## SOUVENIR SECOND INTERNATIONAL CONFERENCE ON IOT, ROBOTICS AND AUTOMATION

# **IIRA-2022**

Organized by



MORADABAD INSTITUTE OF TECHNOLOGY Ram Ganga Vihar Phase-2, Moradabad (UP) 244001 Phone – 0591-2452412

## Souvenir

**Second International Conference** 

On

# IoT, Robotics and

## Automation

IIRA – 2022

(28th-29th, January 2022)

Edited by

Dr. Narendra Singh Pal Mr. Manas Singhal Ms. Priyanka Goel

Organized by



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## Preface

We take this opportunity to welcome you all to the Souvenir of the Second Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022).

The objective was to bring the eminent academicians, scientists, researchers, industrialists, technocrats, government representatives, social visionaries and experts from all strata of society, under one roof, to explore the new horizons, of innovative technology to identify opportunities and defining the path forward. This new path should eliminate isolation, discourage redundant efforts and promote scientific progress aimed to accelerate India's overall growth to prominence on the international front and contribute effectively to realize and achieve the India 2022 mission of being a Development Nation. The conference will feature online paper presentation sessions, online invited talks, online keynote addresses and online panel discussions. Conference has attracted researchers and practitioners from academia, industry and government agencies, in order to exchange ideas and share their valuable experiences.

We are grateful to a number of people without which we would not have been able to successfully organize this mega event, in such a short period of record time. On behalf of the Organizing Committee, we thank all esteemed authors for having shown confidence in us and considered IIRA-2022 an online platform to share their work. We wish to express our gratitude to our focused and dedicated team of Convener, Co-conveners, members of the Advisory Committee, Organizing Committee, Technical Committee and Local Organizing Committee and finally our students for being a great source of strength to us in making this event successful.

We consider ourselves fortunate to get such a dedicated and ever supporting team.

We are personally thankful to our Director, Prof. (Dr.) Rohit Garg, who was always a constant source of technical guidance, as and when we needed.

We also take this opportunity to thank various organizations which have sponsored and collaborated with us in organizing this conference and meeting the financial constraints.

Finally, we are thankful to one and all, who have contributed directly or indirectly in making this conference successful.

Last but not the least, we take this opportunity to give the credit of successfully bringing out this Souvenir to our team, one and all, and personally own the responsibility of all the errors, deficiency and shortcomings.

In the last, we are thankful to Almighty God for giving us strength in successful organization of this conference.

Dr. Manish Gupta Dr. Amit Saxena Organizing Secretary IIRA-2022

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## WELCOME MESSAGES FROM ORGANIZERS



It gives me immense pleasure to know that Moradabad Institute of Technology is organizing an Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 – 29 January 2022 at MIT, Moradabad.

I am sure through this conference we shall take another leap forward in research and development process. This conference will provide us an opportunity to share the latest advancements in the field of Engineering & Technology not only nationally but globally also.

This conference will be beneficial to the faculty as well as the students of our Institute by improving their skills and making them aware as to how to manage and utilize available resources in a better way.

I take this opportunity to cordially felicitate the chairman and the organizing committee of the conference for having taken all the pains to make arrangements for this conference. I am sure the conference will be able to achieve the designed purpose and will be a grand success.

**Sri. Sudhir Gupta** Chairman MITGI, Moradabad



It is a matter of great pride that Moradabad Institute of Technology is organizing an Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 – 29 January 2022 at MIT, Moradabad.

In the recent years, the students and faculty has done lots of efforts in research and development in various engineering streams which is highly appreciated in all the press widely.

I am sure that the conference would provide the participants a unique opportunity to present ideas, R&D innovations & to exchange technical knowledge to identify solutions to global engineering challenges and this exposure would enable the young generations to explore emerging directions for healthy discussions among practitioners of the field.

I appreciate the efforts put in by the organizing committee and wish the conference to be successful and helpful in enriching the knowledge of all.

**Ar. Y.P. Gupta** Vice Chairman MITGI, Moradabad



It gives me immense pleasure to extend my greetings to the organizing committee for organizing an Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 - 29 January 2022 at MIT, Moradabad.

The main objective of the conference is to bring together academicians, technocrats and researchers to discuss recent advances and futuristic trends in Engineering and Technology. I am sure that the conference will ignite the intellectual minds, enrich the experienced and benefit the industries with new emerging possibilities and myriads of opportunities.

I wish to convey my greetings to the participants and organizing committee and pray for the successful completion of the seminar. All the success, All the participants as well as to the organizing committee.

Arvind Kumar Goel Vice Chairman MITGI, Moradabad



I am delighted to know Moradabad Institute of Technology is organizing an Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 – 29 January 2022 at MIT, Moradabad.

The theme of the conference is very appropriate and itself signifies the importance of engineering and technology in our day to day life. I understand that renowned Engineers, Academicians and Students will be participating in this conference. I trust that the conference will prove to be an effective instrument to present the vision of the subject and will be successful in achieving its objective.

On this happy occasion, I extend my best wishes and greetings to the organizers and wish the conference all success.

**Sri. Adarsh Agarwal** Secretary MITGI, Moradabad



I am glad to know that Moradabad Institute of Technology is organizing an Online International Conference on Innovation in **IoT**, **Robotics and Automation** (IIRA-2022) on 28 – 29 January 2022 at MIT, Moradabad.

The success, progress and prosperity of a nation depend upon the quality and type of education imparted to its younger generation. The great emphasis is to be given towards character formation, innovative thinking and personality development.

On this occasion, I wish the conference grand success.

**Sri. Neeraj Kumar Agarwal** Treasurer MITGI



I feel extremely happy and delighted to know that Moradabad Institute of Technology is organizing an Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 - 29 January 2022 at MIT, Moradabad.

Engineering and Technology are key sectors for the industrial development of nation. The exponential growth in population has resulted in heavy pressure on the resources. There is increasing need for more efficient use of the resources by means of better planning and management.

