**MANIPAL UNIVERSITY JAIPUR**
INSPIRED BY LIFE

*CCE*
*PULSE*

*July-Dec 2022*

## About CCE Department

Department of Computer & Communication Engineering Manipal University Jaipur marked its commencement in 2015. The goal of the department is to integrate computer and communication, which includes concepts and practices of software and hardware of computers, information networks, wireless communication systems etc. The Department of CCE offers one of the most comprehensive instructional programs enhanced with research in its emerging fields. Research at the department addresses issues across the spectrum of Computer as well as Communication engineering systems. Some of the key areas include Machine Learning, Internet of Things (IoT), Web Technologies, Advance Computer Networking, Network and Information Security, Wireless Communication, Network on Chip (NoC), Software Testing, Computer Architecture and Embedded Systems. The CCE department also promote and nurture the spirit of innovation and entrepreneurship among students to enable them, not only to be industry ready, but also to be job creators. CCE offers collaborative programs for students and faculty, with many IT giants Dell, Microsoft, EMC2, Oracle, Nvidia, Intel, TI, ARM, EC Council, etc.

From The Magazine Team

Dear Readers,

Welcome to the edition of our departmental magazine. In this edition, we try to bind together each aspect of our CCE family, and we hope it inspires every member to actively contribute to the development of department academically and in extra-curricular activities. It represents the creative side of our students to a fair degree—something that we think we all need to reconnect with, amidst the busy schedule of semester exams, surprise quizzes and all those assignments that make you want to bang your head on the wall. This magazine provides a platform for students and staff to share information, spread the latest technical knowledge and cultivate right ways that will equip all of us to stay competent in our respective fields of study, and activities.

We thank all of you who stood by us patiently and contributed to the development of our magazine when there were days when the only thing, we had to offer was our own confusion.

## Contents

| Chief Editor | Associate Editor | Student Editor |
|---|---|---|
| Prof. Sunil Kumar | Dr Hemlata Goyal<br>Dr Sandeep Kumar Sharma | Mr. Manik Singh Walia<br>Mr. Ojaswi Singh |

# ICICV-2022
## 3rd International Conference

Department of Computer and Communication Engineering, Manipal University Jaipur has organized the 3rd International Conference on "Innovations in Computational Intelligence and Computer Vision" (ICICV-2022) during November 24-25, 2022. This conference was organized in hybrid mode, where all keynote sessions were held in offline mode, but a few technical sessions (paper presentations) were held in online mode. All accepted and presented papers will be published in Springer's book "Lecture Notes in Networks and Systems", ISSN: 2367-3370, abstracted and indexed in SCOPUS, DBLP, SCImago, etc. Chief Guest: Shri Antar Singh Nehra (IAS), Divisional Commissioner, Jaipur.

Guest of Honour: Padma Shri, Prof. Ajoy Kumar Ray, Director, JIS Institute of Advance Studies and Research JIS University, Kolkata and Ibrahim A. Hameed, Norwegian University of Science and Technology, Alesund, Norway.
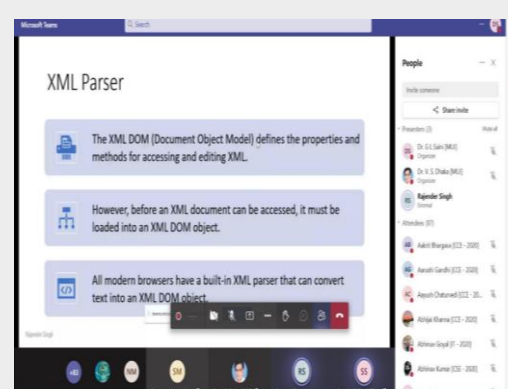
Keynote Speakers: Prof. Saroj, Dean (Faculty of Engg.), Professor (CSE), Guru Jambheshwar University of Science and Technology, Hisar, India; Dr. Nilanjan Dey, Associate Professor, Techno International New Town, Kolkata; Mr. Aninda Bose, Executive Editor, SpringerNature, New Delhi, India, Prof. Yi Pan, Chair Professor and Dean, Faculty of Computer Science and Control Engineering, Shenzhen Institute of Advanced Technologies, China; Prof. Arun Baran Samaddar, Former Director, MNNIT Allahabad and NIT Sikkim, Professor (IIM, NIT, IIEST, IIT ISM faculty etc.); Prof. R Balasubramanian, Professor, Indian Institute of Technology Roorkee, India

# Industry Expert Talk
## HTML5, XML, and JSON

Department of Computer and Communication Engineering organized an expert talk in online mode on "HTML5, XML and JSON" on November 20, 2022 (11:00 AM – 1:00 PM) via MS Teams. Mr. Rajender Singh, Associate Director, Nagarro was the resource person for the talk and target audience were the 5th semester students of B.Tech CCE/CSE/IT. The entire talk was conducted by Prof. (Dr.) V.S. Dhaka, and Mr. G.L. Saini, Assistant Professor.

