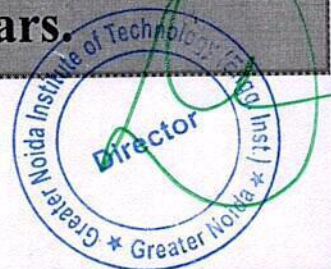




3.3.2

Number of books and chapters in edited volumes/ books published and papers published in national/ international conference proceedings per teacher during last five years.

20-21



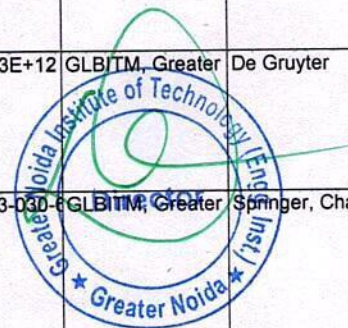
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Uttar Pradesh 201310 India

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last 5 years (2022, 2021, 2020, 2019, 2018)

Sl. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceeding	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Mr. Shiv Narain Gupta		A comparative analysis of melanoma detection methods based on computer aided diagnose system	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Materials Today: Proceedings
2	Mr. Priyesh Tiwari		A comparative analysis of melanoma detection methods based on computer aided diagnose system	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Materials Today: Proceedings
3	Mr. Vivek Gupta		Cooperative Fusion rules in Spectrum Sensing	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
4	Dr. Tarun Kumar		Performance Evolution and Analytical approach of Air pollution control system in AI foundry	C 2021: Proceedings of	2021: Proceedings of	International	2021	CE	Yes	Springer
5	Dr. Rakhi Bhardwaj		IoT based Healthcare and Healthcare Monitoring System in India	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
6	Mr. Shiv Narain Gupta		IoT based Healthcare and Healthcare Monitoring System in India	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
7	Mr. Priyesh Tiwari		IoT based Healthcare and Healthcare Monitoring System in India	International Conference	International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
8	Dr. Rakhi Bhardwaj		IoT based smart indoor environment monitoring and controlling system.	7th International Conference	7th International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
9	Mr. Shiv Narain Gupta		IoT based smart indoor environment monitoring and controlling system.	7th International Conference	7th International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
10	Mr. Shiv Narain Gupta		A review on content-based image retrieval: Relating low level features to high level semantics	4th International (Online)	4th International (Online)	International	2021		Greater Noida Institute of Technology, Greater Noida	Taylor & Francis Group
11	Dr. Mukesh Kumar Ojha		A Review on different Pre-Processing and feature extraction Technique for SSVEP BCI Inference System.	Modern Electronics	Modern Electronics	International	2021		Greater Noida Institute of Technology, Greater Noida	Springer
12	Mr. Shiv Narain Gupta		Fake News Detection: Needs for Individuals and Businesses in the time of Covid-19 and its Future Applications	3rd International Conference	3rd International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
13	Mr. Vivek Gupta		Fake News Detection: Needs for Individuals and Businesses in the time of Covid-19 and its Future Applications	3rd International Conference	3rd International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
14	Mr. Priyesh Tiwari		Fake News Detection: Needs for Individuals and Businesses in the time of Covid-19 and its Future Applications	3rd International Conference	3rd International Conference	International	2021		Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
15	Mr. Girendra Bhati, Mr. Vaibhav Gangwar		An application of Taguchi in the selection of process parameters based on tensile strength in EPS-Assisted - Investment Casting Process	International Conference	International Conference	TAME-2021	2021		Greater Noida Institute of Technology, Greater Noida	

16	Mr. Gagan Varshney & Mr. Vaibhav Gangwar,		An application of Taguchi in the selection of process parameters based on tensile strength in EPS-Assisted - Investment Casting Process	International Conference	TAME-2021		2021		Greater Noida Institute of Technology, Greater Noida	
17	Dr. Avinash Ravi Raja & Mr. Vaibhav Gangwar,		An application of Taguchi in the selection of process parameters based on tensile strength in EPS-Assisted - Investment Casting Process	International Conference	TAME-2021		2021		Greater Noida Institute of Technology, Greater Noida	
18	Dr. Anil Kumar Dubey		Substrate material selection and design optimization of patch antenna	International E-Confer	International IE-Confer	International	2021		Greater Noida Institute of Technology, Greater Noida	IOP Conference Series: Materials Science and Engineering
19	Shiv Narain Gupta		Single OTA Based Dual Mode First-Order All-Pass Analog Network	In 2021 17th Intern	In 2021 7th Intern	International	2021	3-1-6654-273	Greater Noida Institute of Technology, Greater Noida	Institute of Electrical and Electronics Engineers(IEEE)
20	Dr Anuranjan Misra	BIG DATA AND MACHINE LEARNING	Energy Efficiency for Mobile Ad-hoc Network			International	2021		GNIOT	Universal Academic Books, Publishers & Distributors, New Delhi
21	Dr Anuranjan Misra	BIG DATA AND MACHINE LEARNING	SECURE AUTHENTICATION ARCHITECTURE IN CLOUD ENVIRONMENT			International	2021		GNIOT	Universal Academic Books, Publishers & Distributors, New Delhi
22	Dr. Deepak Kumar Verma		Secure data sharing of Electronic Health Record (EHR) on the cloud using Blockchain in Covid-19 Scenario	Proc Intern		International	2021	978-981-16-8	GNIOT	Springer IEEE
23	Dr. Deepak Kumar Verma		A systematic review and analysis of blockchain technology for corporate remittance and settlement process			International	2021		ABES-EC	IEEE
24	Dr. H.R Singh			"Design & Im		NATIONAL	2021	0.1007/978-9	SJITU, JHUNJHUNU	SCOPUS
25	Dr. Arun Kumar Singh	Assessing COVID-19 and Other Pandemics and Epidemics using Computational Modelling and Data Analysis	Diagnosis for COVID-19			International	2021	978-3-030-7	GLBITM, Greater	Springer, Cham
26	Dr. Arun Kumar Singh	Deep Learning and IoT in Healthcare Systems	Case Studies: Healthcare and Deep Learning				2021	9.781E+12	GLBITM, Greater	Apple Academic Press
27	Dr. Arun Kumar Singh	Internet of Things and Machine Learning in Agriculture	Food security and farming through IoT and machine learning				2021	9.783E+12	GLBITM, Greater	De Gruyter
28	Dr. Arun Kumar Singh	Emergence of Cyber Physical System and IoT in Smart Automation and Robotics	IoT for Smart Automation and Robot				2021	978-3-030-8	GLBITM, Greater	Springer, Cham