On this Occasion I extend my best wishes for the success of the conference. It is equally important to create awareness about the theme among the concerned people. Such conferences should be held from time to time.

> **Sri. Anil K. Agarwal** Trustee MITGI, Moradabad



I feel extremely happy and delighted to know that the Moradabad Institute of Technology is organizing a Second Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 – 29 January 2022 at MIT, Moradabad.

It is a leap forward to put MIT on the national map where the scientists, engineers and researchers from all over the country will converge and exchange their ideas for the growth of knowledge. MIT Group of Institutions (MITGI) are thriving vigorously to move along the glorious path of academic excellence since its existence. MIT is providing opportunity to the students and faculties alike to excel in Education, Knowledge, Research Innovation, Skill and Patent (EKRISP), which are the main tools in nation building.

I hope that participants will immensely benefit from the academic exchange of views & thoughts.

I wish this conference a great success.

**Prof. (Dr.) Rohit Garg** Director MIT, Moradabad



It is a matter of great pleasure that Moradabad Institute of Technology, Moradabad is going to organize a Second Online International Conference on Innovation in IoT, Robotics and Automation (IIRA-2022) on 28 - 29 January 2022 at MIT, Moradabad.

There has been tremendous development in Engineering & Technology during the last two decades. It is very essential for the researchers and professionals to remain in touch with fast changing development in Science & Technology, such type of conference bring together concerned professionals to exchange their ideas, views and thoughts to implement such recommendations.

On this happy occasion, I send my compliment and best wishes to the organizing committee and wish the conference a great success.

Dr. Kshitij Shinghal Chairman IIRA-2022

## Automated Answer Paper Grading Using Semantic Analysis

Bhargav Desai, Parth Chudasama, Kewal Mishra, Shivam Fichadia, Archana Chaudhari Dept. Electronics and Telecommunication Dwarkadas J. Sanghvi College of Engineering Mumbai, India

## ABSTRACT

Education is the founding pillar on which any individual, society, or nation stands. Unfortunately, the architects of this pillar, our teachers, are often overburdened with countless papers to correct in a limited time frame. Such an environment often results in substandard paper correction work simply because the sheer flux of papers far outweighs the number of teachers who can meet it qualitatively or sometimes even quantitatively. The objective of this paper is thus, to propose an end-to-end framework for automating this tedious process of answer paper corrections with automated generation of relevant feedback to the student per written answer. Provided the answer key to a given student paper to be corrected, with our proposed approach based on semantic analysis, we aim to evaluate and grade papers, just as the process goes typically, only faster, in an automated manner and with the generation of relevant feedback. The feedback generated is in the form of highlighting the parts in an answer where a student lost their marks or could have done better, promoting complete transparency and upholding principles of unbiased corrections.

## Performance Analysis of Routing Protocols in Wireless Sensor Networks using Motes

L K Suresh Kumar and K V Chalapati Rao Department of Computer Science and Engineering, University College of Engineering, Osmania University, Hyderabad.

## ABSTRACT

Wireless Sensor Networks (WSN) have become an active topic of research with the upcoming demand and present day technological interests. It is one of the ways to connect with the physical environment. Wireless sensor nodes (or Motes) are the basic units in forming Wireless Sensor Networks. Motes are low cost microchips, which integrate a microcontroller, transceiver, gateway module and a power unit. Many routing protocols have been proposed over the years in wireless sensor networks for data transmission. MAC Based Routing (MBR) is based on Medium Access Control routing protocol that can be used when the destination is always the sink. During the network setup, each node is associated with a source. In MBR, the routing is done in such a way that every node sends the packet to the source to which it is associated. This process repeats until the packet is received by the sink. Level Based Routing (LBR) protocol follows the multihop scenario in which each node sends the packet to its neighboring nodes which increase their level by '1' after which the neighboring nodes re-broadcast to the next level nodes and so on. The article analyzes these two protocols and presents the contrast between the two. These two protocols have been implemented in wireless sensor motes and its behavior has been noted. Various parameters such as remaining battery, efficiency etc are jotted down.

## Laser & IoT based Integrated Environment with Real-Time Vehicle Accident Prevention Module and Location Tracker

Richa Saxena, Mohd. Suhail, Aman Ruhela, Himanshu Singh CS&E Department, Moradabad Institute of Technology Moradabad, India

## ABSTRACT

In an IoT world, we have several devices that can be helpful in various sectors. There are many sectors in which accidents occur rapidly. One of the major sectors is road traffic accidents. By using the Microcontroller devices, GPS, MQ-3 alcohol gas sensor, ESP8266 Wi-Fi module, LM35 temperature sensor, Laser beam, or Laser projector, we can establish a system in which the location of the vehicle, driver's health, alcohol level, pulse & temperature can be monitored. We can monitor these all things remotely from anywhere by using the Internet. For remote access of the Internet by the microcontroller device, we have many Wi-Fi modules, one of the popular Wi-Fi modules is Node MCU ESP8266 to provide the connection to the microcontroller boards. We can also monitor the Humidity of any atmosphere as well as air quality. With the help of this IoT based monitoring system, we can decrease the number of road- traffic accidents. By establishing a system based on laser projection on road behind the vehicle. we can also decrease the number of road traffic accidents in foggy weather.

## Efficient Call Management between Congested Neighboring Cells using Fuzzy Logic

<sup>1</sup>Altaf A. Balkhi, <sup>2</sup>Javaid A. Sheikh, <sup>2</sup>Zahid A. Bhat, <sup>1</sup>G. M. Mir
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## ABSTRACT

A major shift in the optimization and deployment of Cellular networks, such as small cells are being massively employed, therefore making cellular networks and systems heterogeneous. To operate effectively in a densely deployment networks, the small cells must have efficient selforganizing capabilities of the available resources to intelligently adapt themselves to the neighborhood. A novel handover algorithm targeting common sharing of resources usually excessive unused channels between densely populated cells to reduce handover failure rate is explored. The unused excessive channels of the neighborhood cells are lent to the congested cell so that User Equipment (UE) is provided Quality of Service (QoS). The candidate cell for sharing excessive channels in case of certain traffic inflation. The increased area of operation of the densely populated cell proportionate to the increase in traffic and correspondingly increased channels for traffic management is also described. The fuzzy logicbased simulation results show that the proposed algorithm efficiently is in line with improved successful handoffs as well as the handover failure ratio is appreciably reduced.

