

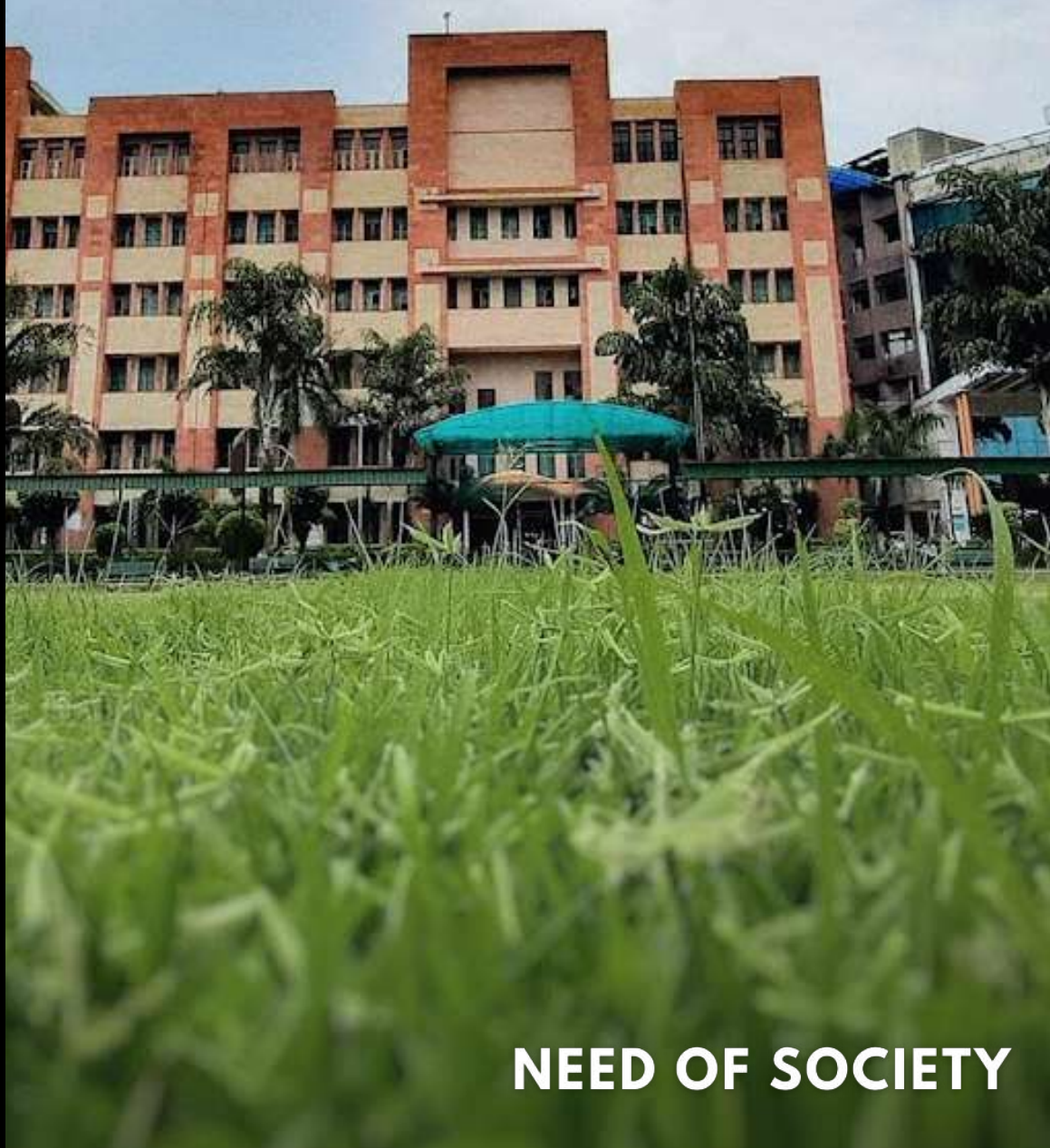
ELECTRONICA

2022



NIET
Greater Noida
GET FUTURE READY

AN AUTONOMOUS INSTITUTE



NEED OF SOCIETY

VISION OF DEPARTMENT

TO PREPARE THE STUDENTS FOR GLOBAL COMPETENCE, WITH CORE KNOWLEDGE IN ELECTRONICS AND COMMUNICATION ENGINEERING HAVING FOCUS ON RESEARCH TO MEET THE NEEDS OF INDUSTRY AND SOCIETY.

MISSION OF DEPARTMENT

- TO BECOME A DYNAMIC AND VIGOROUS KNOWLEDGE HUB WITH AN EXPOSURE TO STATE-OF-ART TECHNOLOGIES FOR CONNECTING THE WORLD.**
- TO PROVIDE IN-DEPTH KNOWLEDGE OF ELECTRONICS AND COMMUNICATION ENGINEERING ENSURING THE EFFECTIVE TEACHING-LEARNING PROCESS.**
- TO TRAIN STUDENTS TO TAKE UP INNOVATIVE PROJECTS IN GROUPS WITH SUSTAINABLE AND INCLUSIVE TECHNOLOGY RELEVANT TO THE INDUSTRY AND SOCIAL NEEDS.**
- TO EMPOWER STUDENTS TO BECOME SKILLED AND ETHICAL ENTREPRENEURS.**
- TO PROMOTE AND ADAPT PROFESSIONAL DEVELOPMENT IN A PERPETUALLY DEMANDING ENVIRONMENT AND NURTURE THE BEST MINDS FOR THE FUTURE.**

PROGRAM EDUCATIONAL OBJECTIVES

1

To have an excellent scientific and engineering breadth so as to comprehend, analyze, design, and solve real-life problems using state-of-the-art technology.

2

To lead a successful career in industries or to pursue higher studies or to understand entrepreneurial endeavours.

3

To effectively bridge the gap between industry and academics through effective communication skill, professional attitude, and a desire to learn.



FROM THE DESK OF THE MANAGING DIRECTOR

"WORK IS WORSHIP"

Success is not a one-shot process. It is the result of a continuous improvement after each failure. The fear of failure needs to be captured in order for a person to learn from his failure too. It is an invaluable opportunity to rectify errors and move forward. Failure in working for a good cause is better than success in working for a wrong cause.

Over the years now, NIET has built quite a special position in the private higher education sector. With its distinctive culture, it provides a clear student-centered environment in which to explore existing technical knowledge, and gain new learning at the leading edges of technology development.

Our unique educational system ensures that you gain not just depth and breadth in your chosen area of specialization, but also a holistic set of skills that will equip you to face the real world. At every stage, there will be opportunities to expand your boundaries, platforms for collaboration and learning, and recognitions for those who strive to excel.

Thus, I would like each one of you to join NIET and aspire as global leaders and a successful human being.



DR. O.P AGARWAL

FROM THE DESK OF THE ASSISTANT MANAGING DIRECTOR

"EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD" - NELSON MANDELA



DR. NEEMA AGARWAL

In the course of last 20 years, many technical & management institutes have sprung up all over the country. Graduates passing out every year are highly optimistic that technical courses ensure a rewarding career.

The economic, corporate, and social environments are undergoing radical changes. To survive, manage, and excel in this dynamically changing atmosphere, it demands engagement of professionals who are well informed, competent, courageous, and versatile.

Beyond the academics, the curriculum at NIET is strongly linked with several recent themes like latest technologies needed by organizations, soft skills, communication, among others. Our approach has resulted in programs of study relevant to the leadership trends and challenges of tomorrow. Classroom learning is made interesting by highly qualified and experienced faculty through interactions, presentations, role plays, case studies and out bound learning programs. This is further reinforced by practical learning through industrial visits and summer training. Students regularly undergo personality development and grooming sessions that lead to both extrinsic and intrinsic confidence boosting and prepares them for the corporate world.

We appreciate your interest and want you to know that we are here to bring you a leading edge technical education.

FROM THE DESK OF EXECUTIVE VICE PRESIDENT

This new generation is an interesting one. Most of them were born into a world where technology has always been at the forefront. These students rely on Google, texting, social media and Wi-Fi, and they view email - not letter writing - as a formal form of communication.

NIET has been helping students write their own stories since its inception. Committed to providing the best jobs by creating life-changing educational opportunities and collaborative learning environments, we have stayed at the forefront of innovation in higher education, providing the tools our students need to make them industry ready from day one and make an impact in the world.