29	Dr. Arun Kumar Singh	Machine Learning and the Internet of Medical Things in Healthcare	Machine learning architecture and framework				2021	978-0-12-82	GLBITM, Greater	Academic Press
30	Dr. Arun Kumar Singh	Machine Learning and the Internet of Medical Things in Healthcare	Artificial Intelligence in Medicine				2021	978-0-12-82	GLBITM, Greater	Academic Press
31	Dr. Arun Kumar Singh	Advances in Smart Communication and Imaging Systems	Real Time Physical Fitness Monitoring App: BeTough				2021	978-981-15	GLBITM, Greater	Springer, Singapore
32	Dr. Vinod Kumar		Body Sensor Networks Architecture and security issues in Healthcare application	IOP C	Internat	International	2021	Conf. Ser.: M	Dr. A.P.J. Abdul Kal	IOP Publishing
33	Shalu		Malaria Detection Using Image Processing and Machine Learning	3rd International	AC3N-20	International	2021		Galgotias College of Engineering and Technology, Gr. Noida	IEEE
34	Mr. Aneep Kumar		CARE: Citizens awareness of renewable energy sources	Raja stha n		National	2021		GNIOT, Gr. Noida	
35	Dr. Nancy Agarwal	Procedia Computer Science, Elsevier	Sexual-predator Detection System based on Social Behavior Biometric (SSB) Features	5th International Conf	5th International Confer	International	2021	https://doi.org/10.1016/j.procs.2021.05.07	United Arab Emirates	Elsevier
36	Dr. Nancy Agarwal	Lecture Notes in Computer Science(LNCS), vol 13163	Predatory Conversation Detection Us	Machine Learning, Opti	Machin Learning, Optimization	International	2021	https://doi.org/10.1007/978-3-030-95467-3_35	England – UK	Springer
37	Vidha Sharma, CSE	SYSTEM AND METHOD FOR TRANSLATING A SOURCE SPEECH	SYSTEM AND METHOD FOR TRANSLATING A SOURCE SPEECH	boo k che pter			2021			
38	Dr. Shivani Dubey	Water Management in Hilly Areas for Sustainable Development		Dep art ment of Civil Eng			2021		Greater Noida Institute of Technology, Greater Noida	
39	Dr. Shivani Dubey	Sustainable Water Resource Management in the Himalayan		Dep art ment of Civil Eng			2021		Greater Noida Institute of Technology, Greater Noida	
40	Dr. Shivani Dubey			Nati onal Wor ksho			2021		Greater Noida Institute of Technology, Greater Noida	Indira Gandhi Delhi Technical University for Women, Delhi and NIT, Rourkela



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Volume 57, Part 5, 2022, Pages 1962-1968

A comparative analysis of melanoma detection methods based on computer aided diagnose system

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Highlights

- Presents current techniques used in skin cancer detection with CAD.
- This survey specifies specially automated techniques for classification.
- A comparative study for each and every method with the method is presented.
- This study can support in filling the gaps in literature work and increase performance of existing methods.
- In addition, such methods may cover up numerous problems regarding skin lesion classification, which alter CAD systems into more absolute specialist systems for diagnosing such lesions based on dermoscopic images.

Abstract

<https://www.sciencedirect.com/science/article/pii/S2214785321066426?via%3Dihub>



Cooperative Fusion rules in Spectrum Sensing

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Abstract—Cognitive radio networks (CRNs) uses Spectrum sensing(SS) for assessment the vacant spectrum in the licensed band .Cooperative spectrum sensing(CSS) is the best method for evaluation of white space when multiple secondary user work in the collaboration .All local node scan the licensed band give their decision to central fusion center. Central fusion center then aggregate the local nodes decision by soft fusion or hard fusion rules and give the final conclusion whether white space is available or not. Cooperative spectrum sensing enhances the spectrum detection efficiency by reducing the effect of fading and shadowing using spatial diversity and also reduced noise uncertainty problem. The simulation result in this article shows a relative comparison between various soft fusion and hard fusion rule. Soft fusion rule has high value of the detection efficiency in comparison of the hard fusion scheme at the cost of bandwidth.

Keywords— Cognitive radio networks (CRNs), Spectrum sensing (SS) , Cooperative spectrum sensing(CSS)

I. INTRODUCTION

Due to the static allocation of the frequency band licensed band remains underutilize. Due to the intense use of wireless application the underutilize spectrum must be utilize that is only possible by the dynamic freq allocation as done in the Cognitive radio networks (CRNs). The idea of vacant spectrum detection was first proposed by [1]. In this proposal the energy calculation of the received signal is performed and then compares with predefined threshold to evaluate whether the licensed user is present or not. The basic transmitter based spectrum sensing (SS) technique are energy detection, match filter and cyclostationary feature detection [2] based technique.

A transmitter based, blind, non-coherent spectrum sensing technique energy detector. It does not need preceding information of input signal. In this technique the received signal is being evaluated for its energy content and then judge against a fixed detection threshold value to evaluate whether the channel is occupied or not. This technique has low implementation complexity and hives high value of the detection efficiency but detection efficiency despoiled in the case of at low signal to noise ratio region. Other two detection technique namely match-filter and that of cyclostationary both are coherent and also required proceeding information of the input signal. Match filter is a band pass filter having the transfer function that is the time shifted edition of input signal is convolved with the input signal then output of this filter compare with detection threshold to get information about the existence of primary user match filter based technique has high implementation cost but execute fine in low signal to noise region. In cyclostationary feature detection based technique feature of received signal is being evaluated to check the availability of the licensed user. It has also the

limitation of high implementation complexity. Transmitter based detection technique are suitable for only single cognitive radio user. The performance of these methods degrades under the case of noise uncertainty that is created due to low signal to noise ratio and also in the case of channel uncertainty that is created due the deep fading and shadowing.

All the limitation of the transmitter based detection technique can be overcome if multiple cognitive radio user work under the collaboration with each other as done in cooperative spectrum sensing (CSS). Cooperative spectrum sensing uses spatial diversity principal to overcome the effect of fading and shadowing. Due to the collaboration of various cognitive radio user cooperative spectrum sensing give high value of the detection efficiency.

In the cooperative spectrum sensing (CSS) multiple secondary user carry out the detection task in the allotted spectrum and transmit their detection result to the central fusion centre. Central fusion center then combine the result of various secondary user by using soft fusion or hard fusion rules and give the aggregate decision whether the allotted spectrum is vacant or not [3].The cooperative spectrum sensing can perform in the three ways in centralize coordinated cooperative model central fusion center will be responsible to give concluded result each secondary report to central fusion center in the another method centralize uncoordinated model there is no fusion center every secondary user share their decision to another secondary user using multiple clustering algorithm in third type of cooperative model that is uncoordinated decentralize there is no coordination between multiple secondary user [3].

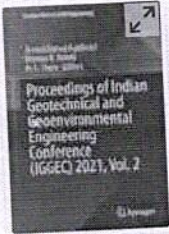
In the present article we have simulate the model of collaborated cooperative spectrum sensing for the centralize coordinated model fusion at the central fusion center is being done on the basis of maximum gain fusion (MGF), equal gain fusion (EGF), AND fusion, OR fusion, majority fusion rule .Simulation result have been plotted in the form of ROC curve that will describe relative detection efficiency under various fusion rule for cooperative spectrum sensing.

