatments on time. Old people usually forget to take their medicine on time and also have a tough time recollecting whether they'd their medicinal drug, which occasionally may want to result in overdose and extreme scientific headaches. There are several costly medicinal drug dispensers to be had in the market now. However, most of the aged humans round the sector don't even recognise of such products and still lodge to storing the medicines in a box. Several forms of remedy dispensers are to be had commercially international. However, they have several drawbacks that requires to be resolved. These drawbacks may be resolved the use of a Automatic Medicine Dispenser this is dependable. Medicine Storage strategies less expensive and can carry up to 2-three weeks of drug treatments, in this type of way that, antique people gained need to rely on a person else. The product is designed to ensure that the quantity and timing of the tablets to be disbursed can be controlled and monitored the use of an app, which makes matters less complicated for everybody, consisting of for kids who work abroad. Also, it offers clean contact wager ween the consumer and parental figures because it w sick im mediately notify the mother or father in case the patient has missed pill consumption. Furthermore, SMD gives the purchaser with a touchscreen that can be accessed as an software on their cell telephone, allowing them to monitor and manage the timetables and use facts remotely.

Paper ID:NCIAES 1032

Artificial Intelligence Enabled Traffic Monitoring System

Nithya.S[1], Nithyasree[1], Preethi S[1], Muhita S[1], Dr.Muthanantha Murugavel [2]
[1]UG Scholar [2]Professor
Department of Computer Science Engineering, Karpagam College of Engineering, Coimbatore

Abstract:

Manual traffic surveillance may be a daunting task as traffic management centres function a myriad of cameras mounted over a community. Injecting a few stages of automation should help lighten the workload of human operators acting manual surveillance and facilitate making proactive decisions which would reduce the effect of incidents and recurring congestion on road ways. This article offers a novel approach to routinely monitor real time site visitors' footage the use of deep convolutional neural networks and a stand-by myself graphical user interface. The authors describe the consequences of studies acquired within the process of growing models that function an included framework for an artificial intelligence enabled traffic tracking device. The proposed machine deploys numerous brand new deep getting to know algorithms to automate distinct traffic tracking desires. Taking gain of a massive database of annotated video surveillance records, deep studying-based models are trained to hit upon queues, tune desk bound vehicles, and tabulate automobile counts. A pixel-level segmentation approach is applied to stumble on site visitors queues and are expecting severity. Real-time item detection algorithms coupled with different monitoring structures are deployed to automatically detect stranded motors as well as perform vehicular counts. At every stage of development, thrilling experimental effects are presented to illustrate the effectiveness of the proposed gadget. Overall, the consequences display that the proposed framework performs satisfactorily below numerous situations with out being immensely impacted by environmental dangers together with blurry digicam views, low illumination, rain, or snow.

Paper ID:NCIAES 1033

Matrix Based Techniques in Cryptography

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Abstract:

The Hill Cipher algorithm is a cornerstone of modern cryptography, providing a robust method for encrypting and decrypting messages securely. This paper explores its application in contemporary cryptographic practices, focusing on its ability to protect sensitive information. Through a comprehensive analysis, the study elucidates the steps involved in encrypting plaintext into cipher text using matrix operations and modulo arithmetic. It examines key generation processes, highlighting the creation of a square matrix as the encryption and decryption key to enhance the algorithm's effectiveness. Furthermore, the decryption process is examined, detailing the reverse transformation from cipher text to plaintext using the inverse of the key matrix. The paper also discusses the historical context of the Hill Cipher algorithm, tracing its origins and evolution in the field of cryptography. Understanding the historical development of cryptographic techniques provides valuable insights into the rationale behind the design and implementation of the Hill Cipher. Moreover, the paper explores potential vulnerabilities and weaknesses of the Hill Cipher algorithm, as well as strategies for mitigating these risks. This paper provides a comprehensive overview of the Hill Cipher algorithm and its role in modern cryptography. By understanding its principles, applications, and limitations, practitioners can leverage the Hill Cipher effectively to safeguard sensitive information in today's digital landscape.

Paper ID: NCIAES 1034

Smart Energy Meter and Monitoring System using IoT

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Abstract:

The attempt of amassing power utility meter reading. Internet of Things (IoT) present an efficient and coeffective to transfer the statistics of power consumer wirelessly as well as it offers to hit upon the use of the power the main aim of this assignment is degree energy consumption in domestic appliances and generate it is bill automatically using IoT. The strength grid desires to be implemented in a distributed topology that could dynamically soak up unique electricity assets. IoT may be utilized for various programs of the smart grid with disbursed power plant meter, strength technology and energy intake meter clever meter, strength call for facet management and numerous place of strength manufacturing.

Paper ID:NCIAES 1037

IoT Enabled Pill Box For Enhanced Elderly Care

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Abstract:

Taking medicines on time is one of the numerous challenges that elderly people deal with every day. Elderly individuals frequently forget to take their prescribed medicines on time and have trouble remembering whether they took them at all, which may lead to problems from overdosing and underdosing. There are currently several types of expensive medicine dispensers on the market. But the majority of elderly people worldwide still store their medications in boxes because they are not aware of such products. Around the world, a variety of medicine dispensers are offered for sale. But they have several problems that need to be fixed. This project proposes employing an Arduino UNO and Internet of Things to create a model of a medical remainder and

an automated pill dispenser. This system can help reduce irregularity in taking prescribed medication at the right time, especially for older patients who have trouble keeping to a regular schedule. Because a typical pill dispenser holds pills in a container that could change the concentration of the pills due to interactions between the tablets, this system is more specialized. Therefore, the suggested method aids in bringing the pills over and storing them in a packed form.