Mr. Singh started the talk with an introductory PPT on HTML5 and further explained the concepts of XML and JSON.
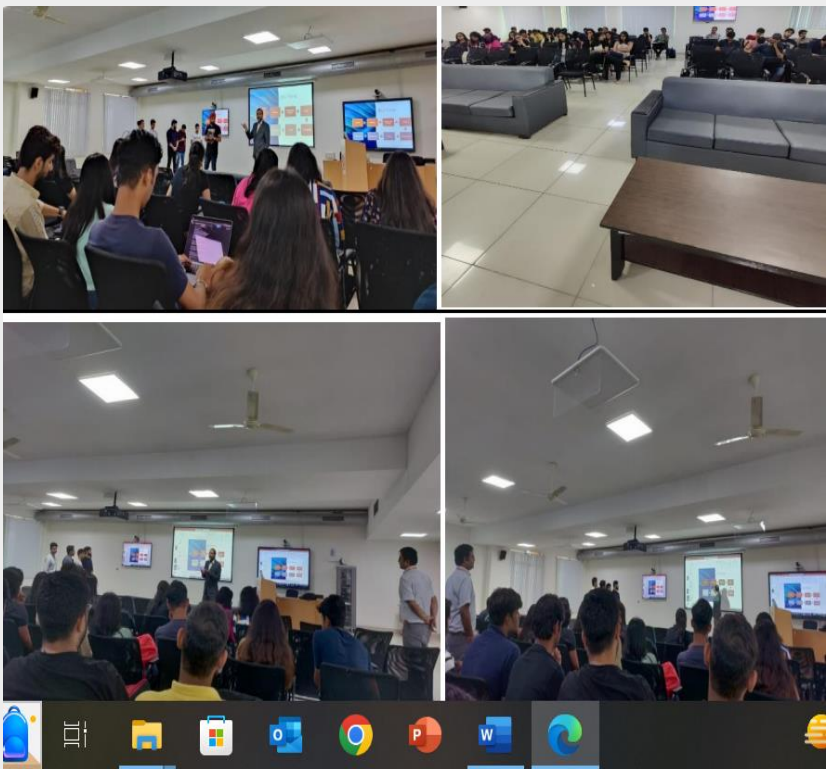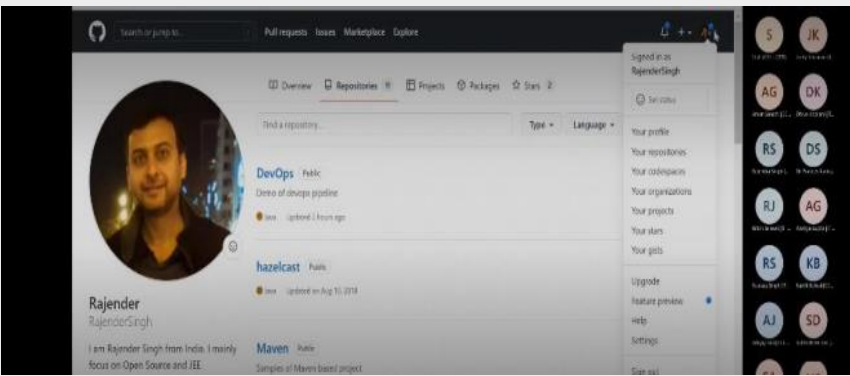
HTML5 and JSON are emerging fields used by many companies in nowadays for web development. Students attended the session with great attention, and they interacted with the resource person during/ end of the session. The session was concluded with a vote of thanks to Mr. Rajender Singh
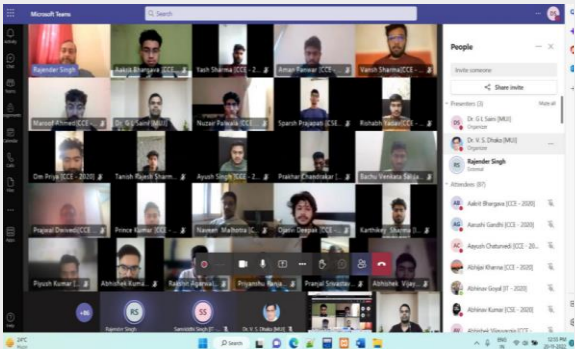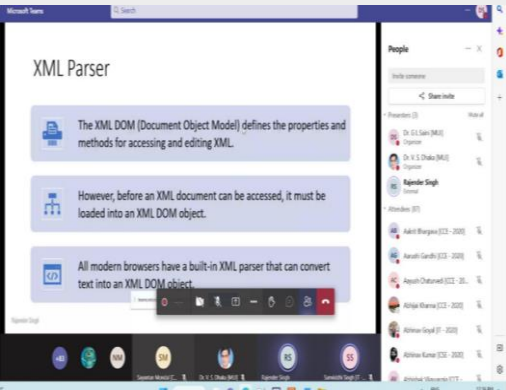
# Industry Expert Lecture on
## Devops