NIET has a Pyramid Finishing School, which provides training to the students according to the industry requirements giving the individual student a 360 degree in employability skills. The institute has also made tie-ups with MNCs like Microsoft, Oracle, KPMG, ICICI Direct, Prometric, and Pearson. These tie-ups not only promise to enhance student employability by a manifold, but also take the lead in encouraging 'innovative' learning like never before. Taking the league forward, we have established various innovation labs to provide students hands-on experience in various modern-day technologies. We impart experiential learning and thereby progressively enhance the competencies of our teaching staff and our students.

I, thus, invite you to join our movement to create corporate citizens who become role models, wherever they go, for developing their professional career. I promise you a challenging academic experience, with an international flavour, which will truly transform your lives.



RAMAN BATRA

FROM THE DESK OF THE DIRECTOR GENERAL

"EDUCATING THE MIND WITHOUT EDUCATING THE HEART IS NO EDUCATION AT ALL".



MR. PRAVEEN SONEJA

NIET, since its inception in the year 2001, has successfully created a niche for itself in private education in northern India. It has the distinction of being the only college with all four accreditations, i.e. NAAC, NBA, ARIIA and highest NIRF ranking amongst private institutes in Uttar Pradesh in the year 2020.

We at NIET sincerely believe in transforming lives of young budding students into socially responsible successful professionals.

Proactive scanning of the recent development in technology space, early identification of upcoming needs of the industries, aligning with right partners across the globe, continuous upgradation of our infrastructure, facilities, faculty, curriculum designed for 360-degree development of the students, and meticulous execution of teaching and learning process are the hallmark of our value chain to deliver "industry-ready professionals".

FROM THE DESK OF THE DIRECTOR

Welcome to Noida Institute of Engineering & Technology, Gr. Noida.

Ever since its inception in 2001, our endeavour at NIET has been to provide excellent quality of education and training to young minds aspiring to become engineers, managers, pharmacists, and technocrats. In order to achieve this goal, we have established an infrastructure that conforms to the bests in the world. Our faculty members are highly talented and qualified. Additionally, we invite the finest minds from the industry and academia as guest lecturers. With the help of a very supportive staff, we ensure a healthy learning atmosphere for our students.

We motivate our students to dream big and guarantee that right spirit and necessary talent are inculcated in the students to help them realize their objectives. We also continuously strive to instil ethical values in our wards so that they become responsible citizens of tomorrow.

NIET has always stood for quality and excellence and we make every effort to constantly upgrade and improve ourselves. These efforts have been recognized, appreciated, and awarded by prestigious educational bodies both in India and abroad.

I wish you the very best as you choose to become a part of this exciting and vibrant learning community.



DR. VINOD M. KAPSE

MESSAGE FROM THE DEPARTMENT

FROM THE HEAD OF DEPARTMENT

I am happy to note that Department of Electronics and Communication Engineering is releasing its annual magazine for the year 2022. Enumerating various activities and achievements of our faculties and students make this magazine successful. Electronica has provided its worth by inspiring many students and faculty members to write articles for the benefits of students at large.

I acknowledge the contributions made by the authors and hard work of Editorial team for successful completion of Electronica-2022.



DR. PAVAN KUMAR SHUKLA



DR. SHILPEE PATIL

FROM THE DESK OF DEPUTY HOD

All the department's technological efforts have their roots in this magazine. The club strives & consistently works for the technical advancement with the help of the highly qualified faculty members & the enthusiastic students. It gives me pleasure to convey my best wishes to the editorial team for the successful completion of ELECTRONICA-2022. Wishing all the best to faculties, staff members & students for their future endeavour.

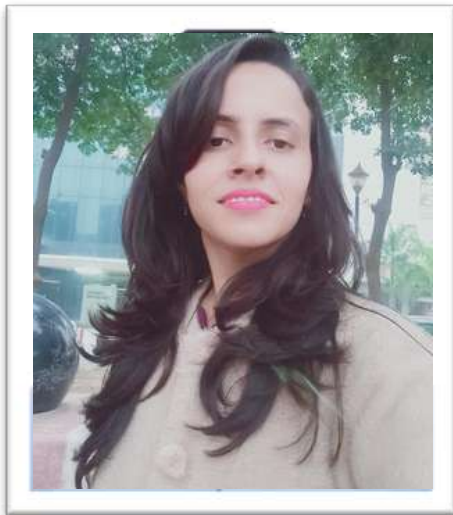
MESSAGE FROM THE EDITORIAL TEAM

FROM THE EDITOR IN CHIEF

"If you want to change the world, pick up your pen and write", said Martin Luther once. I'm happy to be able to witness an array of talents of the staff and the students of ECE Department ,NIET,all combined and being able to be viewed with just the turning of pages. So many different people with so many different perspectives. Just lead me to thinking of how diverse we actually are and yet we all find ways to express ourselves in the best way we can. So, be a part of this experience and I hope you enjoy reading the ELECTRONICA.



M/S. KANIKA JINDAL



M/S. SHIKHA

FROM THE FACULTY IN-CHARGE

Working with ELECTRONICA has made it a part of me. I identify with the emotion each page portrays and look upon the magazine as an entity itself. I almost feel that it tells its own story. Here lies a humble hope that you will enjoy and appreciate it. Happy Reading..!

FROM THE STUDENT HEAD

I am truly grateful to my team, friends and teachers who extended their full cooperation. I would like to thank Dr. Pavan sir, Dr. Shilpee mam, and Mrs. Kanika mam for bestowing their immense trust, love and guidance for completion of Electronica 2022. Just like the gods and asuras churned the ocean to extract the nectar, we have tried to churn out creativity from the mess of science. A lot of effort has gone into making of ELECTRONICA 2022. I hope you enjoy reading the magazine.



MR. ARCHIT TRIPATHI

ALUMNI CORNER

Name-Ajay Kumar Kushwaha
University Roll No : 1713331013
Course: B.Tech
Branch: ECE Department
Batch: 2017-2021
Achievement: Got an Offer of
M.Tech, IIT Roorkee in COAP(
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through GATE 2022
(Specialization: R.F. and Microwave
Engg, Course Code : 30)



Name-Amit Gupta
Post- Consultant (Assistant Manager)
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Batch- 2011-2015



Name: Anuj Pratap Singh
Designation- Tax Assistant
CTC- 5 lakh per annum
Company name- Income tax
department, Ministry of Finance,
Govt. of india





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RESEARCH PAPER

DISTANCE-BASED CONFIDENCE GENERATION AND AGGREGATION OF CLASSIFIER FOR UNSTRUCTURED ROAD DETECTION

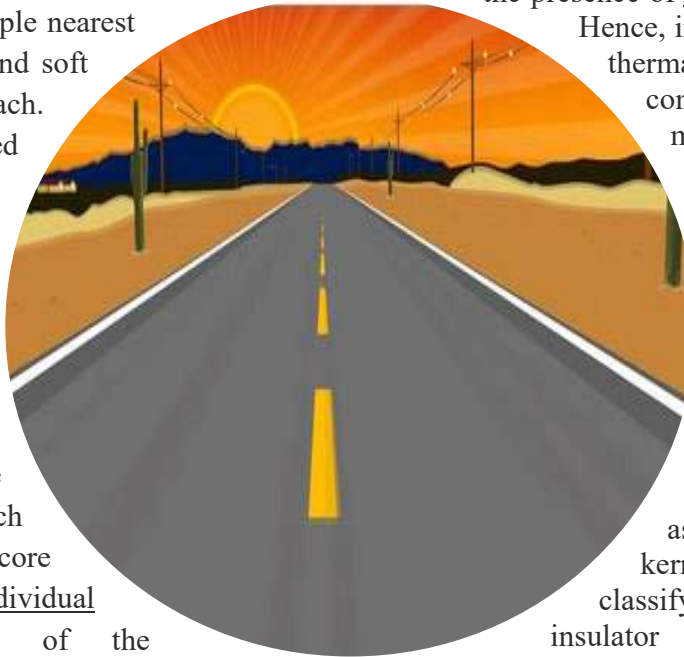


by Altat Alam, Laxman Singh et al.

