EUPHORIX'23

ANNUAL DEPARTMENTAL MAGAZINE

TECHNOVATION'23
CSI-IT

EMPOWERING THE FUTURE OF DIGITAL INNOVATION

ARTICLES | ARTWORKS | LITERATURE

AND MUCH MORE...

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Dr. S. M. Khot

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INSTITUTE VISION

To evolve and flourish as a progressive centre for modern technical education, stirring creativity in every student leading to self-sustainable professionals, through holistic development; nurtured by strength and legitimate pride of Indian values and ethics.

INSTITUTE MISSION

❖ To provide industry oriented quality education.

❖To provide holistic environment for overall personal development.

❖To foster relationship with other institute of repute, alumni and industry.

DEPARTMENT OF INFORMATION TECHNOLOGY

DEPARTMENT VISION

To become a leading center of excellence for quality education, advance research and development in the field of Information Technology for self-sustaining professionals.

DEPARTMENT MISSION

❖ To provide industry oriented quality education and training to students related to cutting edge technologies in the field of information technology.
❖ To promote multidisciplinary activities that inspires students to serve society through innovative applications.
❖ To promote entrepreneurship skills in students with overall personality development.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduate will be able to:
❖Adapt technological changes in the field of information technology.
❖Excel in higher education and professional career.
❖Demonstrate multidisciplinary and entrepreneurship skills.

PROGRAM SPECIFIC OBJECTIVES (PSOs)

Graduate will be able to:
❖ Adapt to the technological advancements in the field of Artificial Intelligence and Data Science.
❖ Develop research strategy in the domain of Internet of Things and Security.

HOD'S MESSAGE

Dr. Shubhangi Vaikole

Being a part of Fr. C. Rodrigues Institute of Technology and leading the department of Information Technology, I take this opportunity to broach the department. The constant drive of the institute to provide innovative and quality education, has motivated us to develop and provide futuristic education to the students.

The department strives to provide students with core competence in the field of IT which helps them to comprehend technical concepts to develop novel projects and provide solutions to the real-life problems. Our faculty work with excellent team spirit in different technical team which leads to key research publications in these areas. We believe in tailored grooming of each student's needs by organizing technical workshops and competitive events such as Hackathons, Seminars from eminent voices of the industry, which helps them to access every sub-domain in the field of Information Technology. To bridge the gap between industry and academia, the CSI students section are actively organizing event listed above/below. Students not only participate in these events but lead them, thus helping them to improve on important attributes such as collaboration, communication, and teamwork. Our annual events like AITSS and Infobits empowers our students to collaborate with students from other colleges, thus inculcating a sense of community.

Our students have won several accolades at University, National and International levels. Our Department's placement records are unvaryingly high and we are proud that the number of students who are getting placed is increasing year after year. We have a strong alumni network who work with renowned organizations such as Shell, Cognizant, TCS, Infosys, Accenture, Capgemini, etc

The ace infrastructure, well qualified faculty, staff and T&P ensures bright future. I am confident that our students will excel in all stream of life and emerge as an asset to the organization they belong to, the institute, parents and also to the country, at large.

I congratulate all the students and the team of IT for their brilliant and indigenous efforts. On this note, I wish all the students a great academic career.

EDITOR'S NOTE

By Shantaram Sawant

Welcome to the digital realm where technology meets creativity, and innovation blends seamlessly with expression. As the pages of Euphorix 2023 unfold before you, we invite you to embark on a journey that encapsulates the dynamic synergy of art, intellect, and technology.

Engage your intellect with thought-provoking articles that delve into the cutting-edge realms of technology – from AI's strides toward sentience to the ethical landscapes of digital sovereignty. Our student and faculty achievements celebrate the brilliant minds shaping the future, their accomplishments interwoven with code and computation.

Within these virtual confines, you will discover a tapestry of tech-infused marvels. Our magazine is a platform for experimental and innovative art, where pixels dance to the rhythm of artistic ingenuity, showcasing breathtaking artworks that push the boundaries of conventional perception.

Relive the pulsating energy of events through vivid event pictures that transport you to the heart of the action. Through these visual bytes, you will experience the fusion of human passion and technological prowess that defines Euphorix 2023.