## **RAZI:** An Authenticated Mental Health Care Digital Antidepressant Forum for Truncating Anxiety and Depression using Cloud Firestore Database and Figma

Richa Saxena, Mohd Zaid Amaan, Ibad Ur Razzaq, Mohammad Amaan CS&E Dept.,Moradabad Institute of Technology Moradabad, India

## ABSTRACT

Mental health problems are becoming frequent nowadays letting people confused, overthink, reducing their ability to concentrate, despondent, excessive fear, and worries which cause them depression and anxiety. Numerous Mental Health apps are lacking in terms of poor GUI that ultimately results in facing usability issues by users, and most of the MHapps are paid thereby, it is hard for a user to afford it in mass. This forum has been developed which has a user-friendly interface and is free to use. People have to search a keyword regarding their mental health problem and it will then compare to Cloud Firestore Database, which in turn will extract relevant data regarding the problem being searched and the most relevant solutions, meditation links, symptoms and questions will display on the site which is verified by Renowned psychologists. It is effective for antidepressants and can be very prospered for mankind.

## Gesture-based Keyboard, Window and Desktop Navigation using OpenCV, MediaPipe and CVZone Modules

Richa Saxena, Mohd Faraz, Mohammad Saad CS&E Dept.,Moradabad Institute of Technology Moradabad, India

## ABSTRACT

Keyboard is the most prominent input medium currently, but lately, we are living in a global pandemic and that has made touching anything lethal. So, to mitigate this issue, we introduced the webcam-based virtual keyboard interface to interact with the computer. This code is written using Python 3.9 and pre-built modules like OpenCV, MediaPipe, CVZone, PyVDA, PyttSX3, Win32API, Win32Process, Etc. Typing is done by matching the tips of the index finger and middle finger on the specific key, the virtual desktop switching mechanism is handled by PyVDA and CVZone. Moreover, when a key is pressed or a desktop switch is initiated, a sound of the corresponding key or the successful message of the switched desktop is played, this is done using PyttSX3 Library. Also, we have not used any additional hardware other than the webcam available to the system.

## Machine learning Techniques and Its Application in Software Defined Network

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### ABSTRACT

The ongoing advancement of systems Network is causing it to turn out to be progressively mind boggling. SDN (Software Design Network) has become a new examination field. The intensity of knowledge can be accomplished through Software Defined Networking (SDN), and the ongoing advancement of Machine Learning (ML), provides a number of strategies to address distinctive system challenges. Routing which additionally fulfills Quality-of-Service (QoS) is one of the significant difficulties in SDN based systems, it is likewise run of the mill when there are various kinds of streams that exist in a similar system. Software-Defined Networks (SDN) changes the conveyed and equipment driven inheritance to organize into a coordinated and dynamic system that gives an exhaustive arrangement the mix of the ML calculation. The system wide information gave by SDN can be utilized for productive traffic routing in the system. In this work, we investigate and Analysis the appropriateness of AI calculations for choosing the least clogged course for routing traffic in a SDN empowered system.

## Survey on Crop and Fertilizer Recommendation using Machine Learning

Akhil Kumar, Surbhi Rastogi, Vishal Tyagi, Shubhika Singh, Pawan Toralkar, Abhinav Gupta CS&E Dept. ,Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

India is an agriculture country. Agriculture is the primary source of livelihood. for about 58% of India's population. As per first revised estimates of National income for 2020-2021 released on 30th May 2021, the contribution of agriculture sector to GDP is 20.2%. Therefore, Indian economy depends on agriculture yield growth and agro-industry product. In the agriculture sector machine learning is an emerging research field. Using machine learning models, it becomes easy to predict crop yield and the suitable fertilizers for their crops. Yield and crop prediction is a vital issue in agriculture. Farmer are always curious to know about how much yield he will have at the end of the season, which crop they should grow, and which fertilizer will be optimal for his crops. Study of various attributes like location, crop yield data, fertilizer data etc. have been made. With the help of third-party applications like APIs for weather and temperature, nutrient value of the soil there in region, amount of rainfall within the region can be determined. All this data is going to be studied, train machine learning algorithms that are SVM and Random Forest for creating models. The system will produce a model that will be accurate in predicting crop yield and deliver the user proper recommendations about which crop to sow to expect better yield and increase farmer's revenue. Along with it will recommend the right amount of fertilizer required by the crops. The proposed system uses Html, CSS, Java Script for developing the web application.

## **Online Voting System Using AWS Cloud**

Ishan Saxena, Harsh Vardhan, Karthik Sharma, Paras Negi, Toralkar Pawan, Ravish Dubey CS&E Dept. ,Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

India is the largest democracy in the world. It is necessary to make sure that the elections take place in the most secure fashion. Currently, Elections take place in India via EVMs (Electronic Voting Machines) or ballot paper. To conduct these elections large man force, time and effort is required. Also, the results are announced after a long time. Other than that disabled people can't vote and people who have migrated can't vote either. And there have been various instances of EVM theft and booth capturing which affects the result of the election. And panchayats still use ballot paper which is most unsafe form of voting because it can be manipulated easily. Therefore, the current system needs a change. The new method allows the person to vote from the comfort of their home in the most secure fashion, which makes the process whole lot easier and makes the process of conducting election really smooth. This research paper focuses on a system using which the person can vote from anywhere using their computer or mobile phone without having the need to physically be present at polling booths thereby saving time, effort and cost significantly. To make things secure this system has two factor authentication which uses face recognition and OTP verification. On top of that this system is deployed on AWS cloud which makes it fast, secure, scalable and cost effective. This system also allows user to see the result anytime which can avoid situations that pave way for vote tempering.