JOURNAL : JOURNAL OF KING SAUD
UNIVERSITY - COMPUTER AND
INFORMATION SCIENCES (ELSEVIER)

Brief Summary

Road region and non-road region separation in the unstructured road intends to be an important task for safe navigation and collision avoidance for autonomous driving vehicles. The road that connects rural areas and cities to the national highways are considered as unstructured roads. Absence of clear lane marking on these unstructured roads makes them more prone to accidents in comparison to highways, which have clear lane marking for indication of road and non-road regions. However, the unstructured roads have different colour information from its background that paves an easy way for design and development of an efficient road detection system for recognition and classification of road and non-road regions. Hence, in this paper, we propose an efficient road detection system for the classification of unstructured roads into road and non-road regions using multiple nearest neighbours (NN) classifier and soft voting aggregation approach. The proposed system utilized the chromatic information (i.e. *a,*b, and Hue) to train the NN classifiers and aggregated their output using soft voting (SV) approach for final output response. The output results of multiple classifiers were aggregated using SV approach based on the confidence score obtained by each individual classifier. The performance of the proposed system is evaluated in terms of precision, recall, accuracy, intersection over union (IOU), true positive rate (TPR), and processing time and compared with current state of art methods reported in the literature. The proposed system achieved precision, recall, accuracy, **ELECTRONICA 2022**



IOU, and TPR of 96.79%, 96.92%, 97.8%, 96.08% and 96%, respectively with the processing time three times smaller than those of the existing state of art methods. The experimental results demonstrate that the proposed system can provide an effective guidance to the autonomous vehicles through recognition and classification of road and non-road regions in rural, urban, and city areas, wherein single unstructured roads connect the national highways.

DESIGN OF THERMAL IMAGING-BASED HEALTH CONDITION MONITORING AND EARLY FAULT DETECTION TECHNIQUE FOR PORCELAIN INSULATORS USING MACHINE LEARNING



by Dr. Laxman Singh, Altat et al.

JOURNAL: ENVIRONMENTAL TECHNOLOGY &
INNOVATION, ELSEVIER

Brief Summary

The inspection of insulator faults is an important task to prevent catastrophic failures in the operation of an electric substation. Manual inspection of overhead power line insulators can be very dangerous owing to the presence of high voltage in power sub-stations. Hence, in this paper, we present an infrared thermal (IRT) camera based non-invasive computer vision system for automatic monitoring and visual inspection of overhead online power insulators. In the proposed work, initially, an optimal threshold method is applied to segment the region of interest (ROI) in IRT images. Subsequently, various geometrical, morphological, intensity and statistical features are computed from the segmented ROI, which are eventually utilized as an input to Gaussian kernel support vector machine to classify the different type of faults in insulator images. Computer vision based automatic inspection of insulators can play an important role from environment as well as human safety point of view. Timely inspection of insulators can ensure the environmental safety through prevention of fire that may be caused due to the insulator failures leading to the

sudden breakdown of high-power lines. The proposed system achieved the true positive rate (TPR), and false negative rate (FNR) of 97.3%, and 2.66%, respectively. Whereas the system obtained the Positive Predictive Value (PPV) and False Discovery Rates (FDR) of about 97% and 3%, respectively with the accuracy of 0.97 on the receiver operating characteristics (ROC) curve.

The performance of the proposed method is compared with other existing state of the art methods and found that our method outperformed over them. Hence, we recommend proposed system to detect the severity of faults in IRT images long before any catastrophic failures takes place at power substations.

ARTIFICIAL INTELLIGENCE WITH SMART CHIP & SECURE SOFTWARE

by **Kamal Bhatia, A.P,ECE**

Using AI in chip design can significantly boost productivity, enhance design performance and energy efficiency, and focus expertise on the most valuable aspects of chip design.

Accelerate AI System on Chip (SoC) Design and Implementation with AI-optimized processors, memories, and interface IP



Discover And Verify New Architectures For Ai, Faster With High-Performance Emulation Hardware Solutions Shorten Development Times By Allowing Designers To Run Actual Workloads On Experimental Architectures And Rapidly Validate New Ai Compute Architectures.

IMPLEMENTATION OF IOT IN AGRICULTURE

by **Pratyush , ECE, 3RD YEAR**



Take a look at the different uses of IoT in agriculture by means of various IoT solutions:

❖ **Robotics:** Since the industrial revolution in the 1800s, automation got more advanced to efficiently handle sophisticated tasks and increase production. With increasing demands and shortage of labor across the globe, agriculture robots or commonly known as Agribots are starting to gain attention among farmers. Crop production decreased by an estimated 213 crores approx (\$3.1 billion) a year due to labor shortages in the USA alone. Recent advancements in sensors and AI technology that lets machines train on their surroundings have made agrobots more notable. We are still in the early stages of an ag-robotics revolution, harnessing the full potential of the Internet of Things in agriculture, with most of the products still in early trial phases and R&D mode

❖ **Drones:** Agriculture is one of the major sectors to incorporate drones. Drones equipped with sensors and cameras are used for imaging, mapping, and surveying farms. There are ground-based drones and aerial drones. Ground drones are bots that survey the fields on wheels. Aerial drones, formally known as unmanned aerial vehicles (UAVs) or unmanned aircraft systems (UAS), are flying robots. Drones can be controlled remotely or they can fly automatically through software-controlled flight plans in their embedded systems, working in coordination with sensors and GPS. From the drone data, insights can be drawn regarding crop health, irrigation, spraying, planting, soil and field, plant counting, yield prediction, and much more. Drones can either be scheduled for farm surveys (drone as a service) or can be bought and stored near farms where they can be recharged and maintained. After the surveys, the drones need to be taken to nearby labs to analyze the data that has been collected, thereby helping leverage IoT in agriculture better.



❖ **Remote Sensing:** Remote sensing in agriculture is revolutionizing the way data is acquired from different nodes in a farm' IoT-based remote sensing utilizes sensors placed along with the farms like weather stations for gathering data, which is transmitted to analytical tools for analysis. Sensors are devices sensitive to anomalies. Farmers can monitor the crops from the analytical dashboard and take action based on insights.

❖ **Computer Imaging:** Computer imaging involves the use of sensor cameras installed at different corners of the farm or

drones equipped with cameras to produce images that undergo digital image processing. Digital image processing is the basic concept of processing an input image using computer algorithms. Image processing views the images in different spectral intensities such as infrared, compares the images obtained over a period of time, and detects anomalies, thus analyzing limiting factors and helping a better management of farms. ➤ Quality control: Image processing combined with machine learning uses images from database to compare with images of crops to determine the size, shape, color and growth therefore controlling the quality. ➤ Sorting and grading: Post harvest, computer imaging can increase accuracy and time-efficiency of sorting and grading agricultural and food products based on their size, texture, color and shape. ➤ Irrigation Monitoring: Irrigation monitoring over a period of time helps in mapping irrigated lands. It also enables optimum irrigation scheduling based on soil moisture conditions, varying weather patterns, and plant physiological conditions

DEVELOP AN IT ENABLED FRAMEWORK MECHANISM THROUGH WHICH A PERSON CAN GIVE TIP-OFF ABOUT ANY SUSPICIOUS ACTIVITY/CRIME TO THE AUTHORITIES



**By Shashank Singh, Sameer Raj,
Sudhanshu Ranjan**
ECE, 2ND YEAR

The topic stated is about a simple and quick webpage that will help the user to provide crucial information about the activities happening around. Our solution mostly focuses on anonymity of user and genuineness of the tip-off provided by the user. We will use a randomly generated ID to protect the personal information getting accessed by the authority but to improve accountability, the ID will be linked to the user database/block chain to later provide feedback and rating to the user and to improve the genuineness, we will use statistics based on the historical data of the user to ensure the genuineness of the information. Statistics will include similar tip-off from others on the same issue which have been deemed valid through the truth score of the given tip-off. Our mechanism will also evaluate mental awareness and reception of the person giving the tip-off by running a small questionnaire based on the selected crime category

WORKING OF THE WHOLE MECHANISM

The flow chart shown below nicely shows how the data of both the user and the authorities will be stored and how it will transit through the different stages.