II. SYSTEM MODELING

Due the low implementation complexity energy detector will use as the local detection node. All the detection node will report to the central fusion center central fusion center then give the throughput in the term of aggregate detection probability. Figure 1 represent cooperative sensing model[4].


All the received signal energy is measured in finite time duration by removing unwanted signal component using a band pass filter then compare with a fixed decision threshold (λ).





Indian Geotechnical and Geoenvironmental Engineering Conference
IGGEC 2021: **Proceedings of Indian Geotechnical and Geoenvironmental Engineering Conference (IGGEC) 2021, Vol. 2** pp 75–82

Performance Evolution and Analytical Approach of Air Pollution Control System in Al Foundry

Anas Khan , [Shaurya Kumar Singh](#), [Davinder Singh](#) & [Tarun Kumar](#)

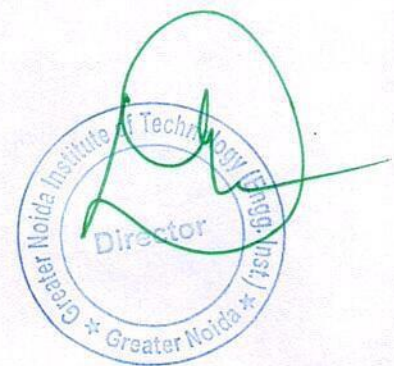
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Abstract

The point of this work is to give an outline of the reusing cycle for aluminium (Al), from scrap overhauling through projecting. The article examines ongoing progressions and forward leaps in aluminium reusing advances. Aluminium reusing helps the climate and the economy. The degree of risky contaminations in reused aluminium combinations is expanding, which is a critical drawback when contrasted with new amalgams. Ceaseless development of undesired materials might



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




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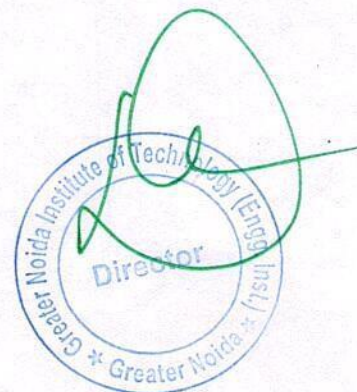
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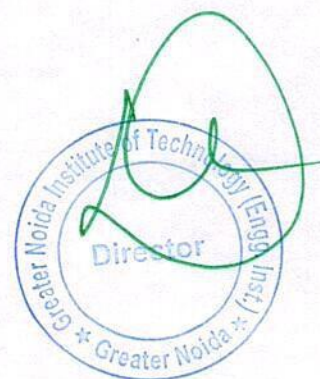
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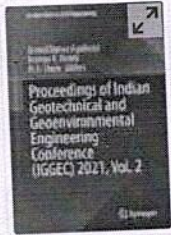
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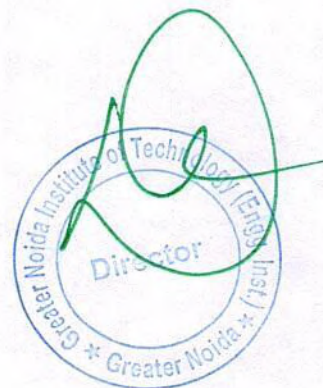
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IoT based Healthware and Healthcare Monitoring System in India

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Abstract— The Indian healthcare scenario has been gradually changing in terms of the use of advance healthcare and healthware systems. In accordance with the recent surrounding conditions and increasing health issues rate, accelerate the use of healthware and healthcare system. The growth of healthcare systems in India is obstructed due by lack of medical professionals, hospitals, poor accessibility to medicines, and unavailability of quality healthcare in distant and rural areas. The Internet of Things (IoT) can play a vital role in improving the poor healthcare system in India by providing a proficient, integrated, well connected, patient-centered system. The IoT technology has emerges with various IOT based healthware, medical monitoring system, and smart homes for elderly patients suffering from chronic disease which serves as an efficient solution to qualitative, effective and accessible healthcare system. The present study provides a review of the available healthware and healthcare system in India and their efficacy for healthcare space.

Keywords—Internet of Things (IoT), Electronic Health Record (EHR), Health Data Center (HDC)

I. INTRODUCTION

IOT explores new scope of patient care through real-time health monitoring and access to patient's health data at any time. This data is a used by doctors to improve patient's health by providing best possible care. IoT enabled devices have made remote monitoring in the healthcare sector possible. The idea of IoT is envisaged with the interconnectivity advancement of multiple devices. Earlier multiple computers are connected together which lead to World Wide Web (www), then further advancement in mobile technology leads interconnectivity to a more border domain and finally the connectivity of daily objects to internet for smart homes, health care institutes, aerospace and various transportations introduces IoT [1]. The rapid advancement in the field of digital electronics, IPv6 and wireless networks advances the growth of IoT. The IoT has many benefits in our routine life but there are some points of foremost concern to get a feasible IoT environment that are: privacy, security, connectivity, data handling, protocols and control mechanism.

Kevin Ashton proposed the concept of IoT in 1999, and he referred the IoT as uniquely identifiable interoperable connected objects with radio-frequency identification (RFID) technology [2]. IoT is a combination of internet with the forthcoming technologies [3]. IoT comes in to picture to meet the quality and demand in various field as environmental montoring, secure communication, health

monitoring, traffic monitoring, smart homes, wearables, smart city, smart grid, smart retail and agriculture smart supply chain [4].

Connecting everyday things embedded with electronics, software and sensors to the internet enabling them to collect and exchange data by connecting all the devices to the same platform. The benefit of IOT includes efficient resource utilization, minimizing human efforts, development of artificial intelligence through IOT and improved security.

The main features of IOT comprises of three modules connect, analyze and integrate. Connect means device visualization, high speed messaging and endpoint management. In analyze domain real time analysis of incoming streams with event aggregation, filtering and correction has been done. Data enrichment of raw data with contextual information by generating composite stream and event data store processing also lies in the analyze domain. The last domain is integration domain which deals with enterprise connectivity i.e., dynamically dispatch critical IOT data and event to applications and process flows. Application Programming Interface (API) based integration with cloud application and IOT devices along with command also covered up in integration domain. Figure 1 shows the basic features of an IOT base system which includes three sub modules such as connect: to connect various objects to IOT platform, analysis of the collected data and use it to build business intelligence and integrate various models to improve user experience.