## CrowdSource (Monetizing Travel Time)

Prachi Agarwal, Kshitiz Verma, Kshitiz Agarwal, Lokesh Yadav, Manish Kumar CS&E Dept., Moradabad Institute of Technology Moradabad, India

## ABSTRACT

In today's time, where the world is changing rapidly, home delivery is progressively increasingly becoming a major element in e-commerce. India is emerging as one of the developing countries in the world with a buoyant economy, a huge population, and the potential of observing robust growth in the future. Currently, where e-commerce is booming so fast. We found several challenges in direct delivery in which the most important is fast and secure delivery. It has also opened a new gate of earning by being a delivery partner. But the problem with this is that these delivery partners are bound by time and a delivery partner works at a very low cost and is not able to utilize or monetize their time. So, we are making a delivery system through which a person can order any product from a shop online and it will be delivered to their doorsteps by using a normal crowd or people. A system, in which anyone can choose to be a delivery cost and monetize the free time or traveling time of people and provide them another source of income by not doing extra affords or work.

## Optimizing the efficiency of solar panel equipped with -argon based insulation and IoT based dust cleaning system

Shubham Vyas , Uday Varshney, Atigya Garg , Anant Bansal , Muskan Bhatnagar ME Dept., Moradabad Institute of Technology Moradabad, India

## ABSTRACT

With the increment in the surface temperature of solar panel their efficiency decreases quite dramatically to overcome the heating of surface plane glass and Argon gas can we used with a optimized thickness. As the dust layer settled down on the surface of the solar panel decrease the efficiency IoT based solution would be effective.

## Treasurous Marathon : A 3D boundless computer game

Kriti Shukla, Nirbhay Arora, Paras Panday, Rashi Tyagi CS&E Dept. ,Moradabad Institute of Technology, Moradabad, India

## ABSTRACT

Showing the thought and execution of the Treasurous Marathon project. It's a 3D boundless running computer game that moves the player into an incredibly vivid and activity stuffed world. The hero of the game should run through an interminable track while keeping away from all snags and risks. The venture will likely advance the utilization of rationale, memory, and spatial abilities among the young age, to help them foster their reasoning capacities. Since clients should gaze at the action on the screen while utilizing their hands to control what's going on simultaneously, understudies playing our game can further develop their dexterity.

## Stock Prognostication: Protocol Based on Individual Stock Prices Prediction Using LSTM

Richa Saxena, Anuj Sharma, Hadiya Khaleeq, Sushant Singh, Tanveer Alam CS&E Dept., Moradabad Institute of Technology Moradabad, India

#### ABSTRACT

In today's time, investing in the Stock market is a prominent way to create capital. Investing in the stock market requires financial knowledge, and years of experience, which causes difficulty for the newcomers to enter the market or lose capital. We propose a solution by deep learningbased model. This research aims to build a Model for, the Stock Market to predict the price of stocks and trends. This model is based on a variant of the recurrent neural network called Long Short-term memory. The proposed solution includes Data Extraction, Data Pre-processing, Training Testing on the stock data. Model functions by analyzing the series of data or sequential data and predicting the next possible output. After evaluating different Models used for Stock prediction, this model uses fewer features which reduces the data pre-processing to the minimum and achieve higher accuracy. This system will be beneficial to the stock investing firms as an analytical tool and also for newcomers.

## **Sewage Treatment Tunnel**

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#### ABSTRACT

Sewage treatment plants is sketched to remove the waste from household and industrial sources to remove materials that harm water quality.Water plays a major role for doing day to day activity in the world due to population explosion the water resources are more and the availability is very less.The demand of water is growing day by day.Because of household waste sewage our rivers Ponds and other natural resources are polluting. India treats 20% of sewage and rest is fall directly into the river which causes several problems.There are many problems which are faced due to sewage.The components of sewage treatment plants are soild removal chamber.In primary stage this system removes solid waste it can also reduces the body of the incoming waste-water,solid waste removal is the first stage of sewage treatment.Waste-water that comes out from this work can be further treated with chemicals to release it into streams or pond.The Secondary stage remove micro-organisms and other matter which are not removed in primary stage.Only 31% of waste-water is being treated and reuse.

## **The Iron Fist**

Abhishek Gautam, Amit Saxena, Ashutosh Dhar Dwivedi, Kshitij Shinghal, Muskan Pal EC&E Dept., Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

The COVID-19 epidemic has spread worldwide. The epidemic is a major challenge to the health and safety of the general public, medical staff, and the global medical system. It has been proposed worldwide to use robots during the epidemic, improving patient treatment, maintaining social isolation, and decreasing the burden of the medical system. In this paper, we employ the hand of a robot that helps to clone the actions of the end user's arm and hand. Based on the gesticulation of a human hand, the robot handles the function and repeats the movement of the human hand. This robotic arm is highly adaptable and highly suited for medical and military purposes during the COVID-19 epidemic when the environment is unsafe for humans. There are various ways to control the robot arm. This paper is about motion replication based on flex sensors, gyroscopic sensor, and IOT, operating the robotic arm wirelessly.

## Removal Of Ni From Its Aqueous Solution By Using Sugarcane Baggase Activated Carbon (Scbac) As Low Cost Adsorbent

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#### ABSTRACT

In the present study the removal of Ni was achieved from its aqueous solution by using sugarcane baggase activated carbon (SCBAC) as low cost adsorbent. Low cost activated carbon was prepared by the waste product of sugar cane and also shows the utility of the activated carbon as an adsorbent. A good percentage removal (90%) of Ni from its aqueous solution was achieved by the studies. The studies also highlight the effect of various factors like pH, adsorbent dose and initial concentration etc on adsorption efficiency. The validity of adsorption was confirmed by using Langmuir adsorption isotherm and Freundlich isotherm.