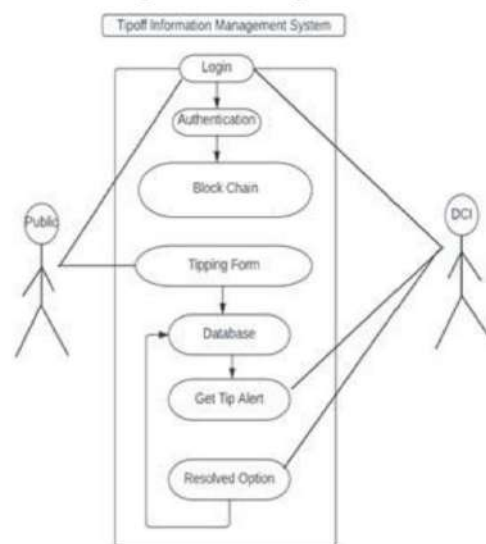


Fig 1: Flow chart of working of use cases.

FUTURE SCOPE

We can implement the entire user interface on mobile app based on android or ios in future. This will help user to give the tip about suspicious activities to authorities from anywhere anytime.



WHY IT'S OK TO FEEL THAT UNIVERSITY ISN'T THE BEST TIME OF YOUR LIFE.



By Shomya Kumari,
ECE, 2ND YEAR

Just because you don't have a huge group of friends and aren't going out every night, it doesn't mean that you are doing university wrong.

I'm pretty certain that when you made the decision to go to university, at least one person said to you "it will be the best time of your life". They'll tell you that you'll go on crazy nights out, make heaps of friends and have more fun than you've ever had. Ever. But what if this doesn't happen? What if you end up making only one friend? What if you aren't going to loads of house parties? What if you aren't turning up to 9am lectures still drunk from the night before?

This is where it is important to remember that there is no right or wrong way to do university. If you aren't downing £1 shots every single night with a big group of pals and partaking in a "friends with benefits" arrangement with that person in your modern poetry seminar, it doesn't mean that you are doing university wrong.

It probably doesn't help that every time you open Instagram or Facebook or Snapchat, you're inundated with images of your friends all dressed up, posing in front of pink walls sipping elaborate cocktails. Or gushing about the new friends they've made and how they just "totally get each other".

The first thing to remember is that social media is just one version of a person's reality. Chances are that that girl you went to school with who just posted an image of herself with 10 other girls with the caption "best buds for life" hasn't even spoken to three of them. Or the guy

who's boasting that he's been on four dates this week is elaborating ever so slightly.

But remember that you will never know what is going on behind the scenes so don't linger over these images for too long. Nobody will ever post a picture of the mundane or the ordinary because it just doesn't feed into the university hype. And remember that university is about so much more than banking drunken stories that you can whip out at the dinner table when you're middle-aged and reminiscing on your university days.



Don't put pressure on yourself to be **#livingyourbestlife** for three or four years straight because that isn't sustainable and the constant upkeep to remain positive and upbeat can have a negative impact on your mental health. It's easy to think that you have to be the life and soul of the party to fit in, but it's so much more important to make sure that you are doing university the way that is best for you.

The point I'm making is that there is no blueprint to how university should be experienced. It's important that you shape your four years in the way you want. Figure out what is going to make you the happiest, focus on the education aspect and, if nothing else, you'll leave university with a degree under your belt in a subject you love.

And if you really, truly are feeling miserable then don't for a second think that you are alone or that you are the only student to have ever felt this way. Reach out to a close friend or your students' union, or your GP if the feeling persists. If you're unhappy with every single aspect of university life then it might be a good idea to chat through your options with someone.

You certainly shouldn't allow the pressure to have the best time of your life to stop you from having a great time at university.



माँ का Engineer



अर्चित त्रिपाठी

ECE-3RD year



माँ की गोद में था मेरा सर;
माँ बोली हो जाए तेरा नाम,
बेटा कुछ ऐसा काम कर;
सुन के माँ की बात, मैं उसे दोहराने लगा ।

Arts की तरफ़ जाने वाला ,

Science की गलियों में मंडराने लगा;

मुस्कराता हूँ ये सोच कर की ,

नोट गिन नहीं पाने वाला;

आज probability से सिर लड़ाने लगा ।

Engineering कर के नौकरी पाने के लिए

ठीक से हिंदी ना बोल पाने वाला ,

आज Coding में algorithm लगाने लगा ।

हर बात पर माँ से शिकायत करने वाला ,

आज दर्द होने पर मुस्कराने लगा ।

Engineer हूँ, गर्व से कह सकूँ ,

इसलिए थोड़ी maturity दिखाने लगा ।

पापा का नाम हो मेरे नाम से ,

ऐसे बड़े ख्वाब सजाने लगा ।

सुन के माँ की बात, मैं उसे दोहराने लगा.....॥



धरती की दुहाई

शुभेंद्र पराशर

ECE-3RD year



लिए वृष्टि घनघोर, घटा बढ़ी की छाई,
देख के हालत तेरी , सृष्टि भी रोने को आई।
क्या बनाया था तुझे?! और क्या तू हो गया?
रचना हुई भाई की, मगर शत्रु वही बन गया।
रुपया- पैसा धन और दौलत, भोग को तेरे बनाए थे,
देखते देखते तू ही उनका भोग क्यों बन गया?
वसूल नहीं तेरे जीवन का, तू बिना मूल का हो गया ।
बनाया तुझे इंसान था बस, ये धर्मो मैं क्यों उलझ गया?!



चीख-चीख के धरती मईया, मांग रही दुहाई हैं,
"धरोहर अपना बताया तुझे, और 'धरा' को ही तू हर गया"?

रक्षक चुना तुझे प्रकृति ने, मगर भक्षक तू ही बन गया।

अब तो अंदर झाँक ले मानुष, तू कितना नीचे गिर गया!!!!!!

गरीबी

रौशन राज

ECE-3RD year



गरीबी क्या होती है? आप बताइए साहब, हर कोई अपना अपना दर्द बताता है पर कोई भी उसे महसूस नहीं करता, आज मैं आप लोग को गरीबी का दर्द महसूस करवाता हूँ।।।।।

गरीबी क्या होती है ? उनसे पूछिए साहब ।

जिनके पास खाने के लिए रोटी तो है पर नमक नहीं।

इज्जत तो बहुत है पर उसको ढकने के लिए कपड़े नहीं ।

मकान तो है रहने के लिए पर जो धूप, बारिश और ठंड को रोके वैसी छत नहीं। सपने तो बड़े बड़े हैं पर अपने बच्चों को पढ़ा सके इतनी पैसे नहीं ।

गरीबी क्या होती है? उनसे पूछिए साहब।। ----- (1)

गरीबी क्या होती है ? उनसे पूछिए साहब।

जिनके पढ़ने के उम्र में घर की सारे काम उनके कंधों पे लाद दिए जाते हैं।

जिनके हाथों में खेलने के खिलौने होने चाहिए उस उम्र में हाथों में मेंहदी लगवा दी जाती है।

जिनके हाथों में कलम होना चाहिए उस उम्र में हाथों में हल थमा दिए जाते हैं।

जिस उम्र में हंसना – खेलना चाहिए उस उम्र में उन्हें सताया और तड़पाए जाता है।

गरीबी क्या होती है? उनसे पूछिए साहब।।----- (2)

गरीबी शब्द उनके लिए मज़ाक है, जो हर भूखे को चोर समझते हैं।

गरीबी क्या होती है? उनसे मत पूछिएगा साहब।

जिनके पास खाने के लिए पिज्जा, बर्गर तो है पर भूखे को खिलाने के लिए एक रोटी नहीं।



जिनके पास रहने के लिए आलीशान महल तो है पर किसी गरीब के लिए एक छत नहीं।

जिनके पास अपने बच्चों पर बर्बाद करने के लिए पैसे तो हैं, पर एक गरीब को पढ़ने के लिए नहीं। जिनके पास फैशन करने के लिए अनेक कपड़े हैं, पर एक गरीब को देने के लिए नहीं।

