



MANIPAL UNIVERSITY  
JAIPUR

A Biannual Magazine of Computer and Communication Engineering



*Jan-June 2023*





## 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 teaching at the department is facilitated with a dedicated number of core subject labs aided by industry standard commercial hardware and software platforms like Nvidia, Param Shavak Supercomputer, Oracle, EMC2, Microsoft Office 365 cloud, .Net, Azure etc. There are special project labs for IoT and data analytics.

The department is focused on providing a realistic approach of learning to develop a dynamic student team that is efficient in meeting the ever-changing technological and social challenges.

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- Publications

**Chief Editor**  
Prof. Sunil Kumar

**Associate Editor**  
Dr Hemlata Goyal  
Dr Sandeep Kumar Sharma

**Student Editor**  
Ms. Chhavi Maheshvari  
Mr. Ojaswi Singh



## 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.







## One-Day Technical Event WikiRace

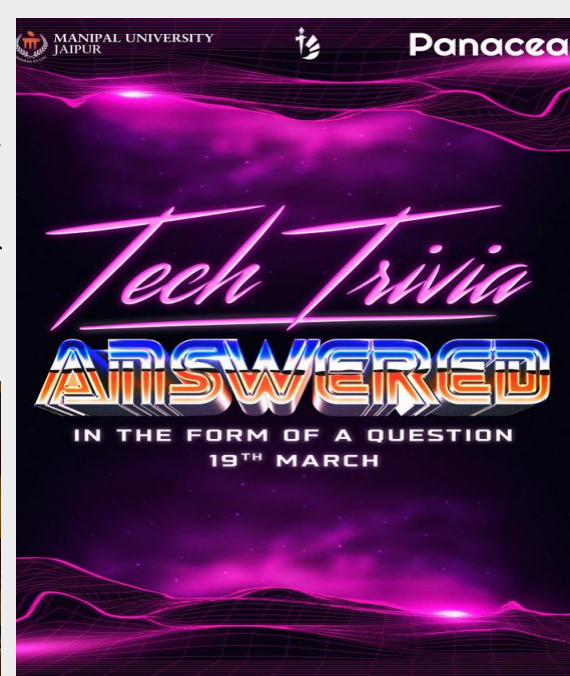
The Panacea Club of the School of Computer and communication engineering hosted the event on 18<sup>th</sup> March, 2023. This event's main objective was to test contestants' critical thinking by making them make successive logical decisions. This event tested a person's ability to surf the web while maintaining composure quickly. A total of 40 teams participated in the event, and the winners were awarded cash prizes and certificates.



## One-Day Workshop TechTrivia

The Panacea Club of the School of Computer and communication engineering thrilling game show called “Tech Trivia Answered in The Form of A Question” on 19<sup>th</sup> March 2023. The main objective of this event was to create an experience that could put students from our university in the shoes of contestants taking part in the popular televised game shows we love and watch. This event consisted of a preliminary elimination round and an enthralling

grand finale based on the popular trivia-based game show, “Jeopardy”. The game show was also an excellent way for students to test their critical thinking under pressure and enter the world of technology and its current affairs.



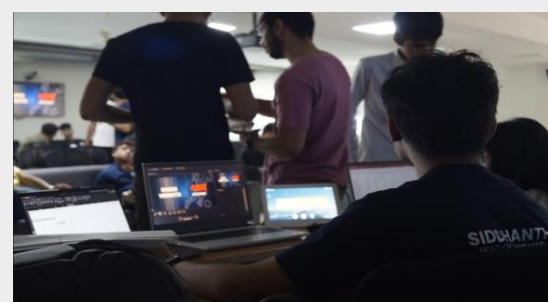




## Two-Day Workshop

### 4-4-3; A technical event for e-Auction

Panacea – The School of Computer & Communication Engineering club, Manipal University Jaipur, organised a thrilling FIFA Auction and Tournament called “4-4-3” on the 18<sup>th</sup> and 19<sup>th</sup> of March 2023. The main objective of this event was to simulate the experience of an actual football player auction, testing the player’s fiscal planning and vision. This event was also a way for students to test their mental fortitude and social interpreting skills by testing their ability to bid for their desired players and make other contestants bid needlessly extra for their players.