As we embrace the digital era, we celebrate the innovation and the humanity that propels it forward. Let this magazine testify to the harmonious symphony of human expression and technological marvels. Join us in this celebration of Euphorix, where the realms of tech and art converge to inspire, intrigue, and ignite the sparks of tomorrow.

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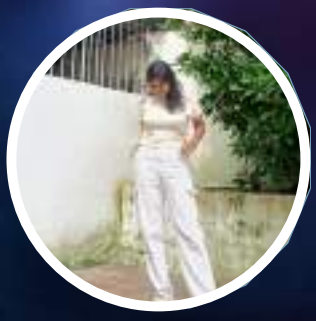

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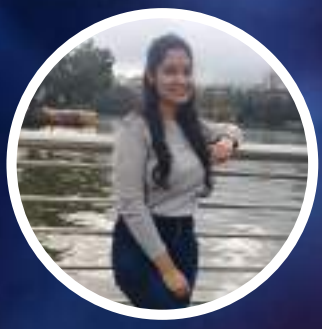

Shreya Hoskeri

Siddhi Patil

Lerina Diwahar

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DEPARTMENT EVENTS

AGNEL INFORMATION TECHNOLOGY STUDENT SYMPOSIUM

COMPUTER SOCIETY OF INDIA

CSI- FCRIT

Computer Society of India is the first and largest body of computer professionals in India. Our college conducts the CSI seminar named TECHNOVATION every year wherein all the students of second year engineering, third year engineering and fourth year engineering participate in various events and sessions conducted by the students of our department who are hands on with various ongoing topics related to programming and software developments.

CSI COMMITTEE 2023

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CSI TECHNOVATION

The Intra Department level technical event "TECHNOVATION 2021" organized by IT department under CSI Student Chapter took place from 10th August to 12th August. The event was led and executed successfully under the guidance of Prof. Rupali Deshmukh. The Event was a part of one of the various technical and social events organised under CSI every year since its inception. These events are organised every year with the objective to provide platform for the students to showcase their talent with a competitive spirit and for them to gain more knowledge in the field. The event was successful enough to attract as many as 172 students of registrations for each day, making it an event attended by more than 140 students each day.

The workshops on app development, node.js, cloud computing, cybersecurity, blockchain, git github And the online events that took place were tech memes, poster making, coding contest, ui/ux design And offline contests like tech debate, technical quiz, treasure hunt, website maker, squid games . Here, the winners were encouraged with a certificate and The participants were also given certificates as a token of encouragement. The event was a great success due to the contribution from the third-year students and the curiosity of the juniors to learn something new.

CSI-EVENTS

TECHSPARKS

INFOBITS

ALUMNI MEET

Fr. C. Rodrigues Institute of Technology arranged the Alumni Meet for 2023. The venue of the event was Fr. CRIT College lawns on 7th of January 2023. The participants were alumni, FCRIT students and FCRIT staff. There were about 200 participants in the event.

DAB SESSION

IT department scheduled Departmental Advisory Board committee (D.A.B) Meeting on 7th January, 2023 at 10:00am in IT department 3rd floor of old building FCRIT Vashi

DQAC 2022-23

IT department scheduled Departmental Quality Assurance Cell (DQAC) Meeting on Monday, 26th June, 2023 at 10:00am in IT department, 311 Lab, 3rd floor old building FCRIT Vashi.

FACULTY ACHIEVEMENTS

RESEARCH PUBLICATIONS

INTERNATIONAL JOURNALS

- **"COLLABORATIVE OFFLOADING DECISION POLICY FRAMEWORK IN IOT USING EDGE COMPUTING."**
  Multimedia Tools and Applications (2023): 1-15. (Springer SCI) DOI: https://doi.org/10.1007/s11042-023-14383-4, January 2023
  Electronic ISSN - 1573-7721
  Print ISSN - 1380-7501
  Faculty name: Shirke Archana, and M. M. Chandane