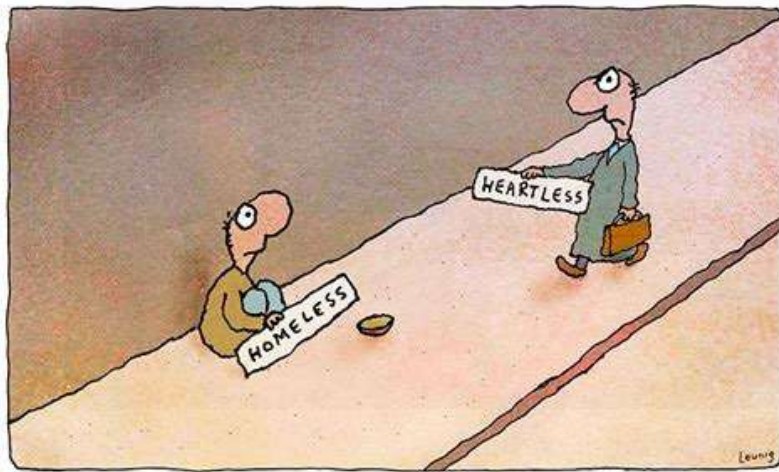
गरीबी क्या होती है? उनसे मत पूछिएगा साहब। मत पूछिएगा साहब , मत पूछिएगा।।----- (3)

उस पढ़ाई का क्या मतलब साहब, जिससे हम हजारों मकान बना सकें पर गरीब के लिए एक मकान नहीं।

जिससे हम एक से बढ़ कर एक खूबसूरत गाड़ी बना ले पर उस में एक गरीबी के लिए जगह नहीं।

जिससे हम चांद और मंगल पर पहुंच जाए पर एक गरीब को घर तक पहुंचा सके नहीं।

तो क्या मतलब इस पढ़ाई का साहब। तो क्या मतलब ।।।





PROJECTS

1. A NOVEL IMPLANTABLE ANTENNA FOR BIOMEDICAL APPLICATIONS

TEAM MEMBERS : MUSKAN SINGH, SHUBHAM SHUKLA, VAIBHAV SINGH, VAISHALI SINGH

TEAM MENTOR: DR. V.K. PANDEY

2. DESIGN AND ANALYSIS OF MICROSTRIP ANTENNA FOR MILIMETER WAVE APPLICATIONS

TEAM MEMBERS: ABHAY SHARMA, ADITYA KUMAR GUPTA, AKSHAY KUMAR, HARSHIT BHATNAGAR

TEAM MENTOR: DR. SHILPEE PATIL

3. DESIGN AND ANALYSIS OF MULTIBAND MICROSTRIP PATCH ANTENNA FOR WIRELESS APPLICATIONS

TEAM MEMBERS: SUGANDH KUMAR, DIVYANSHI SRIVASTAVA, PRIYA MISHRA, RISHABH KHANA

TEAM MENTOR: DR. DHANANJAY SINGH

4. DESIGN OF A MULTITASKING DRONE FOR AGRICULTURE PURPOSE

TEAM MEMBERS: GAURAV SINGH, NIKHIL KUMAR CHOUBEY, SPARSH SINGH, SURAJ KUMAR

TEAM MENTOR: DR. ANSHUMAN SINGH



5. EXTENSION OF NATURAL LANGUAGE PROCESSING AND TRANSLATION ASSISTANT FOR DEAF-BLIND



**TEAM MEMBERS: OJASVI
ASTHANA, PANKAJ SINGH
BAKUNI, PRASHANSHA
SRIVASTAVA, SATYABRAT SINGH**

**TEAM MENTOR: MRS. KANIKA
JINDAL**

6. DESIGN AND IMPLEMENTATION OF AUTO (LIGHT) INTENSITY CONTROLLING SYSTEM USING IOT AND WITHOUT IOT

**TEAM MEMBERS: SUMAN
KAMILYA, YASH PRATAP
SINGH, YASH VARDHAN
TYAGI, YUVRAJ SINGH**

**TEAM MENTOR: MRS. NIDHI
SHARMA**

7. DESIGN AND IMPLEMENTATION OF ANTI-THEFT SYSTEM BY HUMAN FIGURE IDENTIFICATION AND GUIDED CAMERA MONITORING

**TEAM MEMBERS: AMIT KUMAR
SINGH, HARSH RAJ, KUNAL
GUPTA, RANJAY KUMAR**

TEAM MENTOR: MR. AMIT KUMAR



8. DESIGN AND IMPLEMENTATION OF SOCIAL DISTANCING AND MONITORING ROBOT FOR QUEUE USING IOT

**TEAM MEMBERS:
KAMALAKAR SRIVASTAVA, NIDHI
AGNIHOTRI, PRABHAT
KUMAR, PRATIK RAJ**

TEAM MENTOR: MS. MONA DEVI

9. DESIGN AND IMPLEMENTATION OF SMART BLIND STICK WITH OBJECT DISTANCE MEASUREMENTS

TEAM MEMBERS:
**SAKSHAM GOYAL, SONAL
SINHA, VANSHIKA
SHARMA, VINITA KUMARI**

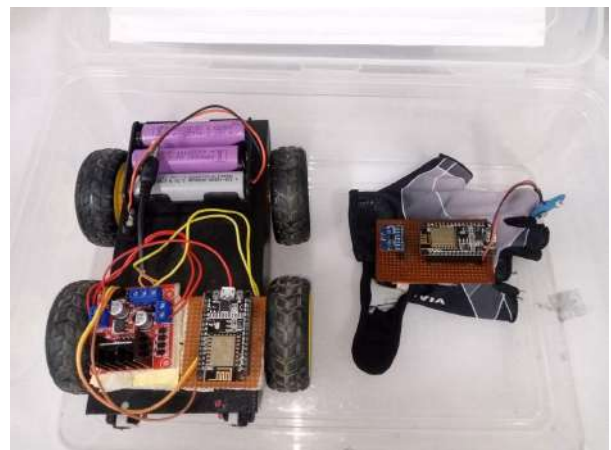
**TEAM MENTOR: MR. MANISH
KUMAR**



10. DESIGN AND IMPLEMENTATION OF VIGILANCE ROBOT USING GESTURE CONTROL BASED ON IOT

TEAM MEMBERS:
**VIKAS MISHRA, MAYANK MALIK,
ANKIT KUMAR, PRINCE YADAV**

TEAM MENTOR: MS. KHUSHBOO



ACTIVITIES

2022



ALUMNI INTERACTION

Alumni Interaction Session on
Radio Access Network.

Date: 26/03/2022

Speaker Name: Mr. Sanjeev Jha

Mr. Ajit Kumar

Mr. Prakhar Rastogi

Department of Electronics and Communication Engineering
(Accredited by NBA)
Organizing
Alumni Interaction Session
on
RADIO ACCESS NETWORK
(Under the 5G Communication Course)
by
Mr. Sanjeev Jha (Oracle India)
Mr. Ajit Kumar (SAMSUNG)
Mr. Prakhar Rastogi (NOKIA)
26 March 2022



Expert Talk on Innovation

Expert Talk on Power of Innovation to build
Career

11/03/2022

Speaker Name: Mr. Dharmendra Kumar



Expert Talk on VLSI

Expert Talk on topic "How to enter in
Semiconductor Industry"

08/03/22

Speaker Name: Vaibhav Mishra



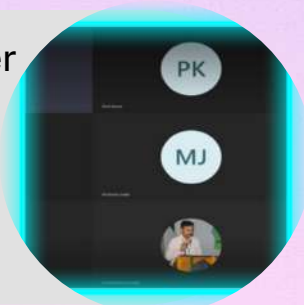


Expert Talk on VLSI

Expert Talk on topic "How to enter in Semiconductor Industry"

23/04/22

Speaker Name: Mr. Chandra Shekhar Chaturvedi



Faculty Development Program

One Week Faculty Development Program on "Exposure and Readiness of IoT Deployment".

7th to 12th Feb, 2022

Mr. Dharmendra Kumar, Mr. Zatin Gupta, Mr. Naveen Kumar, Mr. Ashish Gupta, Mr. Rakesh Gupta



Industrial Visit Program

Under the Institute Connect Program, Dept. of ECE has organised an industrial visit to Telecom Network Services under the EDUWE Program

12/08/2022



MOU Signing Ceremony

Department of Electronics and Communication Engineering has organized Memorandum of Understanding (MoU) Signing Ceremony with Instrumentation Automation Surveillance & Communication, Sector Skill Council (IASC), Government of India 19/04/2022.



National Science Day

Online Quiz on National Science Day

There were 10 questions which was related to science and technology and was organised for all the branches of NIET for third year students.