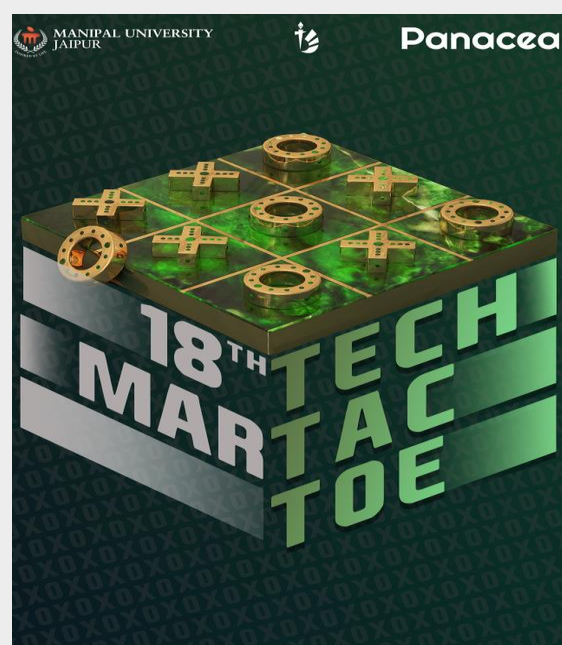
## One-Day Workshop

### Tech Tac Toe

Panacea – The School of Computer & Communication Engineering club, Manipal University Jaipur organized a technical trivia knockout tournament, called “Tech Tac Toe”, on the 18<sup>th</sup> of March 2023. This event was a series of head-to-head trivia-based duels, in the form of a game of tic tac toe.

The main objective of this event was to test the general knowledge of students and help them gauge where they stand in the sector of technology.

This event was also a way for students to test themselves under time pressure, as they were not only competing against the clock, but also someone in front of them.







## One-Day Workshop

### Multiverse of Madness “Jump into the Chaos”

Panacea – The School of Computer & Communication Engineering club, Manipal University Jaipur organized a technical trivia tournament called “Multiverse of Madness”, on the 15<sup>th</sup> of April 2023. This event was designed as a mystery that gradually unveiled itself as time passed, and it was up to the participants to propose the suspects.

This event's main objective was to test contestants' critical thinking, by making them piece together a mental puzzle of an unravelling mystery and put together a relevant and coherent plot.

This event was also a way for students to work on their on-the-spot thinking skills and their public speaking and pitching skills.



## State-Level Two-Day Workshop

Dr Dinesh Kumar Saini, Professor from the Department of Computer and Communication Engineering MUJ Delivered an expert talk on 4<sup>th</sup> March 2023 titled “Quality Assurance Framework” during state level awareness workshop for the state of Rajasthan at Jaipur.



*e-Governance  
Standards & Guidelines*  
Standards for e-Governance Applications



**Ministry of Electronics & Information Technology**  
Government of India



**G20**  
INDIA 2023



**Digital India**  
Power To Empower



**75**  
Azadi Ka Amrit Mahotsav

**State Level Awareness Workshop  
for the state of Rajasthan at Jaipur, Rajasthan**

Venue: Hotel Four Points by Sheraton, City Square, Vasundhara Colony, Tonk Road, Jaipur, Rajasthan-302018

**04<sup>th</sup> March, 2023**  
09:30 hrs- 17:30 hrs

**DAY-2  
SCHEDULE**

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<p><b>14:00 hrs – 15:30 hrs</b></p>	<p><b>Session 6:</b> <b>Quality Assurance Framework</b></p> <p style="text-align: right; color: #6c757d;"><b>Speaker:</b> <b>Dr. Dinesh Kumar Saini, Professor, Manipal University, Jaipur</b></p>
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A winter school program (07-02-2023 to 7-03-2023) for BTech students was organised by the international winter school MUJ. Dr Manoj Kumar Sharma from the Department of Computer and Communication Engineering contributed as a resource person on “Machine Learning with Python” at this event. In this course, Dr Sharma expresses various libraries of Python used to implement Machine Learning applications.



Dr. G L Saini from the Department of Computer and Communication Engineering, Manipal University Jaipur Chairing a technical session on Intelligent Systems (22.04.2023 10:00-11:00 (IST)) during the 2023 IEEE International Conference on Contemporary Computing and Communications (InC4) Organized by the Department of Computer Science and Engineering, CHRIST (Deemed to be University), Kengeri Campus, Bangalore -560 074 during April 21-22, 2023.