Paper ID:NCIAES 1038

Voltage Source H-Bridge Five level Demand Based Boost Inverter

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Abstract:

Latterly, multilevel inverters have become more attractive for researchers due to low total harmonic distortion (THD) in the output voltage and low. Electromagnetic interference (EMI). Our project work proposes a novel single-stage voltage source H-bridge five-level demand-based boost inverter (VSHBFLDBBI). The proposed five-level inverter has the advantages over the voltage source H-bridge boost inverter (VSHBBI) in cutting down passive components. Consequently, size, cost, and weight of the proposed inverter are reduced. Additionally, the proposed VSHB-FLDBBI can work in the shoot-though state. A capacitor with low voltage rating is added to the proposed topology to remove an offset voltage of the output AC voltage when the input voltages of two modules are unbalanced. Besides, a simple PID controller is used to control the capacitor voltage of each module.

Paper ID:NCIAES 1039

Cascade Multilevel Inverter Based on Soft Computing Techniques

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Abstract:

The cascaded multilevel converter is the converter for flexible power conditioning in smart grid applications. In the proposed method is the use of independent DC links, with reduced voltages, which makes such a topology an ideal candidate for medium and high-power applications with increased reliability. The system contain Cascaded multilevel converters to achieve higher power quality with a given switch count when compared to traditional multilevel converters it splits high voltage/low-frequency and low-voltage pulse width modulation (PWM)-frequency power production The developed control strategy regulates independent DC-link voltages in each H-bridge cell and allows selective and flexible compensation of disturbing currents under a variety of voltage conditions without requiring any reference frame transformation. The selective control strategies are based on the decompositions that proposed in the Conservative Power Theory (CPT), which result in several current related terms associated with specific load characteristics. These current components are independent of each other and may be used to define different compensation strategies, which can be selective in minimizing particular effects of disturbing loads. Experimental results are provided to validate the possibilities and performance of the proposed control strategies, considering ideal and deteriorated voltage conditions

Paper ID:NCIAES 1040

AI-Powered Skin Cancer Analysis Using Machine Learning for Early Cancer Detection

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Abstract:

Skin cancer is widely recognized and considered to be among the most prevalent forms of cancer, resulting in the loss of numerous lives globally. The early detection and classification of cancer can offer significant benefits, leading to improved speed and success rates of treatment. Presently, advanced technologies are being utilized for the categorization of skin lesions. Our experimental research is primarily focused on examining biomedical datasets related to skin cancer to devise an efficient methodology for distinguishing between malignant and benign cancers. The utilization of CNN (sequential), Resnet-50, Inception v3, and Xception models are employed for the training and classification of dataset images. Two extensive and well-balanced datasets have been gathered for this specific purpose. One dataset is utilized for evaluating the performance of the models employed. Subsequently, the chosen model is retrained on the second dataset to ensure validation and generalization. The performance of the Xception model is found to be generalized, surpassing other models in accuracy. Empirical findings are presented in tables and graphs, showcasing accuracy and confusion matrix.

Paper ID:NCIAES 1041

Single Phase 11 Level Cascaded Multilevel Inverter with Harmonic Mitigation

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Abstract:

The simulation of a Single Phase 11 Level Cascaded Multi-Level Inverter with fewer switches is the subject of this article. The disadvantages of the traditional multilevel inverter have been lessened in this suggested architecture by employing fewer semiconductor switches and fewer switching operations each cycle. Symmetric dc sources are used to obtain the necessary inverter voltage. The Total Harmonic Distortion % is decreased as a result of the suggested modulation strategy. Because it has a large number of output levels, it can create high-quality output power and low harmonic distortion waveforms. Lower order harmonics are eliminated by applying the Optimized Harmonic Stepped Waveform approach. Using the Newton-Raphson approach, switching angles can be determined. MATLAB/SIMULINK R2013a software is used to verify the performance evaluation. By employing FFT analysis, the 11-level cascaded multilevel inverter's THD value is determined.

Paper ID:NCIAES 1043

Design And Fabrication of Cup Benzion Making Machine

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Abstract:

Our project idea is produced cup benzoin, with manual effect and to create mass number of benzoin products, planning to create the cup benzoin making machine. While using man power to produce cup benzoin, chemical affect the health and planned to make natural cup benzoin by used this machine. Generally, the cup benzoin are made in natural powder. The powder is harmful and it has many disadvantages to us. By naturally we get leaves, powders by using this we can made cup benzoin. The cup benzoin is made in manual power. By using different shape die we can produce different shape and size cup benzoin. The machine size is comfortable to suit anywhere. The manual approach for manufacturing of the cup benzoin is found very suitable and also decreases the cost of the manufacturing. The cup benzoin also found sustainable for the environment safety. Chemical affect the health and planned to make natural cup benzoin by used this machine. To produce the cup benzoin with using spring method.

Paper ID:NCIAES 1044

IoT based Smart Staircase Light System

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Abstract:

The IoT Based Smart Staircase System for Building is lights control gadget where the lighting is computerized in step with presence of people the use of the staircase. It has been in addition prolonged with a user interface on cell devices. This person interface, in the shape of a Mobile Device and Personal Computer via Web Browser will remotely display the repute of the lights and also be capable of adjust the color and intensity of lighting fixtures being used on the staircase. With this project, we can effectively create a device wherein lighting fixtures control may be basically based totally on human presence and for this reason eliminating the want for guide switching. In order to implement this era, we first need to survey the various strategies available for sensing data and controlling the lighting based totally on occupancy of the vicinity. Furthermore, the numerous methods and their implementation has been discussed.

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