## **Multi-purpose Agriculture Machine: A Review**

Nipun Vashistha, Yasir mumtaz , Pravesh Chandra ME Dept. ,Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

As we all know that 3/4th population of India live in rural areas. About 70% of population are employed because of agriculture sector. As we are the largest producer of pulses and second largest producer of rice in the world. But the condition of farmer in our country is not so good. They are still struggling for their livelihood. They still prefer conventional method of farming like use of bullock cart, handmade tool and labor work. Because machinery which were invented for the agriculture sector are too costlier for small scale farmer. The machine which can perform different agricultural process like sowing, tilling and spraying in a single input. It can reduce the labor work and the overall cost of farming. This machine will be helpful for small scale farmer which is the ultimate goal of this Machine.

## Automatic IOT Based Parking System Using RFID Scanner: A Review

Ayush Kumar, Aryan Chaudhary, Narendra S Pal

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## ABSTRACT

Nowadays, parking a vehicle has become a serious concern, as a result of the growing number of automotive every place. In the document, we present an alternate solution based on IoT for users to check for space to reserve a parking spot for the vehicle and keep track of the available space in the parking area, which affords a clever solution. Its goal is to provide a smarter and enhanced parking process that crucially reduces complexity in standard parking systems. The framework can provide the realtime status of each stopping slot by implementing a detector at the parking area. The detector in the parking area detects the real-time state of the parking slot and transmits the data to the main computer system through the MCU. The collected data helps in generating the current status of the slot and provides it to the user for booking.

## **Public Issue Portal for Government Offices**

Abhay Pratap Singh, Akash Kumar, Deeksha Singh, Abhishek Kumar CS&E Dept. ,Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

The purpose of the paper is to develop a website that is designed for online public issues solutions from the particular responsible department. In India, there is no direct medium by which the public can directly communicate with the department for the solution of such issues. The purpose of designing this portal is to provide an online source to provide a solution to a problem faced by an individual in his daily life. This portal also saves time, money, and corruption which is a black hole of our country under the jurisdiction of cooperation to register their issues facing day by day and the issues can be solved in a short period. Complaints can be registered easily through this portal and the action can be taken within a short period which is registered through this portal to a particular department with an effective tool to identify and target problem areas and act as management processes for assessing, analyzing, and responding to register public issues. This web portal is used to record, resolve and responds to the registered issues and users can provide feedback according to him/her satisfaction on the action taken on the issue registered by an individual.

## Lung Cancer Detection: A Review

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## ABSTRACT

Lung cancer is a disease in which cancer cells originate from the lung itself or from another organ. Lung Cancer is also called a lung tumor and is characterized by highly uncontrolled cell growth. Early Detection of lung cancer is hard as most of the symptoms appear in the final stage. Smoking increases the chances of developing a lung cancer but nonsmokers can develop lung cancer too. Lung cancer is the leading cause of death worldwide. It is essential to identify the presence of cancer in early stages to improve the treatment and treatment process.

## **Speech Emotion Recognition System: A Review**

Priyanka Goel, Vasundhara Gupta, Shrey Ruhela, Shubham Yadav, Zareen Aqiq CS&E Department, Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

Understanding the human emotional state has been extensively used in various applications. For instance, emotion recognition can be used to extract emotional states from speech. The emotions of an individual are mainly influenced by physical characteristics like muscle tension, skin elasticity, and blood pressure. The emotions of a person are unique in nature but their understanding, interpretation, and reflections can be distinct.

## MovRec: A 3-Way Hybrid Based Movie Recommendation Algorithm using KNN, Clustering And Cosine Similarity

Richa Saxena, Sarthak Saxena, Vasu Goel, Virendra Mohan , Yash Agarwal CS&E Department, Moradabad Institute of Technology, Moradabad, India

## ABSTRACT

When it comes to searching for movies on the internet, users scoured multiple platforms. Existing systems typically attempt to provide services that involve recommendations to the appropriate user groups by imitating the target users' social processes in order to enable quick filtering of information on the web. Providing users with relevant content from a collection of relevant and irrelevant items is a major challenge these days. We will address these issues through our project by developing a web portal that will recommend movies based on machine learning algorithms such as Cosine Similarity, KNN, and clustering. The MovieLens dataset TMDB has been chosen for our project.

## Study and Design of Portable Oscilloscope

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#### ABSTRACT

This paper presents the design of the portable oscilloscope with its operation, utilization and interfacing technique. This design is suitable to connect a pc or phone with a small jack for voltage signal waveform display. It determines voltage range from 5V to 25V with the input frequency range from 0.1Hz 25kHz. Arduino software is contacted by using programming language C for user to combine the device with a well-designed graphic representation user interface. By changing the values and graphic properties, the users are admit to modify the input signal to required waveform.

## Hunting Extra-Solar Planets using Machine Learning

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## ABSTRACT

In this paper, we will use machine learning techniques to detect exoplanets based on the dataset provided by Kepler. Astronomers are already working on detecting such planets using different techniques, but here, we will be using the transit approach and training different models for given data. The different models will have different accuracy and will be compared after the complete training of the model, and the model with the maximum accuracy will be considered. According to the data till November 18, 2021, Kepler has confirmed the discovery of 2402 planets and has shown 2361 planets as true positives. We aim at discovering more such exoplanets or searching about the discovered true positives. Our approach will be comparatively less time-consuming as compared to the already used approaches.