28/02/ 2022





TechnoCruise 2022

A Technical Paper Presentation
Chief Guest Name: Mr. Avaneesh
Vats
Date: 29/04/22



NIET
Greater Noida

Health Awareness Program

Online Quiz Competition was organized under the
Health Awareness Programme, on the occasion of
World Health Day 2022
Date: 07/04/2022



Health Awareness Program

Poster Making Competition was organized under
the Health Awareness Programme, on the
occasion of World Health Day 2022
Chief Guest: Mr. Bharat Sharma
Date: 09/08/2022



Project Exhibition

Project Exhibition was organized by Department Of ECE under two
categories namely Hardware & Software
Chief Guest: Mr. Bharat Sharma
Date: 09/04/2022.



MEMORANDUM OF UNDERSTANDING

The MOU was signed by NOIDA INSTITUTE OF ENGINEERING
& TECHNOLOGY, GREATER NOIDA AND TELENNOETICA LTD.
Date: 09/03/2022









TECHNOCRUISE PRESENTATION





BLOOD DONATION CAMP

GIMS & NIET.

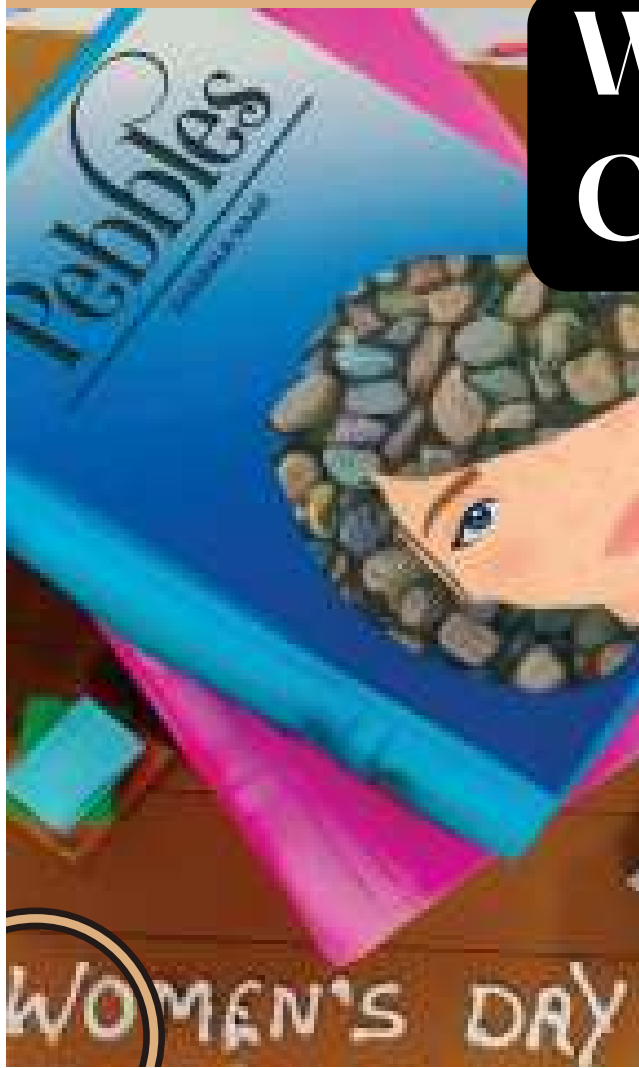


**RUN FOR HER
WOMAN
EMPOWERMENT
PROGRAM**





WOMEN'S DAY CELEBRATION



08.03.2022 -





ALUMNI MEET

**CONGRATULATIONS
BATCH 2022!**

DREAM BIG, AIM HIGH



ECF farewell

BATCH 2022





BATCH 22



M.O.U SIGNING CEREMONY

At the end of
the day,
when
we all are
winners.



Faculty Achievements 2022



FACULTY ACHIEVEMENTS



**STAR PERFORMER OF THE
YEAR
(ACADEMIC)**

**MR. DEVENDER PRATAP
SINGH**



**STAR PERFORMER OF THE
YEAR
(STUDENT WELFARE)**

MS. KANIKA JINDAL



**RESEARCH PAPER CASH
PRIZE(36000)**

DR. LAXMAN SINGH

FACULTY ACHIEVEMENTS



**RESEARCH PAPER CASH
PRIZE(36000)**

DR. SHILPEE PATIL



**RESEARCH PAPER CASH
PRIZE(10000)**

DR. VIJAY KUMAR PANDEY



**RESEARCH PAPER CASH
PRIZE(8000)**

DR. DHANAJAY SINGH

ECE Faculty PhD Awardees



DR DHANANJAY SINGH



DR ANSHUMAN SINGH



DR KUMOD KUMAR GUPTA



Club Co-ordinators



ARCHIT TRIPATHI
PRESIDENT, ISF



AMBUJ TIWARI
PRESIDENT, CODETRONICS



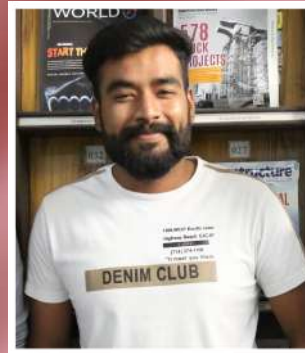
PRINCE YADAV



VAISHALI SINGH



UJJWAL ADITYA



SHUBHAM PANDEY



SNEHA KASHYAP



KUMAR ASHISH



PRAVEEN KR. SINGH



RITIKA SHUKLA



RAUSHAN RAJ



SUCHIT TYAGI



TEAM ECEE

STUDENT ACHIEVEMENTS

EVENT: EBULLIENCE 2K22

CATEGORY: MINDFIZZ

ACHIEVEMENT : WINNER



EVENT: AKTU ZONAL FEST

CATEGORY : DISCUSS THROW

ACHIEVEMENT : RUNNER UP



EVENT: NIET SPORTS FEST

CATEGORY: TABLE TENNIS

ACHIEVEMENT: SECOND RUNNER UP



EVENT: PROJECT EXHIBITION

CATEGORY: HARDWARE

ACHIEVEMENT: WINNER



STUDENT ACHIEVEMENTS

EVENT: WORLD HEALTH DAY

CATEGORY: POSTER MAKING

ACHIEVEMENT : RUNNER UP



SHOMYA KUMARI, SOMYA KUMARI
2ND YEAR



SUCHIT BHARDWAJ
3RD YEAR

EVENT: AKTU SPORTS MEET

CATEGORY : SHORTPUT(BOYS)

ACHIEVEMENT : WINNER

EVENT: ANNUAL SPORTS FEST

CATEGORY: TUG OF WAR(GIRLS)

ACHIEVEMENT: RUNNER UP



SHOMYA KUMARI
2ND YEAR



DEEPAK CHANDRA, ARCHIT SINGH,
JUHI SINGH, PIYUSH SINGH
2ND YEAR

EVENT: PROJECT EXHIBITION

CATEGORY: HARDWARE

ACHIEVEMENT: SECOND RUNNER UP

STUDENT ACHIEVEMENTS

EVENT: EBULLIENCE 2K22

CATEGORY: WATER ROCKETRY

ACHIEVEMENT : WINNER



ARCHIT TRIPATHI, PRAVEEN SINGH
3RD YEAR



SARANSH SARTHAK(C), ANKIT KUMAR(VC),
MANISH SINGH, SHUBHENDU PARASHAR,
3RD YEAR

EVENT: 4TH GALGOTIYAS NATIONAL COLLEGE SPORTS LEAGUE

CATEGORY : TUG OF WAR (BOYS)

ACHIEVEMENT : WINNER

EVENT: ANNUAL SPORTS FEST

CATEGORY: CRICKET(BOYS)

ACHIEVEMENT: RUNNER UP



ANKIT KUMAR(C), SHUBHENDU PARASHAR(VC), ANKIT CHAUHAN, DEVESH SINGH, DHEERAJ CHATURVEDI, (3RD YEAR)
VIVEK GUPTA, ABHAY SINGH, SONAL GUPTA, DEVENDER SINGH, ASHUTOSH UPADHYAY, SHIVAM (2ND YEAR)