- **"SPLICED IMAGE FORGERY DETECTION USING FSM"**
  Industrial Engineering Journal; ISSN: 0970-2555
  Volume : 52, Issue 2, No. 1; February 2023
  Faculty name: Shantanu Tondlekar, Sherin Thomas, Ryan Marian, Tejas Jagdale and Anand Pardeshi

RESEARCH PUBLICATIONS

INTERNATIONAL CONFERENCE

- **"SYNTHPIPE: AI BASED HUMAN IN THE LOOP VIDEO DUBBING PIPELINE," 2022 SECOND INTERNATIONAL CONFERENCE ON ADVANCES IN ELECTRICAL, COMPUTING, COMMUNICATION AND SUSTAINABLE TECHNOLOGIES (ICAECT), 2022, PP. 1-5, 21-22 APRIL 2023**
  DOI:10.1109/ICAECT54875.2022.9807853.
  Faculty incharge: Rupali Deshmukh
  Students: A. J. Dsouza, A. Rachel Kumar, A. K. Wilson

- **"SUMMEET- ML BASED MINUTES OF MEETING GENBERATION TOOL", INTERNATIONAL CONFERENCE ON RECENT TRENDS IN MULTIDISCIPLINARY RESEARCH AND INNOVATIONS ICMIR-2023 AT LOKMANYA TILAK COLLEGE OF ENGINEERING (LTCOE)- 17 & 18 MARCH 2023.**
  Faculty incharge : Dr. Shubhangi Vaikole
  Students: Yash Pratapwar, Abhinav Gajksoh,Mitthun Kutthully,Mikhael Uzagare

- **"FASTAG FRAUD DETECTION SYSTEM",**
  5th Biennial IEEE co-sponsored International Conference on Nascent Technologies in Engineering (ICNTE 2023)at Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 20-21, 2023.
  Faculty incharge: Dr. Vaishali Bodade
  Students: Siddhant Gunjal, Alessandra Serpes, Abhishek Yadav, Tini Tomy

- **"GTREZ - GUJARATI TEXT RECOGNITION USING ZONE SEGMENTATION",**
  8th International Conference for Convergence in Technology - 12CT 2023, Pune, 7th - 9th April 2023.
  Faculty Incharge: Prof. Archana Shirke, Dr. Shashikant Zugad
  Student Incharge: Joel D'Silva, Aryan Koul, Madhur Thakkar, Neha Bharambe, Yashika Kuckian

RESEARCH PUBLICATIONS

INTERNATIONAL CONFERENCE

- **"VYAKRANLY HINDI GRAMMAR & SPELLING ERRORS DETECTION AND CORRECTION SYSTEM",**
  IEEE co-sponsored 5th Biennial International Conference on Nascent Technologies in Engineering (ICNTE 2023) at Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 20-21, 2023. Electronic ISBN: 978-1-6654-6504-5 Print on Demand ISBN: 978-1-6654-6505-2.
  Faculty Incharge: Lakshmi Gadhikar
  Student Incharge: Rachel S., Vasudha S., Shriya T., Rhutuja K.

- **"GUJARATI TEXT RECOGNITION USING YOLOV5 WITH CENTRE DISTANCE APPROACH",**
  7th International Conference on Inventive Communication and Computational Technologies - ICICCT 2023, Gnanamani College of Technology, Namakkal, Tamil Nadu, 22nd - 23rd May 2023.
  Faculty Incharge: Prof. Archana Shirke
  Student Incharge: Joel D'Silva, Aryan Koul, Madhur Thakkar, Neha Bharambe, Yashika Kuckian

- **THE SPIFFY - A DISCORD CHATBOT,**
  IEEE co-sponsored 5th Biennial International Conference on Nascent Technologies in Engineering (ICNTE - 2023) at Fr. C. Rodrigues Institute Of Technology, Vashi, Navi Mumbai, India, January 20-21, 2023.
  Faculty Incharge: Dr. Trupti Lotilkar
  Student Incharge: Sarvesh Karekar, Junaid Kazi, Sarvesh Khamkar, Maitreyi Kulkarni