Department of Computer and Communication Engineering organized the expert lecture on Devops was conducted between August 18 to November 24, 2022, in an online series for the B.Tech VII Sem students of CSE/IT/CCE by Mr Rajendra Singh Associate Director at Nagarro. He has covered the overview of DevOps, market trends, skills, delivery pipeline, ecosystem; 45 Version Control: concept of Git, common commands, working with remote repositories etc.





# Industry Expert Talk
## HTML5, XML, and JSON

Department of Computer and Communication Engineering organized an expert talk in online mode on "HTML5, XML and JSON" on November 20, 2022 (11:00 AM – 1:00 PM) via MS Teams. Mr. Rajender Singh, Associate Director, Nagarro was the resource person for the talk and target audience were the $5^{th}$ semester students of B.Tech CCE/CSE/IT. The entire talk was conducted by Prof. (Dr.) V.S. Dhaka, and Mr. G.L. Saini, Assistant Professor.

Mr. Singh started the talk with an introductory PPT on HTML5 and further explained the concepts of XML and JSON.



HTML5 and JSON are emerging fields used by many companies in nowadays for web development. Students attended the session with great attention, and they interacted with the resource person during/ end of the session. The session was concluded with a vote of thanks to Mr. Rajender Singh

# Certificate of Excellence
## (9-Box Model)

Certificate of Excellence (9-box model) top rank recognition award is awarded to 5 faculty members-**Prof. Vijaypal Singh Dhaka, Prof. Dinesh Kumar Saini, Dr. Arjun Singh, Dr. Deepak Sinwar, Dr. Geeta Rani** in Department of Computer and Communication Engineering.

# Top Researcher of the year 2021 Award

Top Researcher of the year 2021 award in entire MUJ Faculty members, honoured two faculty members Prof. Vijaypal Singh Dhaka, and Dr. Deepak Sinwar in Department of Computer and Communication Engineering.

# NPTEL Online Certification

Accreditation and Outcome Based Learning, NPTEL Online Certification, 8-week course, August-October 2022, Prof. Sunil Kumar, and Dr. Deepak Sinwar scored 90% in the Department of Computer and Communication Engineering.

# Top Researcher of the Month
(July-Dec 2022)

| July 2022 | School of Computer and Communications Engineering (SCE) <br> 1. Dr Geeta Rani, Dr Vijaypal Singh Dhaka <br> 2. Dr Manoj Kumar Bohra |
|---|---|
| August 2022 | School of Computer and Communications Engineering (SCE) <br> 1. Ms Somya Goyal, Dr Lal Pratap Verma <br> 2. Dr Deepak Sinwar, Dr Geeta Rani, Dr Dinesh Kumar Saini, Dr Vijaypal Singh Dhaka, Dr Punit Gupta |
| September 2022 | School of Computer and Communications Engineering (SCE) <br> 1. Ms Somya Goyal <br> 2. Dr Geeta Rani |
| October 2022 | School of Computer and Communications Engineering (SCE) <br> 1. Dr Vijaypal Singh Dhaka <br> 2. Dr Geeta Rani <br> 3. Dr Deepak Sinwar, Mr Jitendra Singh Yadav, Mr Vivek Sharma, Dr Ghanshyam Raghuwanshi |
| November 2022 | School of Computer and Communications Engineering (SCE) <br> 1. Dr Vijaypal Singh Dhaka <br> 2. Dr Geeta Rani, Dr Dinesh Kumar Saini <br> 3. Dr Deepak Sinwar |