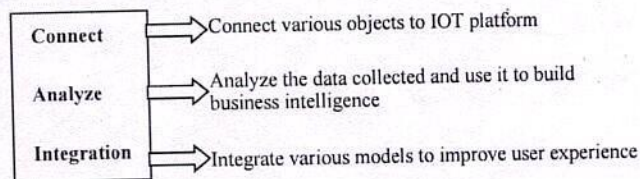
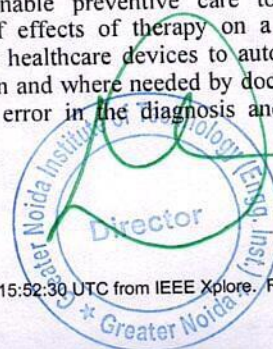


Fig. 1. Basic features of an IOT base system

II. EMERGENCY OF IOT IN HEALTHCARE

IOT is enabling the current healthcare system to be more users friendly for people. Recent advances in sensor and communication technology help to collect patient data overtime and enable preventive care to provide better understanding of effects of therapy on a patient. IOT in healthcare allow healthcare devices to automatically obtain patient data when and where needed by doctors. Automation reduces risk of error in the diagnosis and treatment. The



4-8

IoT Based Smart Indoor Environment Monitoring and Controlling System

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Abstract—The population explosion is affecting the air quality adversely, also various kinds of dangerous gases spreads in our environment which are released by the industries and factories etc. causes air pollution. In this study an Internet of Things (IoT) technology based indoor monitoring and controlling device is introduced which greatly help the people life and their works. IoT is the latest or unique technology which connects device to the internet without human interruption. It enables devices to interact, collaborates and learns from each other experiences just like human beings.

In the present scenario most of the people spend more than 90% of their time in artificial environment and if any changes in the quality of the environmental conditions occur, it leads to spread out multiple kinds of health problems or diseases which affect the human body for example, cancer, asthma, paralysis etc. To eliminate all these conditions, there is a need of continuous monitoring of indoor air quality which can be achieved by IOT based devices. In the present study, the implementation of an IoT based indoor ambience monitoring and controlling platform is presented to achieve good indoor quality, and it also have benefits such as less costly, less time consuming, more efficient and has been able to achieve paperless workflow in the world of busy environment without involving human to human interaction.

Keywords— Internet of things, Indoor Environment, Air Quality, Microcontroller.

I. INTRODUCTION

The total energy consumption in the world is increasing rapidly because people spend their most of the time in buildings like home, school, colleges, offices and multiplex markets etc. which leads to the necessity of to have good interior environment quality with less energy consumption. In the present study, a design method is presented in which more than two low cost smart sensors are controlled by using single device and higher environmental quality can be achieved whenever any kind of changes occur in the quality of the environment such as temperature, pressure, humidity light and gases etc.

The main component of this device is IoT (Internet of things) which controls the whole process of the project with the help of ATmega328p microcontroller. Microcontroller is the heart of the device which is used to control or manage the output of all the sensors and send it to Liquid Crystal Display (LCD) for displaying responses of the sensors. It uses Atmega328 microcontroller which contains total 28 bits.

Sensors are primary unit of the proposed module. Sensor is an electronic device that converts original message into electrical signal which can examine by the instrument and can be readable by human or transmitted for further processing. It is used to sense or detect the changes in the surroundings such as temperature, pressure, humidity, light and gases etc.

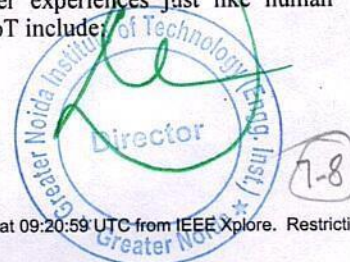
When the power supply is ON all the sensors get ready to detect or sense the changes in its surroundings. If any changes are detected by the sensors, then all the responses with the help of ATmega328p microcontroller are send to the liquid crystal display for displaying the output on the screen and also provide it to ESP8266 which provides internet connection and then give it to the mobile phone, laptop, personal computer (PC), tablet through internet. The data from internet can be display on web or on the smartphone, tablet etc. where the server sends the data.

The most commonly used programming for microcontroller is C and C++ because it is platform independent, object-oriented, robust, interpreted language and more secure than other language. For the programming of the Arduino Uno IDE software is used to run and execute the program. IDE stand for Integrated Development Environment which is most commonly software of the Arduino Uno to run the program. Therefore, the device is able to monitor and control the environment quality which does not affects the human's life and work.

II. BACKGROUND STUDY

Pollution is increasing day by day due to change in environmental quality which affects the body of the human which causes asthma, cancer and paralysis etc [1-4]. Such problems are avoided by using such type of device which can monitor or control the environmental quality accurately [5]. This is achieved by using smart controlling and monitoring systems. IoT is the most advanced and latest technology which is able to monitor the conditions and resolve it in real time [6].

Internet of things (IoT) is a combination of two words, internet and things [7]. Internet is global network which is used in all over the world for connecting people from one place to another over the network. IoT is a machine learning technique which enables devices to interconnect, collaborates and learns from each other experiences just like human beings. Salient features of IoT include:



A review on content-based image retrieval: Relating low level features to high level semantics

Priyesh Tiwari & Kulwant Singh

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ABSTRACT: The technique through which a system can find similar images to a query image among an image dataset is known as Content Based Image Retrieval (CBIR). This technique works by highlighting a few features from the image in question to the images in the dataset to provide the best matching outcome. This review deals with economical and correct retrieval in CBIR.

1 INTRODUCTION

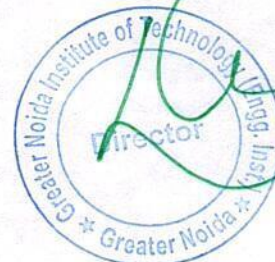
As there was a sudden spike in the use of image acquisition, the digital image information also up-graded itself. The need of economical retrieving system was the need of hour, so researchers came up with Text-based and Content-Based retrieval techniques. In Text based image retrieval (TBIR), the images are annotated with a text description and the result is displayed after matching that annotation of the image with text query of user. In Content based image retrieval (CBIR), user gives an image as an input and the image is then matched by system in its database to find the exact image on basis of the description of image and other features such as colour, texture and shape of images to provide an output. Figure 1 shows framework of CBIR:

- (a) Image-Database: Digital device can be used to store acquire data in database.
- (b) Image Pre-processing: Enhancement of image before the retrieval process.
- (c) Image Acquisition: A feature vector database is created with features like texture, colour or shape of the images. It can be features divided into two parts i.e. High level and low level features.
- (d) Similarity Matching: It tells us the percentage about how much an image is same.
- (e) Output/Retrieved Images: Final outcome after the process.
- (f) User Interaction/Feedback: User give their feedback on the result being relevant or not.

CBIR system allows the user to get their desired output by matching the content of image. Content at this point refers to colour, spatial location, texture or shape (Liu et al., 2007; Vassilieva et al., 2009).

The foremost intention is to reduce semantic-gap. The paper is alienated into 5 sub-parts. Semantic gaps deals in Section 2. Low level semantics cover in Section 3 and high level semantics covers in section 4. The performance measure is cover in Section 5 and paper is concluded in last segment.