RESEARCH PUBLICATIONS

INTERNATIONAL CONFERENCE

- **"SIGN LANGUAGE RECOGNITION USING DEEP LEARNING"**
  International Conference on Intelligent Computing and Networking IC ICN 2023, Thakur College of Engineering and Technology (TCET), March 2023. [Presented]
  Faculty Incharge: Prof. Mukta Nivelkar
  Student Incharge: Esther C, Rishita M, Andex M, Jordan F

- **"LINEAR REGRESSION APPROACH FOR STOCK CHART PATTERN RECOGNITION",**
  IEEE co-sponsored 5th Biennial International Conference on Nascent Technologies in Engineering (ICNTE 2023)at Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 20-21, 2023. https://doi.org/10.1109/ICNTE56631.2023.10146731 Electronic ISBN:978-1-6654-6504-5 Print on Demand(PoD) ISBN:978-1-6654-65052
  Faculty in charge : Lakshmi Gadhikar
  Students: Amay Tripathi , Jignesh Mathure , Shivam Deotarse , Darshak Rai

- **FDRIVE - OPEN SOURCE DOCUMENT SHARING AND MANAGEMENT SOLUTION",**
  1st International Conference on Science, Technology and Engineering (ICSTE -2023), NIT Manipur, Imphal, 17-18 February, 2023.
  Faculty Incharge: Mrs. Rupali Deshmukh
  Student Incharge: Tom Akash, Ronad Bryan, Lobo Criston, Vashisht Vaivasvat

RESEARCH PUBLICATIONS

INTERNATIONAL CONFERENCE

- **"VOXXOLVE: A MULTILINGUAL VOICE-BASED CALCULATOR", 4th International Conference on Multidisciplinary Innovation in Academic Research - ICMIAR 2023, Chennai, India, 17th and 18th March 2023.**
  Faculty Incharge: Prof. Sharlene Rebeiro
  Student Incharge: Catherine Sarah Sunil, Abhilesh Chavan, Arpeet Makasare, Aryan Arun Vaity

- **"NEFTY - THE NFT MARKETPLACE", International Conference on Intelligent Computing and Networking (ICICN 2023) MULTICON-W 2023 - "A platform for Multiple Conferences and Workshops. The 14th International Conferences and Workshop."**
  Faculty Incharge: Mrs. Supriya P. Joshi
  Student Incharge: Joanas Johraj, Samidha Khare, Snigdha Soares

RESEARCH PUBLICATIONS

INVITED BOOK CHAPTERS

- **DEEP LEARNING: R-19 - COMPUTER ENGINEERING AND ELECTRONICS & COMPUTER SCIENCE,**
  Mumbai University, Techneo Publications, December 2022.
  Faculty: Dr. Shubhangi Vaikole

- **MACHINE LEARNING: R-19 - ELECTRONICS ENGINEERING,**
  Mumbai University, Techneo Publications, December 2022.
  Faculty: Dr. Shubhangi Vaikole

- **MACHINE LEARNING: R-19 - AIDS, CSE (DS), CSE (AIML), AIML, DE, ECS,**
  Mumbai University, Techneo Publications, December 2022.
  Faculty: Dr. Shubhangi Vaikole

RESEARCH PUBLICATIONS

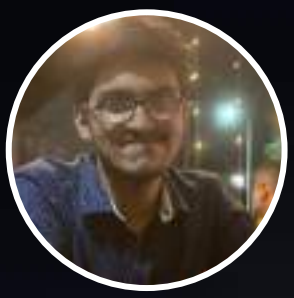
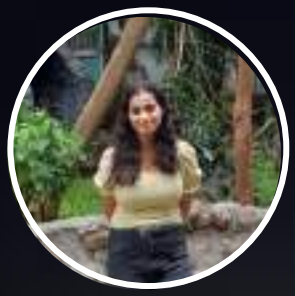
NATIONAL CONFERENCES

- **"DIGITIZATION AND SECURING LIFE INSURANCE USING BLOCKCHAIN",**
  One-Day National Multidisciplinary Conference on "Healthy Learning Environment and its Impact on Student Satisfaction and Institutional Standing" on 27th April 2023 at Ramanand Arya D.A.V. College, Bhandup, Mumbai, India.
  Faculty Incharge: Dr. Trupti Lotilkar
  Student Incharge: Glen Muga, Augustine Nadar, Preethi Lydia, Arun Samuel