# OUTREACH ACTIVITY



# School Connect Program
## Government Sr. Sec. School, Sanjhariya, Jaipur

A school connecting program was organized by CCE Department at Government Sr. Sec. School, Sanjhariya on 17th Sept 2022 Saturday from 10:00Am to 12:30PM. This event was organized for the students of 11th and 12th class. Dr Sandeep Kumar Sharma, Dr Suman Bhakar and Mr Jitendra Singh Yadav





discussed with students about different carrier opportunities. The program coordinators briefed the students about MUJ history, infrastructure, courses, admission process, placements, NIRF ranking status, accreditations, and various scholarship schemes.

## Nozy Sr. Sec. School, Sikar

The school connect program for the students of Nozy Sr. Sec. School, Sikar. The event was conducted for the students for Class XI & XII. From MUJ, Dr. Vijay Kumar Sharma, Assistant Professor, CCE Department and Mr Anuj Bakliwal, Admission Officer visited their campus. The objective of the Event is





to familiarize the students with Manipal University Jaipur, courses running for the purpose of taking admissions after Class XII.

## Ekta Public Senior Secondary School, Jaipur



School Connect Activity – "About Manipal University Jaipur followed by expert talk on Python Programming Libraries is conducted at Ekta Public Senior Secondary School, Jaipur on dated December 23, 2022.



The session is covered with the understanding of python programming concepts, learning with Python Programming in application development and efficiency of the python libraries in project development.

# Appreciation Letter by District Magistrate

Navin Malhotra and Sayantan Mathur developed a DAK/Letter management system for the District Magistrate (DM) office in Jaipur. The purpose of this system was to effectively monitor the workflow within the collectorate. This system helped in streamlining the process of managing DAKs and letters, ensuring proper tracking and efficient communication between different departments. Navin and team successfully implemented a webApp for the District Magistrate (DM) office in Jaipur, and as a result, received a Letter of Recommendation.
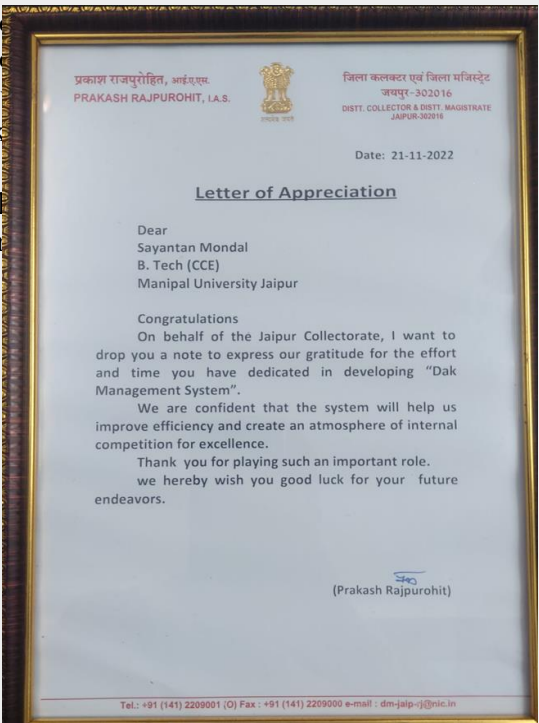
## Hack 7.0 Elicit 2022-23 Award

Vansh Kumar Singh BTech II Year student Branch secured I position and exemplary performance award in Hackathon conducted by ACM during Elicit'22.

## Quiz-scape Award 2022-23

Tanuj Kothari BTech CCE III year student secured 2nd position in Quiz-scape, the mind blending crossword conducted by IEEE WIE on 11th July, 2022.
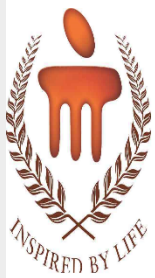
# Certificates of Participation

BTech CCE Student participate in "Cyber Crime Awareness Training Mega Campaign", organised by CollCom under Project Cyber Sanskar.

BTech CCE Student achieved "Ludifu Student Partner Program" completion certificate of different skills.





BTech CCE Students Team participated in National Level hackathon event "What the Hack-2022-23" organised by IEEE SB MUJ.