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A Review on Different Preprocessing and Feature Extraction Technique for SSVEP BCI Inference System

Mukesh Kumar Doha ✉

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Abstract

The steady-state visual evoked potential (SSVEP) is a periodic signal contaminated with recorded electroencephalography (EEG) signal. Accurate detection of SSVEP signals from noise contaminated EEG signal is the key challenge to improve the performance of an SSVEP-based BCI system. Therefore, the use of a signal processing algorithm plays a significant role to detect the SSVEP signal with great accuracy. This paper describes the recent development in the use of various existing detection algorithms for the SSVEP BCI system. The signal processing technique related to preprocessing and feature extractions is discussed in this paper. This study report that technique that can be applied for non-stationary and nonlinear signals analysis are more employed as compared to traditional Fourier transform to improve the performance for SSVEP BCI system. Spatial filtering techniques are useful for channel selection and to eliminate the nuisance signal from multi-channel EEG signal.

Keywords

Steady-state visual evoked potential (SSVEP)
 Canonical correlation analysis (CCA)
 Brain computer interface (BCI)
 Electroencephalography (EEG)
 Empirical mode decomposition (EMD)



1. Introduction

The AQ1 brain-computer interface (BCI) system enables the subject to communicate with the computer directly through brain signals [1,2]. The steady-state visual evoked potential (SSVEP) signal is an evoked signal contaminated with the recorded electroencephalography (EEG) signal used to develop the BCI system [3]. In recent times, the SSVEP-based BCI systems have become renowned among other BCI systems due to the relative high-information transmission rate (ITR), minimal training time, and high signal-to-noise ratio (SNR) associated with SSVEP [4]. AQ2

The SSVEP is a periodic wave that induces into a non-invasive EEG signal when the subject observes the visual-stimulus flicker at a particular frequency [5,6]. The SSVEP signal appears in the recorded EEG signal when its frequency matches the stimulation frequency

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Fake News Detection: Needs for Individuals and Businesses in the time of Covid-19 and its Future Applications

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Abstract: Today social media plays a very important role in everyone life through which we create online communities to share every kind of information. No one can be one sure about the news they are receiving is true or not? In India, WhatsApp has limited that a person cannot forward a text to more than 5 people at once [1]. This was done to curb the rise of false information. In this paper a machine learning models is create to segregate false and real news. A performance comparison for all the model has been performed in the terms of accuracy. The present article also explores the application of the fake news detector in the real world application.

Authors

Figures

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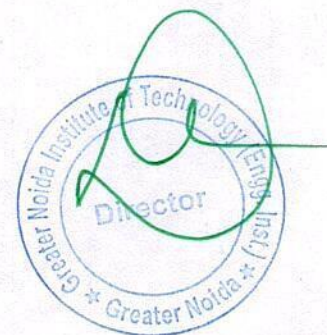
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☰ Contents

I. Introduction

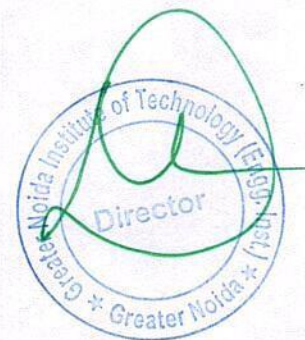
In the earlier days the information was communicated via the physical mode like letters. Through the rise of technology and cheaper data rates in the last decade [2], people in India are more connected. So In the present days the internet and social media is the popular mode of communication to share any kind of information. However, when a vast majority of country blindly believes what they read on the internet to be true, it is very difficult for the government to stop any mishaps from occurring. In the last decade only, the case of mob lynching is at an all-time high and some people push their propaganda over the internet to influence the masses. It is not just the duty of government to stop these but also for citizens to verify and check what they read on these apps. The fake news is coming in business as well, for example, a popular consumer product company stocks fell by 3.7% when a piece of fake news surfaced that they use animal parts in their product. The news was curbed at the earliest with company coming out with an official statement denying all these allegations but the damage was already done. To make sure this won't happen we need to train people in understanding how to verify any news and that's why our simple to use and efficient fake news detector model comes in handy. Due to the easier to publish the fake news these news influence people on a great extent than anyone can fathom, from elections (Cambridge Analytics case) to Brexit [3]. Now it's an urgent requirement to set up a process to check the authenticity of the news.

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AN APPLICATION OF TAGUCHI IN THE SELECTION OF PROCESS PARAMETERS BASED ON TENSILE STRENGTH IN EPS-ASSISTED-INVESTMENT CASTING PROCESS

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ABSTRACT:

This research work focuses on the optimization of three process parameters- density of slurry, pouring temperature and cooling environment in EPS-Assisted Investment Casting Process, by using Taguchi Method. The compositions of ceramic powder (Aluminum Silicate and Calcium Sulfate dehydrate) and Potassium Silicate binder have been selected. After coating on patterns, the foam has been removed at a very slow and uniform heating rate of 2 °C/min. A-359 aluminium alloy has melted and poured in the shells. The tensile strength of samples has been measured. The observed optimized process parameters are 2.25 gm/cm³ density of slurry, 800 °C pouring temperature and 27 °C/min cooling rate.

Keywords: Density of Slurry, Pouring Temperature, Cooling Environment of Castings, Tensile Strength.

1. INTRODUCTION:

In modern industrial era, there is a great challenge to produce high dimensional accuracy as well as surface finish of casting components. In this direction a lot of casting technologies have been implemented. EPS-Assisted Investment Casting Process is one of them [1-2]. It is the hybrid process of investment casting and evaporative pattern casting process. This process eliminates the disadvantages of both investment casting and evaporative pattern casting. Since, the expandable polystyrene pattern is removed before the pouring of molten metal. So, porosity and blow holes as well as pin holes type defects have been reduced [3-6]. These defects have been formed due to the gas generated during evaporation of expandable polystyrene pattern. Wax has low softening and melting point as well as low brittleness. These limitations of wax pattern bounds to make modifications in investment casting process [7-9].

Table 1: Composition of A-359 Aluminium Alloy

Al (%)	Si (%)	Mn (%)	Mg (%)	Ti (%)	Fe (%)	Cu (%)	Zn (%)
Balance	9	0.10	0.5	0.2	0.2	0.2	0.1

In this research paper, A-359 aluminium alloy has been chosen as casting metal due to low melting point, excellent fluidity, higher strength to weight ratio, good grain and stable structure, reduced surface roughness and corrosiveness. The composition of A-359 aluminium alloy is given in table-1.

Substrate material selection and design optimization of patch antenna

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Abstract- In this paper parametric analysis of different substrate materials used for microstrip patch antenna are analyzed based on its physical properties, also parametric calculation performed for selection of substrate working at operating frequency of 5.8 GHz. Proposed microstrip patch antenna was optimized by varying its design structure from rectangular patch to E-shaped structure. Method of moment based electromagnetic simulator IE3D was used for parametric calculation and optimization of proposed patch antenna design.