STUDENT ACHIEVEMENTS

SUMMER PROJECT WINNERS



Summer Project Competition was scheduled on 30/07/2022 between 9:30 am to 1:00 pm.
A total of 18 teams participated in this Project Competition
~ The competent team of Niraj Patil(5020138), Maheshwari Phalke(5020141),Bhakti Phalke(5020142), and Sujal Raina(5020145) bagged the first place


PCUBE WINNERS

POSTER MAKING COMPETETION

ACADEMIC TOPPERS

	SECOND -YEAR	THIRD -YEAR
1st	9.825 RAMANE TEJAS EKNATH	9.82 BANGI RIDA
2nd	9.475 SINGH AMAN SURESH CHANDRA	9.80 KOTHARI LISHA
3rd	9.365 PHAPHALE MAYURI MADHAV	9.74 TIRUPATHI SRIJA PATIL TEJAS

ACADEMIC TOPPERS

FOURTH -YEAR

1st

10

CHETTIAR ESTHER PRAKASAM

2nd

9.85

KUCKIAN YASHIIKA JAYA

3rd

9.72

BHOSALE PRATIK WILSON

PLACEMENT RECORDS

PLACEMENT RECORDS

Highest CTC : 14.5 Lakhs
Median CTC : 4.99 Lakhs
Total students registered for placements : 53


Empowering the future of
Digital Innovation

INTERNET OF THINGS (IOT)

By Siddhi Patil (Sem 3) & Abhishek Jha (Sem 3)

The Internet of Things (IoT) describes the network of physical objects “things” that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. These devices range from ordinary household objects to sophisticated industrial tools.

A thing in the internet of things can be a person with a heart monitor implant, a farm animal with a biochip transponder, an automobile that has built-in sensors to alert the driver when tire pressure is low, or any other natural or man-made object that can be assigned an Internet Protocol address and is able to transfer data over a network. IoT emerged as a transformative technological paradigm, weaving connectivity and intelligence into the very fabric of our daily lives.

This connectivity allows these objects to collect, share, and analyze data, enabling them to make intelligent decisions and perform actions without human intervention .At its core, IoT encompasses the interconnection of physical objects, devices, and systems through the internet, enabling them to collect, share, and act upon data. These objects are equipped with sensors, processors, and communication modules that facilitate the exchange of information without human intervention. This connectivity allows for real-time monitoring, control, and analysis, leading to enhanced efficiency, convenience, and decision-making.

The applications of IoT are as diverse as they are promising. In the realm of healthcare, wearable devices and sensors monitor vital signs and health parameters, enabling personalized patient care and remote monitoring. Smart homes leverage IoT to automate tasks, optimize energy consumption, and enhance security. In agriculture, IoT-driven precision farming optimizes irrigation, fertilization, and pest control, leading to higher yields and sustainable practices. Moreover, IoT is reshaping industries such as manufacturing, logistics, and transportation.

Factories are adopting Industrial IoT (IIoT) to create smart factories where machines communicate, analyze data, and adjust processes in real time. Smart cities leverage IoT for efficient waste management, traffic control, and resource allocation, enhancing urban living. It plays a pivotal role in monitoring and preserving the environment. Sensors placed in ecosystems, water bodies, and industrial sites provide data on pollution levels, helping authorities take timely action to mitigate environmental damage.

While the potential of IoT is immense, it brings forth a set of challenges. Data privacy and security are paramount concerns, as interconnected devices can become entry points for cyberattacks. Managing the massive amounts of data generated requires robust infrastructure and advanced analytics capabilities. Additionally, interoperability standards need to be established to ensure seamless communication between devices from different manufacturers.

As IoT continues to evolve, it holds the promise of even greater innovation. Edge computing, which involves processing data closer to the source, is gaining prominence, reducing latency and enhancing real-time decision-making. 5G connectivity will further empower IoT, enabling faster data transmission and unlocking new possibilities, such as remote surgery and autonomous vehicles.