BTech CCE Student Piyush Raj participate in Promoting Girl Child Education Awareness program organized by SAY Club.





BTech CCE Student participate in "Decrypt of General Championship 2022" and achieved appreciation certificate.

BTech CCE Student achieved a certificate of participation in "Centre for High Technology-Swatch Bharat Quiz".

# Clone Wars a One-Day Workshop

Clone Wars was organized in the month of October 2022 to promote open source as a concept in the tech community. Interested were introduced to the basics of open source and GitHub with a workshop on 4th October 2022. This was followed by monthlong contributions to the Panacea GitHub repository under HacktoberFest. Contributions were accepted in six domains: Web Development, App Development, AI/ML, UI/UX, DSA, and no-code. The winners, Arpit Singh Gautam, and Krishna Rajkumar Dembla were awarded cash prizes.
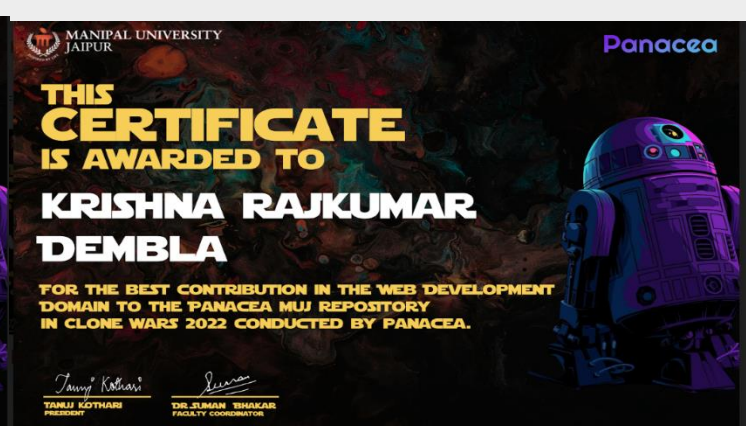


# Panache A Two-Day Workshop

Panache was Panacea's flagship event conducted during the Oneiros-2022. The event was conducted on 15th October in two rounds - an elimination quiz and a jeopardy-themed game show. Jahan Kakkar and Daksh Mendiratta of CCE department competed won cash prizes.



# State Level Powerlifting Competition 2022

A state level powerlifting event was organized in the Kangra district of Himachal Pradesh by the Himachal Pradesh powerlifting association (H.P.P.A.) in July 2022. In an estimate of over 200 participants in the event, Saarang Kumar (CCE-2020) won the first position in his weight category of 59kgs.

# Achievements

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN RESEARCH CATEGORY
This certificate is proudly awarded to

*Akshat Verma*

for publishing research paper in Scopus top Q1 Journal
July-October 2022.
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN RESEARCH CATEGORY
This certificate is proudly awarded to

*Rugved Chavan*

for publishing research paper in Scopus top Q1 Journal
July-October 2022.
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN RESEARCH CATEGORY
This certificate is proudly awarded to

*Vanshika Mehta*

for publishing research paper in Scopus top Q1 Journal
July-October 2022.
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN RESEARCH CATEGORY
This certificate is proudly awarded to

*Priyam Thakkar*

for publishing research paper in Scopus top Q1 Journal
July-October 2022.
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN SPORTS CATEGORY
This certificate is proudly awarded to

*Clely Voyena Fernandes*

for electing Joint Sports Secretary, MUJ
2 September 2022.
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN SPORTS CATEGORY
This certificate is proudly awarded to

*Parth Mohan Choudhary*

for participating in State Basket Ball Championship
2-5 September 2022
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN EARLY INDUSTRY EXPERIENCE/STARTUP CATEGORY
This certificate is proudly awarded to

*Shubham Verma*

for incubating Startup DigiAural Ventures Private Limited with The Government of India
We are delighted to provide this certificate to you.

---

MANIPAL UNIVERSITY JAIPUR

**School of Computer and Communication Engineering**

## CERTIFICATE
### OF STUDENT EXCELLENCE AWARD
### IN COMMUNITY OUTREACH CATEGORY
This certificate is proudly awarded to

*Clely Voyena Fernandes*

for representing Manipal University Jaipur in "Akhil Bhartiya Terapanth Yuvak Parishad",
Mega Blood Donation Drive on 17th September 2022.
We are delighted to provide this certificate to you.