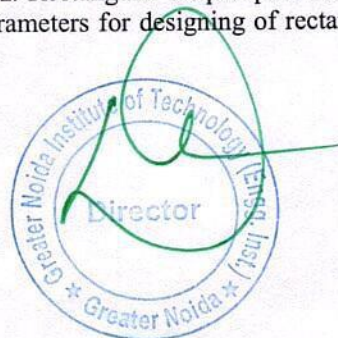
1. Introduction

Patch antenna consists of conducting patch on a ground plane separated by dielectric substrate and it radiates electromagnetic signals at high frequencies. This type of miniaturized design of patch antenna was first conceived in 1953 by G. A. Deschamp in USA [1]. Later on in 1955 H. Gutton and D. Baissinot patented an aerial antenna of similar design working in UHF band in France [2]. In 1975 J. Q. Howell elaborated design of rectangular shaped patch antenna and circular shaped patch antenna [3]. The patch antenna can be used as an transmitting and receiving device [4]. ISM Band frequency 5.8 GHz is chosen for designing of patch antenna as radio can support upto 1300 Mbps wireless speed and in 2.4 GHz it is between 450 Mbps to 600 Mbps[9]. Different substrate materials are considered for designing of patch antenna having dielectric constant lies between 2 to 12 i.e., $2 < \epsilon_r < 12$ [6]. Patch antenna can be designed in the shape of rectangle, circle, triangle etc. Further its geometry can be modified using analyzing its radiation properties and its broadband applications [5]. Different parametric results like return loss, radiation pattern, gain, VSWR etc. are analyzed on simulating its design on electromagnetic simulator IE3D.

2. Design flow of Patch Antenna

As operating frequency selected for patch antenna design is 5.8 GHz. Rectangular shaped patch antenna dimensions are calculated using the antenna design equation [7]. Parameters for designing of rectangular patch antenna are-

Resonating frequency (f_r) = 5.8 GHz (ISM Band)
Width of Rectangular patch antenna (W) = 29 mm
Length of Rectangular patch antenna (L) = 18.35 mm
Height of dielectric Substrate (h) = 1.580 mm



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Abstract: Operational transconductance amplifier, a resistor and a capacitor are being used in this proposed work to construct a dual mode first-order all-pass analog network. The presented circuit has a distinguishing feature that allows it to operate in both voltage-mode and current-mode. In order to get all-pass filter response in both modes, the circuit does not require any physical alterations. The non-ideal as well as parasitic analyses are also included to evaluate the real time performance of proposed structure. The importance of design has been highlighted by using Monte-Carlo analysis to explore the impacts of capacitor changes as well as the effects of temperature variations. Using ± 1 V power supply and 0.18 μ m CMOS process parameters, the theory of the proposed circuit is validated using PSPICE simulation.

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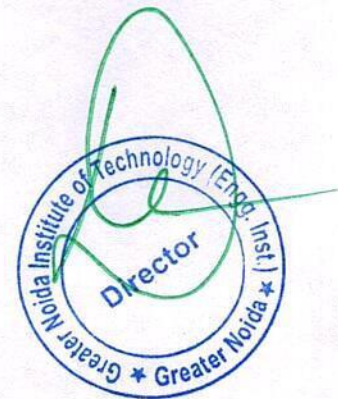
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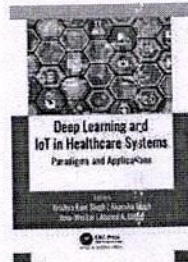
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Chapter



Case Studies: Healthcare and Deep Learning

By Ashish Tripathi, Arun Kumar Singh, K. K. Mishra, Pushpa Choudhary, Prem Chand Vashist

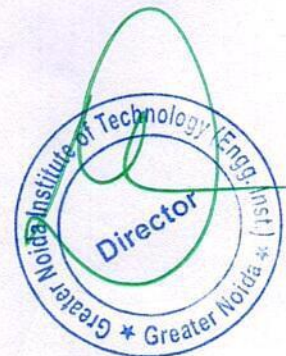
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2 Food security and farming through IoT and machine learning

From the book [Internet of Things and Machine Learning in Agriculture](#)

Ashish Tripathi, Arun Kumar Singh, Khararee Narayan Singh, Krishna Kant Singh, Pushpa Choudhary and Prem Chand Vashist

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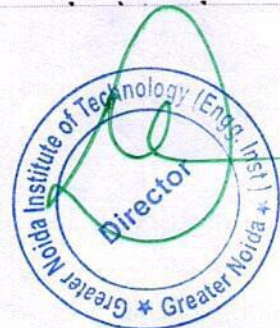
Agriculture plays a vital role in the Indian socioeconomy. In 1871, the Department of Agriculture and Commerce was started by Lord Mayo, the fourth viceroy of India, and A. O. Hume. On the basis of Famine Commission reports of 1880, 1898, and 1900, respectively, the government identified and set up a Department of Agriculture. In 1905, the Agriculture Research Institute became the Indian Agricultural Research Institute (IARI). From the IARI, the green revolution stemmed. After independence, the main challenge has been to generate enough healthy food with high nutrition for the Indian population. Article 47 states that public health with increased nutrition and standard of living is the first duty of the state, and thus the National Food Security Act 2013 has become a high priority of the government. Therefore, the varieties of high yielding crops were promoted in conjunction with excess use of chemical fertilizers, pesticides, and irrigation without knowing the negative impact on future farming and soil health. In recent years, some fruitful initiatives like the usage of innovative technologies and positive government policies have been taken in the agricultural sector to maximize the overall production rate with the required quality of soil and minimize the input cost. But, due to continuous growth in population, there is a huge need to produce nutrition-enriched crops to fulfill the hunger as well as maintain the soil health by promoting the use of biofertilizers and green manure, and controlled use of irrigation as per the necessity. In this chapter, our focus is to discuss a long-term strategy by incorporating research and innovation for a sustainable agricultural system based on technologies such as the Internet of things and machine learning that can play a significant role to advance sustainable farming and food nutrition. This may include



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
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Emergence of Cyber Physical System and IoT in Smart Automation and Robotics pp 189–201

IoT for Smart Automation and Robot

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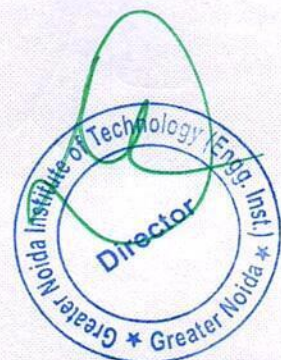
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Abstract