PHOTOGRAPHY TEAM



VAISHALI SINGH

4TH YEAR



UJJWAL VARSHNEY



ADITYA UPADHYAY

3RD YEAR



SNEHA KASHYAP



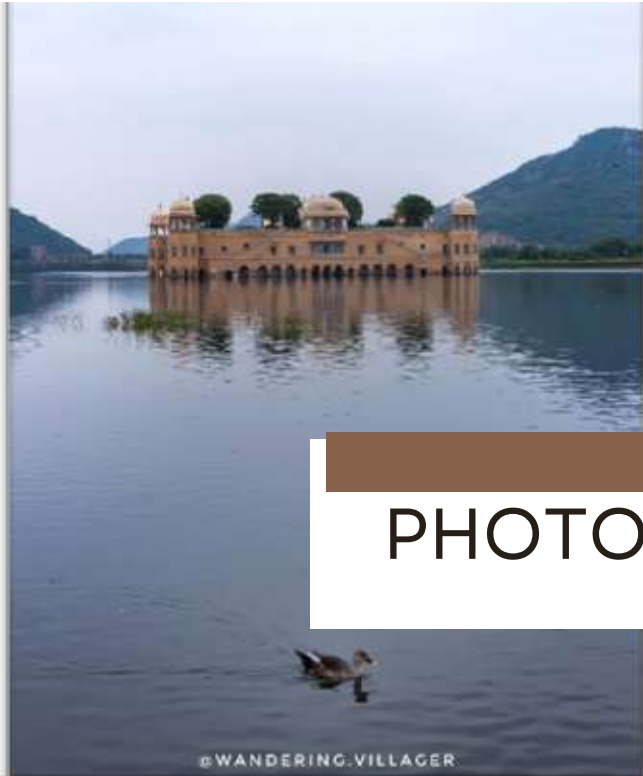
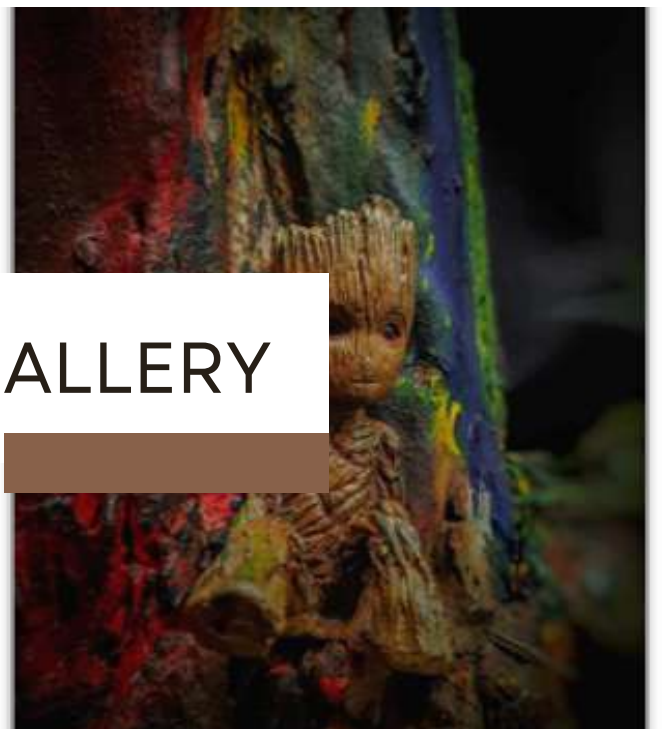
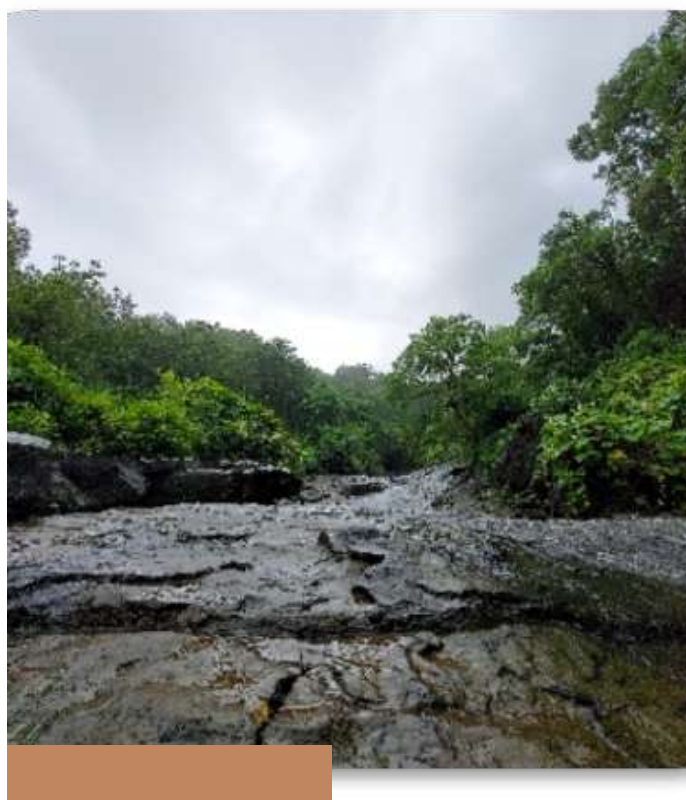


PHOTO GALLERY





PHOTO GALLERY



Academic Session (2021-2022)

International/National Journals

1. Altaf Alam, **Laxman Singh**, Zainul Abdin Jaffery, Yogesh Kumar Verma, Manoj Diwakar, “**Distance-Based Confidence Generation and aggregation of classifiers for unstructured road detection**”, Journal of King Saud University – Computer and Information Sciences (Elsevier), Sept 2021. (SCIE)
2. Gayatri Sakya, Chhaya Dalela, **Laxman Singh**, Anuj Jain, “**Machine learning based MAC protocol design for pipeline leakage detection in smart city project**”, Journal of Discrete Mathematical Sciences and Cryptography, Volume 24, 2021 - Issue 5: Recent Trends in Network Security and Artificial Intelligence, 02 Sept 2021.(SCI)
3. **Laxman Singh**, Altaf Alam, K. Vijay Kumar, Devendra Kumar, Parvendra Kumar, Zainul Abdin Jaffery, “**Design of thermal imaging-based health condition monitoring and early fault detection technique for porcelain insulators using Machine learning**” Environmental Technology & Innovation, Volume 24, November 2021, 102000 (SCIE).
4. **Laxman Singh**, “**Deep Learning based Tomato’s Ripe and Unripe Classification System**”, International Journal of Software Innovation (Accepted) (SCOPUS)
5. Manoj Singh Adhikari, Yogesh Kumar Verma, **Laxman Singh**, Manoj Bhatt, “**Analysis of DCTLDMOS on SOI for Power Amplifier Applications**”, Silicon, Springer, May 2022, (SCIE).
6. J Dafni Rose, K Vijaya Kumar, **Laxman Singh**, Sudhir Kumar Sharma, “**Computer-aided diagnosis for breast cancer detection and classification using optimal region growing segmentation with MobileNet model**”, Concurrent Engineering research and applications, Vol. 0(0) 1-9, (Sage

Publication), April 2022 (SCIE).

7. **Laxman Singh**, Altaf Alam, “**An efficient hybrid methodology for an early detection of breast cancer in digital mammograms**”, Journal of Ambient Intelligence and Humanized Computing, May 2022, Springer (SCIE).
8. M. Ramanan, **Laxman Singh**, A. Suresh Kumar, A. Suresh, A. Sampathkumar, Vishal Jain, Nebojsa Bacanin, “**Secure blockchain enabled Cyber- Physical health systems using ensemble convolution neural network classification**”, Computers and Electrical Engineering, (Elsevier), 101(108058) May 2022 (SCIE).
9. Anju Mishra, **Laxman Singh**, Mrinal Pandey, Sachin Lakra, “**Image based early detection of diabetic retinopathy: A systematic review on Artificial Intelligence (AI) based recent trends and approaches**”, Journal of Intelligent and Fuzzy systems, June 2022 (SCIE).
10. Jay Kant Pratap Singh Yadav, **Laxman Singh**, Zainul Abdin Jaffrey, “**A Robust Automatic Fingerprint Recognition System Using Multi-Connection Hopfield Neural Network**”, Traitement du Signal, 39(2), pp.683-694, April 2022 (SCIE).
11. Raj Kumar Goel, Chandra Shekhar Yadav, Shweta Vishnoi, **Laxman Singh**, Praveen Pachauri, “**Team Cognition Approach in Agile Software Development**”, Journal of Engineering Science and Technical Review, Sept 2021. (SCOPUS)
12. Jay Yadav, **Laxman Singh**, Zainul Abdin Jaffery, “**Optimization of Hopfield Neural Network for improved Pattern Recall and Storage using Hamming Distance and Lyapunov Energy Function**”, International Journal of Fuzzy System Applications, Vol. 11 Issue.2 May 2022 (SCOPUS)
13. Jugal Kishore Bhandari, Yogesh Kumar Verma, **Laxman Singh**, Santosh Kumar

Gupta, “**A Novel Design of High-Performance Hybrid Multiplier**”, Journal of Circuits, Systems and Computers, June 2022 (SCIE).