## **Facial Emotion Detection Using Deep Learning**

Vikas Bhatnagar, Shubh Bhatnagar, Udit Rajput , Sanjana Dubey , Sparsh Rastogi , Rizwan Department of C S & E

Moradabad Institute of Technology Moradabad, India

#### ABSTRACT

Human feelings are mental inclination expresses that emerge unexpectedly rather than through cognizant exertion and are joined by physiological changes in facial muscles which infer demeanors on the face. Non-verbal specialized strategies like looks, eye development, and signals are utilized in numerous uses of human-PC association, which among them facial inclination is broadly utilized on the grounds that it passes on the enthusiastic states and sensations of people. Look for feeling identification has forever been a simple assignment for up close and personal people, however achieving a similar errand with a PC calculation are visionary. With late improvements in PC vision and profound learning, it is feasible to recognize feelings from pictures. In this article, we propose an original strategy called facial feeling discovery utilizing convolutional neural organizations. This method depends on a two-section convolutional neural organization (CNN): the initial segment eliminates the foundation from the picture and the subsequent part centers around vector extraction of facial highlights. Our model perform ideally well on the pictures caught in good conditions. In any case, the exhibition debases slowly on low quality pictures, incomplete countenances, foggy pictures and the appearances in low-lightning. However, there is still a lot of probability of progression and wonderful improvement in proposed past models on various datasets.

## Self-Driving Car Using IoT & ML

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## ABSTRACT

The main aim of the car in the present period is automated to give the driver a more relaxed driving experience. The most important thing in the world of automation has begun and is working on a self-driving car. In this work, we have primarily concentrated on self-driving cars, such as those developed by Google. The car basically makes intelligent decisions in traffic and takes the shortest route to its destination state. The fundamental benefit of an autonomous car is that it allows the driver to relax instead of constantly pressing the brake and clutch.

## **DeepFake With AI**

#### Anurag Malik , Abhishek , Aseem Gupta , Gaurang Gupta , Iram Rafi Department of Computer Science & Engineering, Moradabad Institute of Technology Moradabad, India

#### ABSTRACT

Employing a pre-trained generative adversarial network, it's turning into easier to substitute the face of 1 person during a video with the face of another (GAN). Recent public scandals, equivalent to celebrity face swapping in erotica movies, have prompted the event of machinecontrolled ways to notice deepfake videos. to assist within the development of such systems, we discharged the primary in public on the market batch of Deepfake movies generated from VidTIMIT videos during this studio. The deepfakes were created exploitation ASCII text file computer code supported GAN, and that we highlight that the coaching and commixture parameters have a considerable impact on the standard of the ultimate videos. To demonstrate the effect, we have a tendency to created low Associate in Nursingd high-visual-quality movies (320 videos each) exploitation parameter settings that were changed differently. we've shown that progressive biometric identification systems supported VGG and face internet neural networks are sensitive to faux movies, with false acceptance rates of 84.72% and 96.58% (for high-quality versions), respectively, that emphasizes the implicit need for approaches to notice deepfake videos, which means the necessity for deepfake video detection approaches. we have a tendency to found that an audiovisual technique based on lip synchronisation inconsistency detection couldn't distinguish deepfake movies when analyzing many benchmark approaches. For high-quality deepfakes, the very best playacting technique, that relies on visual quality measures and is usually employed in the presentation attack detection industry, came back a similar error rate of 8.97 percent. Our findings show that GAN-generated deepfake movies are difficult to spot exploitation existing biometric identification systems and detection approaches,

and thanks to the advance in face-swapping technologies, it'll be even tougher to defeat.

## **Crypto Games in Android Application**

Sufiya, Unnati Singh, Shreya Chauhan, Shivani Tyagi, Abhinav Gupta, Pawan Toralkar Moradabad Institute of Technology, Moradabad, India

### ABSTRACT

While gaming is viewed as a leisure activity, particular interest, or quest for humans, it has an interpretative environment that enhances one's rational thinking. The researcher's goal is to create a mobile gaming application that is based on randomization algorithm. The proposed system will provide an online gaming platform on android application and generate crypto coupons to avail the discounts on Food application. There are three games i.e. Polybius square, Pigpen, Anagrams which has multiple levels. Once the user creates a accounts, the user will get updates periodically such as recommendation of highly rated food, restaurant and delivery boy, new exchange scheme etc. Dumpling application has a user friendly environment. Dumpling applications is addictive free game.

## **Unearthing the Gone Astray**

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#### ABSTRACT

This paper presents the culmination of existing research paper based on their summary of literature surveys, authors approach, viewpoint, implementation, techniques used, merits, demerits, future scope, and conclusion. The research paper is also based on finding the missing person using face recognition using AI powered model. This effectively present the ongoing research on finding the missing person. By the end of this research paper an effective and better way will be discovered and the drawbacks of previous research paper will be highlighted. Finding a missing person is not at all easy. Lots of paperwork, time and efforts have to put in and may be all can go in vain because of inaccurate results. Our project empowers both police and public and help them accelerate the process of finding the missing person using face recognition techniques. The system working is very simple. It allows the guardian of the lost person to upload the image of the person in the database. The uploaded image gets stored in our database from where it is fed in the face recognition model of our system. If the correct match is found, then police and the guardian of the missing one is informed through our notification channel in the system. To avoid redundant computation, the model algorithm is applied as a filtering-based sequential operation structure. Due to which, the suggested technique and implementation has a good result and efficiency in finding the missing individual.

## Survey on Crypto Games in Android Application

Shivani Tyagi, Unnati Singh, Shreya Chauhan , Sufiya, Abhinav Gupta, Pawan Toralkar Department of computer science Moradabad Institute of Technology Moradabad, India

#### ABSTRACT

Games have turn out to be a crucial a part of our way of life in a particularly brief time frame. The enterprise is likewise growing into a chief pillar of many cutting-edge economies, with recreation improvement tax schemes being delivered into many evolved countries. These are coinciding with a time frame wherein it has in no way been less complicated to launch a recreation into the economic market. For the ultimate decades, recreation improvement groups have required economic backing and a stage of information to by skip stringent exams through platform holders to be allowed get right of entry to their improvement hardware. Today, every person with a cellular smartphone and a computer, even a laptop, can construct a recreation and feature it on the market with no less than time and economic backing. This does now no longer imply that each recreation is successful: its miles nonetheless crucial to have a terrific know-how of the technical elements worried in making video games and the issues worried in designing video games which humans will need to play. Sometimes the high-quality manner to expand this understanding is to start on the very beginning, so we're going to study a few online game history.