The technology, which is behind this drastically changing world, is the Internet of things (IoT) and Internet of things connected devices. These devices are capable of communicating over the Internet by using various protocols designed for wireless networks. In recent years, IoT devices have flooded the market, and their services to the society and the world infrastructure are becoming vital. The growing demand for automation has accelerated the deployment of IoT devices across the world. Not only the intelligent IoT devices and sensors but the robots also have become the backbone of smart automation systems such as home automation, industrial automation, and city automation (smart cities). The increasing number of these smart devices and growing infrastructure is creating security and privacy challenges, but at the same time, a number of leading companies





Machine Learning and the Internet of Medical Things in Healthcare 2021, Pages 1-22

Chapter 1 - Machine learning architecture and framework

Ashish Tripathi¹, Arun Kumar Singh¹, Krishna Kant Singh², Pushpa Choudhary¹, Prem Chand Vashist¹

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Abstract

Machine Learning (ML) is a branch of Artificial Intelligence that enables computer systems to learn from past experiences and improve accordingly without the direct intervention of the programmer. ML enables machines to behave very similarly to human beings. In order to extract the required information from the huge amount of data, ML can be used to design algorithms based on the trends of data and relationships among the data. ML can be applied in various fields such as intrusion detection, bioinformatics, health care, marketing, game playing, and so on. It enables the computers or the machines to make data-driven decisions rather than being explicitly programmed for carrying out a certain task. These programs or algorithms are designed in a way that they learn and improve over time when they are exposed to new or unseen data. Due to the huge amount of data, the significance of ML can be seen in various sections of the society. Especially in industries, ML is assisting exploration of the hidden patterns of the data, and through this the overall performance of the business can be improved. It is cost-effective, affordable, and simple computing techniques allow the analysis and handling of a huge amount of complex data. ML is not only helping to understand and identify the hidden patterns of a diverse set of data but also encourages automation in analysis in place of humans. Also, ML is helping industries to avail of the opportunities and make it profitable in future endeavors.

In this chapter, we first review the fundamental concepts of machine learning such as feature assessment, unsupervised versus supervised learning, and types of classification. Then, details of the ML architecture and framework are discussed.

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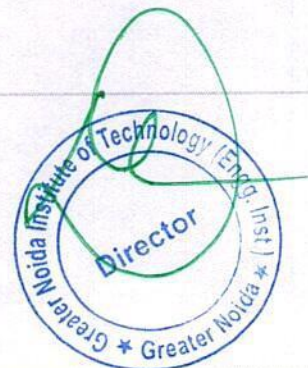
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




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Real Time Physical Ffitness Monitoring App: BeTough

[Pushpa Choudhary](#) , [Akhilesh Kumar Choudhary](#), [Arun Kumar Singh](#) & [Ashish Tripathi](#)

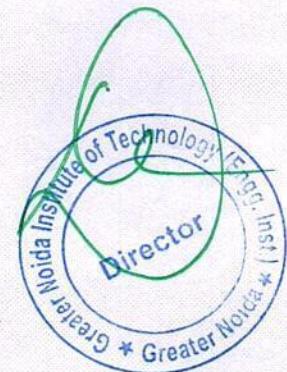
Conference paper | [First Online: 14 April 2021](#)

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Abstract

State of health is called physical fitness basically it is an ability to perform a specific task like sports, occupation, and daily activities. Physical fitness can be achieved by good nutrition, proper exercise, and proper rest. In this paper, an app is proposed for awareness of fitness known as “BeTough” is a fitness movement to encourage people to take a step ahead for their better health. BeTough is a platform where fitness data of a person is recorded and monitored. It also has a series of functions such as improving the scientific guidance, rationally





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Malaria Detection Using Image Processing And Machine Learning

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Abstract



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Document Sections

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- II. Literature Review
- III. Objectives
- IV. Methodology
- V. Result

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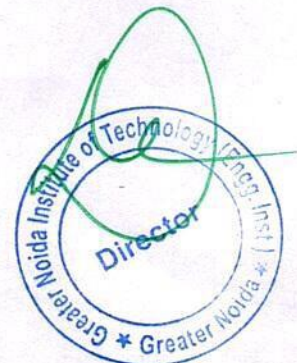
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Abstract:

Malaria which has now become a common human disease is diagnosed in the present scenario starting with a clinical screening and then by medical treatment. Automated classification of malaria parasites using images is a bit challenging task due to the large amount of variability found in the display of skin abrasion. Many deep convolution neural networks show possibility for general highly variable tasks across many fine-grained object categories. Here we are working by using CNN network and datasets. CNN which is known as convolutional neural network is used to differentiate images on the basis of image pixel patterns. Our model mostly focusses on image processing using keras image generator for creating real time images. We basically train our model to easily differentiate between positive and negative images from the given datasets. Detecting malaria by image processing is very fast and reliable method as it does not require any experience. The main aim of using image processing is that our model can detect cells from multiple images taken from microscope via thin blood smear and detect them as positive and negative human blood cell and also it performs classification on human blood cell by using deep learning.



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ABSTRACT

This study investigates the citizens' awareness level regarding renewable energy sources (RESS). This was in view of the fact that the use of renewable energy technology provides a perfect example of how economic well-being and a strong commitment to our environment can complement one another in an effort to reduced emission, provision of sufficient power supply, a clear environment, strong and growing economy; and on the other hand, reducing our dependence on fossil fuel and enhancing our security of energy supply. Citizens perspective of science (CPS) backgrounds participated in this study. The results clearly reveal that low awareness level of the participants regarding the RESS. The result revealed that greater proportion of the responder nearly 60% are don't know that CARE is important or not for them. The responses also demonstrate that mostly participants think renewable energy helps in making local environment better. Furthermore, several separate important questions for a CARE research project can be identified: i) Is CARE important? ii) Which issues of CARE are the most important ones, according to renewable energy scientists? iii) What understanding of renewable energy has the general public today, worldwide? iv) How to achieve CARE?

Keywords: Citizens perspective of science, science communicators, Citizens awareness of renewable energy, Renewable energy

INTRODUCTION

Importance of Citizens Awareness of Renewable Energy

The key finding is that greenhouse gases (GHG) emissions are growing rapidly and that little time is left to turn things around. With current climate and development practices, global GHG emissions will continue to grow over the next few decades. Most of these increases come from burning fossil fuels (coal, oil and gas), but deforestation is also a problem. The intergovernmental panel on climate change (IPCC) report released makes it clear that the world cannot continue on its current path. If we continue what we are doing now we are in deep trouble. There are several reasons why public understanding of renewable energy might be important as follows:

- Renewable energy provides reliable power supplies and fuel diversification, which enhance energy security, lower risk of fuel spills, and reduce the need for imported fuels.
- Renewable energy also helps conserve the nation's natural resources.
- Anthropogenic influence on the world's climate, in particular climate warming due to release of greenhouse gasses like carbon dioxide CO₂ and methane CH₄.