Dr.Sandeep Kumar Sharma, from the Department of Computer and Communication Engineering, Manipal University Jaipur, has Contributed as session chair in “4th International Conference on Information Management & Machine Intelligence (ICIMMI-2022)” held during December 23-24, 2022, at Poornima Institute of Engineering & Technology, Jaipur, Rajasthan.



Dr Vijay Shankar Sharma, from the Department of Computer and Communication Engineering, Manipal University Jaipur, has Contributed his valuable knowledge as an expert talk on “Transformation of Business & Academics through Technology” conducted by IIC Cell, BSDU at Bhartiya Skill Development University Jaipur on 27<sup>th</sup> May 2023.







Dr Deepak Sinwar Associate professor from the Department of Computer and Communication Engineering contributed as a resource person in the webinar on “Computational intelligence-based Optimization of the industrial subsystem” held at the College of Informatics, Blue Hora University on 15<sup>th</sup> March 2023. During the talk, he expresses various optimization techniques with their intelligence-based applications.



Dr Geeta Rani Associate professor from the Department of Computer and Communication Engineering contributed as a resource person in the webinar on “Digital Technologies for Older Persons and Healthy Ageing” organized by R-CCAT on 17<sup>th</sup> May 2023. During talk she express how Digital technologies may be used to improve the quality of life for older adults, allowing them to age in place and remain connected to their loved ones.



IIIT Kota is organizing SERB Sponsored One Week High-End Workshop (Karyashala) on "Applications of AI/ML in Next Generation Optical and Wireless Communication Technologies" during 09 - 15 January 2023 under Accelerate Vigyan (AV) scheme. The program will be held at IIIT Kota (MNIT Campus Jaipur) in physical mode. Dr Usha Choudhary from Computer and Communication Department delivered an expert talk on “OFDM over Optical Fiber - A Versatile Solution for the concept of Open RAN in 5G”. During talk she discussed various emerging applications of optical OFDM, including single-mode fiber transmission, multimode fiber transmission, free space optical systems, and optical access networks.



The APJC NetAcad Riders 2023 Competition, organized annually by Cisco Networking Academy, is an interactive networking skills competition to enhance learning capabilities, connect trainees across the region, and promote education and technology training. Ishan Wadhwani BTech CCE participated in this event and won Bronze Certificate.



Abhivarta-2023 is an amazing and fun sports fest that gives students a very exhilarating experience. Several MUJ students participated in various sports events. Devansh Rana BTech IoT student participated and got first position in power lifting (93 kg).



Budgetpe Pvt Ltd is a leading social media agency that offers a wide range of digital marketing services tailored to meet the unique needs of businesses of all sizes, from startups to well-established brands. Budgetpe organized a National workshop at MUJ Jaipur. Nidhi Rajneesh Verma BTech CCE student participated in this workshop and get benefitted about digital marketing.







MiniHacks 3.0 was a 36-hour hackathon specifically designed for freshers to showcase their creativity and technical skills. This event provided a platform for aspiring developers and designers to come together, collaborate and build innovative solutions to real-world problems. Shriya Tripathi BTech CCE Student participated in this event and score third position.



Sameer Chauhan a student of BTech CCE contribute as projects & development lead in MUJ central. The project is running under IEEE SB MUJ chapter.



Alokik Agarwal a student of Computer and Communication Department received participation certificate in AWS Deep racer & Reinforcement Learning workshop. The workshop was organized by IEEE student chapter at Manipal University Jaipur. AWS DeepRacer gives you an interesting and fun way to get started with reinforcement learning (RL). RL is an advanced machine learning (ML) technique that takes a very different approach to training models.







Parth Mohan Choudhary a student of Computer and Communication Engineering Department participated at annual sports of meet conducted by Malviya National Institute of Technology Jaipur on 23<sup>rd</sup> and 24<sup>th</sup> March 2023 and awarded by second position in Basketball.



Narender Khatri, Chhavi Maheshwari, Samyak Jain, and Parthi Maheshwari students of Computer and Communication Engineering Department presented a research paper and won best paper award on “Classification of Metastatic Lymph Node Sections using Deep Learning” at International Conference on Computational Intelligence and Knowledge Economy (ICCIKE) Organized by Amity University.



Rahul Satav a student of Computer and Communication Engineering Department received participation certificate of Utkraant'23. Utkraant is an annual theater festival organized by Organized by Cinefilia - The Dramatics and Filmmaking Society of Manipal University Jaipur. The festival's goal is to spread theatre awareness and inculcate a culture of watching live plays among the University students.