## Job Profile Recommender System Using kNN Algorithm

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#### ABSTRACT

A recommendation software is an approach that provides statistics to customers who're interested in it or have reached out in the past. Conventional strategies of advertising like content and collaborative filtering are used in numerous programmes like education, social media, advertising and marketing, enjoyment, and many others. Content-based filtering and sharing have many advantages and drawbacks, and they are useful for selected software. The main challenges in content and shared filtering are decreases and initial freezing troubles. Through combined filters, we are able to address content material and filter challenges collaboratively. This filtering technique combines elements of two advice programs, as well as content and collaboration. The variety accuracy is improved by using content-primarily based filtering, and the joined version without problems provides better predictive consequences than the hidden characteristic version. The Employment Advice Scheme is an incredibly vital software programme in which nominees are decided on the use of a web recruitment site primarily based on their profiles, their work records, and moral additives, helping tens of millions of students find meaningful and gratifying work. The site has yet to be fully explored, and current activity advertising applications have many limitations, including the use of CVs/profiles and job descriptions for evaluation, as well as the freezing of recent process vacancies and process profiles. The motives are inconsistent. Starting trouble. Sometimes a capacity candidate loses a process because of an incomplete job description and academic information in oncology.LinkedIn's active atmosphere also has some issues. In this paper, we present acomparative analysis of diverse performance schemes and their methods.

## Covid-19 and Viral Pneumonia Detection using Sequential CNN

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#### ABSTRACT

Coronavirus disease (Covid-19) is spreading across the whole world and has habitual expressive community spread. The sudden hike in the number of patients with COVID-19, i.e. a new respiration virus has an extreme impact on the healthcare system. There are limited kits for diagnosis, hospital beds for such kind of patients, and a limited number of personal protective equipment (PPE) for healthcare temporary staff and limited ventilators. A prediction system based on deep learning can help the healthcare system to respond immediately. The important role of chest X-ray images can have in the early prediction of COVID-19 patients also help in the patient treatment at an earlier stage. For the disease prediction, this study presents the use of Convolutional Neural Network (CNN) that extracts the features from the images of chest X-ray. To get the edges from the images are applied three convolution layers with different filters. Keras's Image Data Generator class is used to generate augmented images to deal with the small size of the training dataset. Classification is performed on three classes having chest X-ray images from COVID-19, normal people and viral pneumonia. The results show that the proposed CNN model can predict COVID-19 patients with high accuracy. Some of the studies carried out in regards to the current COVID-19 include modeling of the dynamic of COVID19, exploring the effect of prevention method like travel restriction of COVID-19 and studying the effect of climate on the COVID-19 propagation. On the other hand, artificial intelligence (AI) is a tool used for prediction. AI is the study and development of algorithms (machines) that mimic human intelligence. AI has also gained attention in terms of disease detection, treatment selection, patient monitoring, drug discovery, gene function annotation, automated data collection etc.

## Power System Health Monitoring Using Internet of Things

#### Suryansh Agrawal, Aditya Gaur, Saurabh Saxena, Dr. Rajul K. Misra Electrical Engineering Department Moradabad Institute of Technology, Moradabad, India

#### ABSTRACT

A healthy and functional power system is the backbone of a country. Thus, health monitoring of power system is critical for energy structure of the country. This paper presents a health monitoring system for some of the machines and devices used in power system. There are two sections in the project: One for measuring the transformer health and the other for vibrational condition monitoring of the rotating machines. For Transformer Health profiling, five sensors are majorly used, i.e. Temperature Sensor (DHT11), Ultrasonic Sensor (HC-SR04), Humidity Sensor (DHT11), AC Voltage Sensor Module (ZMPT101B-1Φ) and 5A CT Current Sensor Module  $(1-\Phi)$ . The sensors measure the winding voltages and input & output currents of the transformer respectively. For vibrational profiling of the rotating machines, MPU 6050 Sensor has been used. All these sensing elements communicate with the microcontroller unit, the Microcontroller unit processes the incoming data and simultaneously performs calculations for the various losses occurring in the transformer unit. The system vitals are displayed on the 16x2 LCD unit. Also, any abnormal conditions are immediately alerted through the LCD. The data is also sent to the server via the microcontroller unit where storage and data transfer functions are implemented. The server is wirelessly connected to an application interface for remote access of the real-time power system health data through a mobile device.

## Pros and Cons of Industrial Automation in Indian Scenario

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## ABSTRACT

This paper basically discusses the pros and cons of industrial automation in Indian industry involving machinery, processes in factories, boilers, heat treating ovens, switching in telephone networks, steering and stabilization of ships, aircraft and other applications with minimal or reduced human intervention. Wireless communication and smart sensors are used for improving automation technology. A case study of Tata Nano car has also been discussed based on the theme of the paper.