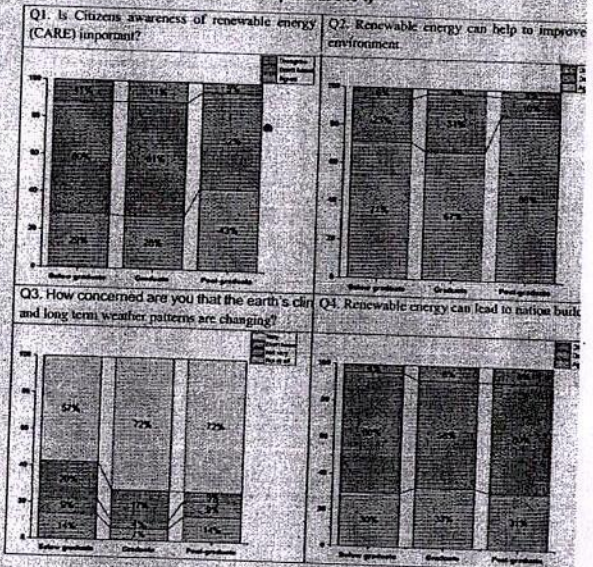
METHODOLOGY

- To measure the citizens' awareness level of the RESS, we have conducted a survey type methodology for this research. Basic aim of this methodology is to incorporate people from diverse education backgrounds to make the study results more significant, consequential and reliable.
- For conducting this research, we prepared a questionnaire consisting of four questions. How well data is sampled depends on the availability of a sampling frame, the sample size and selection procedures.
- The aim of the sample in this study was to produce data that could be subjected to a variety of statistical techniques, purposive sampling was considered to be the most effective method for this research work.
- Using purposive sampling procedure, the study as in most sampling approaches, a targeted specific educated population, thus the ages between 15-30 years was taken as the unit of analysis.

RESULTS

A total of 308 participants from diverse educational background have participated in this study. Table 1 presents a questionnaire which consists of four questions related with citizens' awareness regarding RESS. It also includes received responses and their analysis and interpretation.

Table 1: Questionnaire (The responses of questions 1 to 4)



DISCUSSIONS

- Below are the possible means on educating the general public on renewable energy technologies and its benefits.
- **How Could Public Understanding of Renewable Energy Be Achieved, and Which Means Are Potentially Useful?** There are of course several different channels that can be used in conveying attitudes towards and knowledge of renewable energy subjects: Newspapers, TV programs, books, interactive exhibits in science centres, lessons in the school. Different media certainly attract different target groups.
 - **Educating the General Public** A number of ways to educate large populations are readily available. Some proven examples:

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Sexual-predator Detection System based on Social Behavior Biometric (SSB) Features

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Abstract

This study designs an online sexual predator detection system using Social Behavior Biometric (SSB) features. Social biometric focuses on extracting the pattern a user exhibits while interacting and communicating through social networks. The paper addresses the online sexual predator problem by mining the vocabulary and emotional behavior, which could assist in identifying if the user is a benign or predator. The feature-set consists of vocabulary terms that appear differently in predator and victim content. In order to strengthen the detection model, the paper also focuses on distinguishing the two classes of users based on emotions reflected in their conversation. The experiments are performed on the PAN 2012 corpus. Two datasets are created with respect to vocabulary-based and emotion-based features. The results obtained on the test set have proved that by integrating the vocabulary and emotion-based attributes, the performance of the system is significantly enhanced. While comparing, the proposed approach has outperformed top existing methods by obtaining F_1 , F_2 , and $F_{0.5}$ values of 0.95, 0.94, and 0.96 respectively. Furthermore, we also recorded the best accuracy compared to state-of-the-art studies for our proposed SBB-based approach with 99.86%, 99.51%, and 99.88% for Decision Tree (DT), Support Vector Machine (SVM), and Random Forest (RF) respectively.

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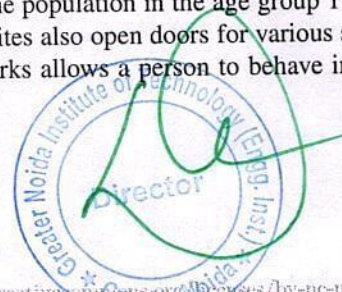
Peer-review under responsibility of the scientific committee of the 5th International Conference on AI in Computational Linguistics.

Keywords: Online Sexual Predators; Emotion mining; Lexical analysis; Machine Learning;

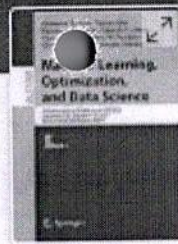
1. Introduction

Social networking applications play an essential role in our daily lives by providing a platform to connect, communicate and socialize with other people easily. We may or may not know our online contacts also in the real world. According to an online abuse report (2019) [2], around 90% of the population in the age group 11–16 years possess a social media account. Alongside amazing opportunities, these sites also open doors for various safety risks to their users. For example, the anonymity characteristic of social networks allows a person to behave in whatever manner

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Predatory Conversation Detection Using Transfer Learning Approach

[Nancy Agarwal](#), [Tuğçe Ünlü](#), [Mudasir Ahmad Wani](#) & [Patrick Bours](#) 

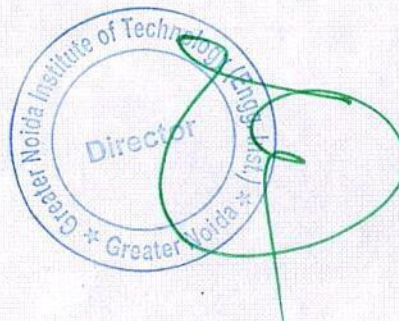
Conference paper | [First Online: 02 February 2022](#)

905 Accesses | **1** Citations

Part of the [Lecture Notes in Computer Science](#) book series (LNISA, volume 13163)

Abstract

Predatory conversation detection on social media can proactively prevent the netizens, including youngsters and children, from getting exploited by sexual predators. Earlier studies have majorly employed machine learning approaches such as Support Vector Machine (SVM) for detecting such conversations. Since deep learning frameworks have shown significant improvements in various text classification tasks, therefore, in this paper, we propose a deep learning-based classifier for detecting predatory conversations. Furthermore, instead of designing the system from the beginning, transfer learning has been proposed where the potential of the pre-trained BERT (Bidirectional Encoder Representations from Transformers) model is utilized to solve the predator detection problem. BERT is mostly used to encode the textual information of a document into its context-aware mathematical representation. The





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Manish

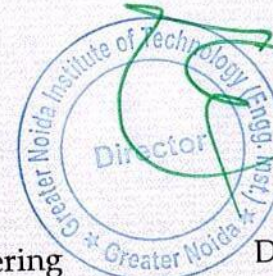
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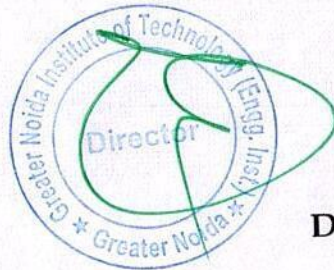
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