14. **Shilpee Patil**, Alka Verma, Anil Kumar Singh, Binod Kumar Kanaujia, Suresh Kumar, “**A low-profile circularly polarized microstrip antenna using elliptical electromagnetic band gap structure**”, International Journal of Microwave and Wireless Technologies, First View , pp. 1 – 10, Sept 2021, (SCI).
15. **Shilpee Patil**, Anil Kumar Singh, Vijay Kumar Pandey, Binod Kumar Kanaujia, Anil Kumar Pandey, “**A simple and compact broadband circularly polarized circular slot antenna for WLAN/WiMAX/DBS applications**”, Frequenz – Berlin, Oct 2021. (SCI).
16. Sonal Gupta, **Shilpee Patil**, Chhaya Dalela and Binod Kumar Kanaujia, “**Circularly polarized parasitic patch slot antenna using I-tree fractal defected ground structure for CA band applications**”, DE GRUYTER, Frequenz, March 24, 2022. (SCIE)
17. **Surya Deo Choudhary**, **Shilpee Patil**, Alka Verma, Md Irshad Alam, **Vinod M. Kapse**, Binod Kumar Kanaujia, “**Design of dual-polarized triple-band concentric annular-ring microstrip patch antenna for GPS applications**”, International Journal of Microwave and Wireless Technologies, 16 December 2021. (SCIE)
18. Mohit Sharma, Himanshu Chauhan, Harsh Rakesh Yadav, Jatin Kumar, **Nidhi Sharma**, “**Home Automation System Using Zigbee Protocol**”, International Journal of Advances in Engineering and Management (IJAEM), Volume 3, Issue 7 July 2021, pp: 389-392, ISSN: 2395-5252 (SCOPUS)
19. S. Kamilya, Y.P Singh, Y.V Tyagi, Y.Singh, **Nidhi Sharma**, “**Design and Implementation of Auto Intensity Controlling System For Home Automation**

Applications Using IoT”, EPRA International Journal of Research and Development (IJRD), Volume: 7, Issue: 5, May 2022. (PEER - REVIEWED)

20.S. Kamilya, Y.P Singh, Y.V Tyagi, Y.Singh, **Nidhi Sharma**, “**Design and Implementation of Auto (Light) Intensity Controlling System Using IoT and Without IoT**”, EPRA International Journal of Research and Development (IJMRD), Volume: 8, Issue: 4, April 2022. **(PEER - REVIEWED)**

21.**Anand Kumar Singh**, Ram Sevak Singh, Arun Kumar Singh “**Recent Developments in Chemical Doping of Graphene using Experimental Approaches and its Applications**”, Advanced Engineering Materials, Wiley Publications, 07 July 2022. **(SCIE)**

International/National Conference

1. Nidhi Agnihotri, Prabhat Biswal, Prateek Raj, Kamalakar Srivastava, **Dhananjay Singh, Mona Devi**, “**Review Paper on Technologies Used for Social Distance Monitoring and Prevention of COVID-19 Transmission**”, National Conference on Advanced Research Trends in Engineering (NCARTE-25-26 March 2022).
2. Nidhi Agnihotri, Prabhat Biswal, Prateek raj, Kamalakar Srivastava, **Mona Devi**, “**Design and Implementation of Social Distancing Monitoring Robot with Face Mask and Temperature detection using IoT and its Applications**”, International Conference on The Emerging Technologies in Computing (ICETC-24-25 February 2022).
3. **Garima Shukla**, Ketan Gupta, Rahul Singh, Aviral Devgan, Amarjeet Yash, **Laxman Singh**, “**Understanding the Mechanism of Some Important Heterostructures for Optoelectronic Application**”, IEEE Conference, May 2022.

4. Garima Jain, **Garima Shukla**, Priyank Saini, Anubha Gaur, Divya Mishra, Shyam Akashe, “**Secure Covid-19 Treatment with Blockchain & IoT Based Framework**”, Intelligent Sustainable Systems Conference proceedings, Jan 2022.
5. Ojasvi Asthana, Pankaj Bhakuni, Prashansha Srivastava, Satyabratt Singh, **Kanika Jindal**, “**Sign Language Recognition Based on Gesture Recognition/Holistic Features Recognition: A Review of Techniques**”, 2nd International Conference on Innovative Practices in Technology and Management (ICIPTM) IEEE Conference, 2022.
6. **Nidhi Sharma**, “**Design A High-Speed, Low Power Mac Unit For DSP Applications Using Verilog**”, AECE-2022 conference, May 2022.
7. **Nidhi Sharma**, “**Design and Implementation of High Speed Low Power Mac Unit with Proposed Mixed Adder for the DSP Applications**”, 4th International conference on computing and communication- (IC3 3rd and 4th June 2022).
8. Himani Sharma, **Nidhi Sharma**, **Surya Deo Choudhary**, “**Designing Adiabatic Techniques for Logic Circuits.**”, International Conference of Modern Electronics devices and communication systems (MEDCOM-Oct – 2021).
9. Rishabh Khanna, Divyanshi Srivastava, Priya Mishra, Sugandh Kumar, **Dhananjay Singh**, **Anshuman Singh**, Pavan Kumar Shukla, **Vinod M. Kapse**, and B. Mohapatra, “**Design of Dual Slot Microstrip Antenna for Wireless Application**”, IEEE-4th International Conference in association with IEEE UK & Ireland Section on Intelligent Engineering and Management (ICIEM-2022), London, United Kingdom, April 27-29, 2022.
10. Avinash Kumar Ravi, Kumod Kumar Gupta, and **Dhananjay Singh**, “**Noval Approach to Reduce Power Consumption in CMOS using MSTCEPFF**”, International Conference on Robotics, Automation & Communication ENGINEERING for Industry 4.0 (ICRACI 4.0-2022), Faridabad, India, Feb 4-5, 2022.

11. Divyanshi Srivastava, Rishabh Khanna, Priya Mishra, Sugandh Kumar, Pooja Singh Gautam, **Dhananjay Singh, V. K. Pandey, Pavan Kumar Shukla, Vinod M. Kapse**, “**Design of Vertical Slot Microstrip Antenna for C Band Application**”, National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.
12. Gaurav Singh, Suraj Kumar, Sparsh Singh, Nikhil Kumar Choubey, **Anshuman Singh, Dhananjay Singh**, “**Doric Drone: Multitasking Drone for Agricultural Purpose**”, National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.
13. Nidhi Agnihotri, Kamalakar Srivastava, Pratik Raj, Prabhat Kumar Biswal, **Mona Devi, Dhananjay Singh**, “**Review Paper on Technologies used for Social Distance Monitoring and Prevention of COVID-19 Transmission**”, National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.
14. Akash Saxena, Arush Singh, Ayush Kumar, Bharat Gaur, **Richa Baranwal, Dhananjay Singh**, “**Wireless Energy Monitoring System**,” 2022 National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.
15. Shubhendu Parashar, Suchit Bhardwaj, Nomah Ahmed, Pooja Singh Gautam, **Dhananjay Singh, Vinod M. Kapse**, “**Clap Switching Light Glow**” National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.
16. Shashank Singh, Sameer Raj, Shudhanshu Ranjan, Pooja Singh Gautam, **Dhananjay Singh, Pavan Kumar Shukla**, “**Develop an IT enabled framework mechanism through which a person can give tip-off about any suspicious activity/crime to the authorities**” National Conference on Advanced Research

Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.

17. Mayank Kumar, Mansi Pandey, Alam Zia, Rohit Gaund, Pooja Singh Gautam, **Dhananjay Singh**, “**IoT and Block Chain Based Data Security**”, National Conference on Advanced Research Trends in Engineering (NCARTE-2022), Bareilly India, 2022, March 25-26, 2022.