Priyam Thakkar, Akshat Verma, Vanshika Mehta, Rugved Chavan students of CCE published a research paper titled “KUBUNET: Segmentation of Organs of Urinary System from a Kub Xray Image” in Scopus indexed journal “Computer Methods and Programs in Biomedicine”.

Amrita Sharma student of CCE published a research paper titled “The combined model for software development effort estimation using polynomial regression for heterogeneous projects” in Scopus indexed journal “Radio electronic and Computer Systems”.

Alapati Manas, and Swarith students of CCE published a research paper titled “Reliability and maintainability optimization of load haul dump machines using genetic algorithm and particle swarm optimization” in Scopus indexed journal “Journal of Quality in Maintenance Engineering”.

Shyo Prakash Jakhar student of CCE published a research paper titled “Fractal feature based image resolution enhancement using wavelet–fractal transformation in gradient domain” in Scopus indexed journal “Journal of Circuits, Systems and Computers”.

Varsha Himthani, Oza Meet, and Ganpat lal students of CCE published a research paper titled “Comparative performance assessment of deep learning-based image steganography techniques” in Scopus indexed journal “Scientific Reports”.

Varsha Himthani student of CCE published a research paper titled “Systematic survey on visually meaningful image encryption techniques” in Scopus indexed journal “IEEE Access”.

Kalpiti Gupta student of CCE published a research paper titled “Disease detection, severity prediction, and crop loss estimation in maize crop using deep learning” in Scopus indexed journal “Artificial Intelligence in Agriculture”.

Rajendra Singh student of CCE published a research paper titled “Review, analysis, and implementation of path selection strategies for 2d nodes” in Scopus indexed journal “IEEE Access”.

Varsha Himthani student of CCE published a research paper titled “Vnet architecture based advanced visually meaningful image encryption technique” in Scopus indexed journal “Journal of Discrete Mathematical Sciences and Cryptography”.

Neeraj Jain student of CCE published a research paper titled “Aitzo based thin film transistor for ammonia gas sensing: a simulation study” in Scopus indexed journal “Engineering Research Express”.





Mudit Chaturvedi student of CCE published a research paper titled “Risks of Data Breaches and Mitigating Controls In Financial Sector” in Scopus indexed conference “ICTSES-2021: Intelligent Computing Techniques for Smart Energy Systems”.

Devanshi Ledwani student of CCE published a research paper titled “Analysis of child abduction cases and design of internet of things-based child safety system” in Scopus indexed conference “International Conference on Optical and Wireless Technologies OWT 2021”.

Pranay Eswar Grandhi student of CCE published a research paper titled “Covid19 and pneumonia classification using assembling with transfer learning” in Scopus indexed journal “IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022).

Neerav Chaudhary Grandhi student of CCE published a research paper titled “Analyzing brain atrophy in dementia using computer vision” in Scopus indexed journal “IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022).

Sachit Bharadwaj student of CCE published a research paper titled “Covid19 and pneumonia classification using assembling with transfer learning” in Scopus indexed conference “2022 IEEE 7th International conference for Convergence in Technology (I2CT)”.

Rohit Arun student of CCE published a research paper titled “Image forgery detection using structural similarity and morphological tools” in Scopus indexed journal “IEEE 10th International Conference on reliability, Infocom Technologies and Optimization (ICRITO'2022).

Rajesh Kumar student of CCE published a research paper titled “5G new radio physical downlink shared channel throughput analysis with different numerology and modulation schemes” in Scopus indexed conference “7th International Conference on Soft Computing: Theories and Applications”.

Rugved Sanjay Chavan student of CCE published a research paper titled “Advance plant health monitoring and forecasting system using edge fog cloud computing and LSTM networks” in Scopus indexed journal “3rd International Conference on Artificial Intelligence: Advances and Applications”.

Dhruv R Krishnamachari student of CCE published a research paper titled “Implementation of energy efficient blockchain using rust” in Scopus indexed conference “Seventh International Conference on Parallel, Distributed and Grid Computing”.

Hemant Saini student of CCE published a research paper titled “An emergency rescue framework through smart IoT LPWAN” in Scopus indexed conference “2023 International Conference on Advancement in Computation & Computer Technologies (InCACCT)”.