## Study and Fabrication of S.S. Solar Cup

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#### ABSTRACT

India is now listed in a list of considerable amount of Covid Patients. After such a huge data of Vaccination we shall have a large number of unvaccinated populations. Mostly the rural poor and BPL community covers that graph, and the reason for that might be the improper supply of vaccines or establishment of vaccination centers. And also lack of knowledge or trust issues with other modes of medications except for Ayurveda. Also, it is said that vaccines are not suitable for various groups of population such as:- Diabetic Persons, Pregnant Ladies or Ladies with new born babies, etc. but as we are aware of that everyone should be vaccinated to resist this deadliest virus. So, for that cause we tried to put on some supporting pillars that will somewhat help these categories of people to survive the duration until they will be fine to be vaccinated. This can be done by increasing their immunity or immune system. So, we think to make a cup which will provide you a herbal tea "Kaadha" keeping in mind conservation of energy. The concept we applied here gives extra stars to our S.S. Solar Cup and that is "Prevention with Conservation". Here to prepare the herbal tea for boiling purpose we used Solar Energy (Renewable Energy) this in turn leads to energy conservation. That's how our project helps in prevention (Herbal Tea) and conservation (Solar panel converts solar energy into electric one and heated up the element which will prepare hot Kaadha). It is not only limited to just herbal tea but also will be a boon in some other medical aspects, as it is always advisable that patients must have hot soups and other eatables, this will be proven as beneficial there as well.

## **Malaria Detection Using Transfer Learning**

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### ABSTRACT

Malaria has been around ever since humans are there and is one of the deadliest parasite-related long-term disease. It is caused by a unicellular protozoan parasite known by the name of plasmodium. It comprises a wide variety of parasites, but only a handful are enough to contaminate. In 2018, 228 million were infected and 405'000 people died, making it a significant health concern and problem. In India only there were 4,29,928 cases out of which 96 died. The most effective way is to detect malaria in its early stage by providing a rapid diagnose with an accurate result. There are two main problems with this, one being the non-availability of medical personnel and facility in developing countries, and the other being the overestimation of the number of infected individuals even with proper resources. Many studies suggest that there is a huge problem of overdiagnosis (as high as 98% wrong diagnosis in some certain rural health centers (Angola, 2012). Result of this is the massive misuse of malaria treatment which could end in the shortage of malaria drugs. Also, the misuse of medication lowers the resistance towards malaria in the patient's body by making it adapt to the medication and its side effects weakening its effect towards actual malaria parasitized cells. A.I(Artificial Intelligence) can be the answer to these problems. The detection of malaria using machine learning and artificial intelligence programs not only saves countless lives by giving more accurate result in less time but also saves our money which can be put to better use. This research paper focuses on a system that can detect malaria using a technique of deep learning called transfer learning. We trained the model with thousands of images of infected as well as uninfected blood cells. Because of transfer learning we can take the relevant parts of a pre-trained model and apply it the new but similar problem. Then, we input an 100x image of a blood sample of the person who has to be checked for malaria. The system will return true or false based on its accuracy of training and validation.

## **Smart Dustbin**

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## ABSTRACT

I have designed a project of smart dustbin with the main objective of keeping our environment clean & green, also ecofriendly. Here I am designing a smart dustbin by using Arduino in order to remain up to date with technology as we all know that now-a-days technologies are getting smarter day-by-day. Dustbins are very important in our life and also they need a proper maintenance if they are not maintained properly than they will lead to an environment which will be unhealthy for us and it will also cause a lot of pollution that will definitely affect our health. In the given technology I have designed a dustbin which works smartly using ARDUINO Along with ultrasonic sensor, servo motor and jumper wires.

## A REVIEW PAPER ON SMART MEDICINE REMINDER ROBOT

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#### ABSTRACT

This is a Smart Medicine reminder robot in which an automatic alarm ringing system is implemented. It focuses on doctor and patient interaction. Patients need not remember their medicine dosage timings as they can set an alarm on their dosage timings. The alarm can be set for multiple medicines and timings including date, time and medicine description. The patients will get the medicine which was prescribed by the doctor. The system focuses on easy navigation and good user interface. Many such Medical Reminder Systems have been developed where a new hardware is required but, in our work, we have made an attempt to develop a system which is economical, time-saving and supports medication adherence.

# SOUVENIR SECOND INTERNATIONAL CONFERENCE ON IOT, ROBOTICS AND AUTOMATION

## **About The Venue**

Moradabad Institute of Technology established in 1996 is attaining heights on the glorious ladder of academic excellence. MIT started with 160 students in three B. Tech branches namely Computer Engineering. & Information Technology, Electronics & Communication Engineering and Mechanical Engineering. At present, the institute offers five B. Tech programmes namely, Computer Science & Engineering, Civil Engineering., Electronics & Communication Engineering, and Electrical Engineering & Mechanical Engineering. MIT along with other colleges are nourished by a group of dedicated, hardworking and qualified faculty and staff. Although the Institutes of higher learning in technical field grew enormously during past decade, efforts were made to keep the quality of MIT Group of Institutions high, without any compromise.

## **About The Conference**

Advancements in computing technologies and automation have achieved remarkable growth in the last few decades. These advancements improve not only very common areas of our daily life but also areas of education, health, production industries, etc. Internet of Things (IoT), Robotics, and Automation are the recent advancements in technology gaining huge research attention due to the requirement of different types of integration and automation. The objective of IoT is to connect the wide range of devices and services that share data and information with each other. On the other hand, the main aim of Robotics is to design and develop an intelligent machine that works like a human. However, the objective of Automation is automatic control of different systems for operating various machines to reduce human efforts and time to increase accuracy. Now a days, each person is connected with Internet by using different types of communication devices. IoT covers various scenarios such as smart grid, smart city, environment monitoring, and healthcare monitoring systems, etc. According to a prediction done by CompTIA, the number of devices connected to the internet will reach up to 60 billion by 2022. Robotics also play an important role in reducing the human effort and implementing the concept of smart grid, smart city, etc. Therefore, IoT, Robotics, and Automation are interrelated to each other to reduce human efforts. Lots of research work have been done in each domain but various problems are still available to improve the quality of services in every domain. The objective of this conference is to present a collection of articles that cover recent research results and comprehensive reviews in the field of IoT, Robotics, and Automation. In particular, this Second International Conference on "Innovation in IoT, Robotics and Automation 2022 (IIRA-2022)" will be a platform to bring together professionals, academic researchers and scientists interested in techniques inspired by engineering, technological and scientific advancement in the field of IoT, Robotics and Automation.

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