# Publication in SCI Indexed Journal

Priyam Thakkar, Akshat Verma, Vanshika Mehta, Rugved Chavan, Geeta Rani, Vijaypal Singh Dhaka, published a paper title KUBUNET: Segmentation of Organs of Urinary System From a Kub Xray Image, Scopus, Q1(Top 10-24) Journal Computer Methods and Programs in Biomedicine, September 2022,

Varsha Himthani,Vijaypal Singh Dhaka, published a research paper title Systematic survey on visually meaningful image encryption techniques, in IEEE Access, SCI, Q1(Top 25-49), Journal in August 2022, https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9870781

Dr Deepak Sinwar, Alapati Manas Swarith published a paper title Reliability and maintainability optimization of load haul dump machines using genetic algorithm and particle swarm optimization , in Journal of Quality in Maintenance Engineering, SCI, Q1(Top 10-24), August 2022, https://doi.org/10.1108/JQME-11-2021-0088

Varsha Himthani,Vijaypal Singh Dhaka, Oza Meet Ganpatlal, Geeta Rani, published a paper Comparative performance assessment of deep learning based image steganography techniques, in Journal Scientific Reorts SCI, Q1(Top 2-9), October 2022, https://www.nature.com/articles/s41598-022-17362-1

Nidhi Kundu, Kalpit Gupta, Geeta Rani, Vijaypal Singh Dhaka, published a paper title Disease detection, severity prediction, and crop loss estimation in MaizeCrop using deep learning, in Journal Artificial Intelligence in Agriculture, SCI, Q1(Top 25-49), Nov 2022, https://www.sciencedirect.com/science/article/pii/S2589721722000204?via%3Dihub

Rajendra Singh, Manoj Kumar Bohra, Prashant Hemrajani Published a paper title Review, analysis, and implementation of path selection strategies for 2d nocs, in IEEE Access, SCI, Q1(Top 25-49), Journal in Dec 2022, https://ieeexplore.ieee.org/document/9973301/authors#authors

Devanshi Ledwani, published a paper title Review on security issues and solutions in cloud computing, Journal Journal of Discrete Mathematical Sciences and Cryptography, SCI, Q1(Top 10-24), Dec 2022, https://doi.org/10.1080/09720529.2022.2133253

Neeraj Jain, Renu Kumawat, published a paper title Aitzo based thin film transistor for ammonia gas sensing: a simulation study, Engineering Research Express, Q1(Top 2-9 https://doi.org/10.1088/2631-8695/aca6d1

# Conference Publications

Taninska mohan, published Conference Paper titled Prediction and analysis of cardiovascular disease using multivariate logistics regression classification, Futuristic Trends in Networks and Computing Technologies, Scopus, https://link.springer.com/chapter/10.1007/978-981-19-5037-7_58, Nov 2022

Pranay Eswar Gandhi, published Conference Paper titled Covid19 and pneumonia classification using ensembling with transfer learning, IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022), Scopus, https://ieeexplore.ieee.org/document/9965096, Dec 2022

Neerav Chaudhary, published Conference Paper titled Analyzing brain atrophy in dementia using computer vision, IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022), Scopus, https://ieeexplore.ieee.org/document/9964994, Dec 2022

Rohit Arun, published Conference Paper titled Image forgery detection using structural similarity and morphological tools, IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022), Scopus, https://ieeexplore.ieee.org/document/9964852, Dec 2022

Mudit Chaturvedi , published Conference  paper titled Risks Of Data Breaches And Mitigating Controls In Financial Sector, ICTSES-2021: Intelligent Computing Techniques for Smart Energy Systems
Scopus, https://doi.org/10.1007/978-981-19-0252-9_64, July 2022

Devanshi Ledwani published Conference   paper titled Analysis of child abduction cases and design of internet of things based child safety system,
International Conference on Optical and Wireless Technologies OWT 2021, Scopus
https://link.springer.com/chapter/10.1007/978-981-19-1645-8_31, Sept 2022

Sachit Bharadwaj, published Conference  paper titled An approach to ripening of pineapple fruit with model yolo v5, 2022 IEEE 7th International conference for Convergence in Technology (I2CT), Scopus, https://doi.org/10.1109/I2CT54291.2022.9824067, July 2022

Krishna Soni, published Conference  paper titled Versatile gaming by neurological and behavioral analysis, Flexible Electronics for Electric Vehicles, Scopus, https://doi.org/10.1007/978-981-19-0588-9_51, October 2022