Key aspects of the Internet of Things

- **Cloud Computing:** IoT devices often rely on cloud computing platforms to store and process the data they generate. Cloud services provide scalability and accessibility to manage the massive volume of data.
- **Automation and Control:** IoT enables automation by allowing devices to communicate and trigger actions based on specific conditions. For instance, smart thermostats can adjust temperature settings based on occupancy and time of day.
- **Applications:** IoT has a wide range of applications, including smart homes, healthcare (remote patient monitoring), agriculture (precision farming), manufacturing (predictive maintenance), transportation (connected vehicles), and more.
- **Security and Privacy:** The interconnected nature of IoT devices raises concerns about security and privacy. Protecting data, ensuring device security, and safeguarding user privacy are critical challenges.
- **Connected Devices:** These are everyday objects, appliances, vehicles, and other items that are equipped with sensors and connectivity to communicate and share data.
- **Sensors:** IoT devices are often equipped with various sensors such as temperature, humidity, light, motion, and more, which allow them to gather information from the surrounding environment.
- **Data Collection and Analysis:** IoT devices collect a vast amount of data that can be analyzed to gain insights, optimize processes, and make informed decisions.
- **Communication Protocols:** IoT devices use different communication protocols like Wi-Fi, Bluetooth, Zigbee, and cellular networks to connect and share data.
- **Challenges:** Some challenges associated with IoT include interoperability (devices from different manufacturers working together), data management, power efficiency, and standardization.

In conclusion, the Internet of Things stands at the intersection of technology and daily life, revolutionizing the way we interact with the world around us. Its applications span industries and sectors, from healthcare and agriculture to manufacturing and smart cities. Despite challenges, the potential benefits of IoT are driving innovation and collaboration, propelling us into an era of interconnected intelligence that promises to reshape our present and define our future.

WHAT IS 5G?

By Sakshi More(Sem 3)

5G stands for the fifth generation of wireless technology. It is the wave of wireless technology surpassing the 4G network that is used now. Previous generations brought the first cell phones (1G), text messaging (2G), online capabilities (3G), and faster speed (4G). The fifth generation aims to increase the speed of data movement, be more responsive, and allow for greater connectivity of devices simultaneously.

5G will allow for nearly instantaneous downloading of data that, with the current network, would take hours. For example, downloading a movie using 5G would take mere seconds. These new improvements will allow for self-driving cars, massive expansion of Internet of Things (IoT) device use, and acceleration of new technological advancements used in everyday activities by a much wider range of people.

It is expected that 5G will consist of at least five new technologies that allow it to perform much more complicated tasks at faster speeds. The new technologies it will use are hardware that works with much higher frequencies (millimeter wavelengths), small cells, massive MIMO (Multiple Input Multiple Output), beamforming, and full duplex.

Working together, these new technologies will expand the potential of many of the devices used today and devices being developed for the future. Small cells are essentially miniature cell towers that would be placed 250 meters apart throughout cities and other areas needing coverage.

Millimeter waves are a higher frequency wavelength than the radio wavelength generally used in wireless transmission today. They are very weak in their ability to connect two devices, which is why 5G needs something called “small cells” to give full, uninterrupted coverage.

Higher frequency waves allow for more devices to be connected to the same network at the same time, because there is more space available compared to the radio waves that are used today.

The use of this portion of the spectrum has much longer wavelengths than of that anticipated for a portion of the 5G implementation.

The MIMO describes the capacity of 5G's base stations, because those base stations would be able to handle a much higher amount of data at any one moment of time.

Currently, 4G base stations have around eight transmitters and four receivers which direct the flow of data between devices.5G will exceed this capacity with the use of massive MIMO that can handle 22 times more ports.

Although this will have a harmful impact on the environment through increased energy use but the whole aim of the new 5G network is to allow for more devices to be used by the consumer at faster rates than ever before, because of this goal there will certainly be an increase in energy usage globally.

Energy usage is one of the main contributors to climate change today and an increase in energy usage would cause climate change to increase drastically as well.

5G will operate on a higher frequency portion of the spectrum to open new space for more devices.

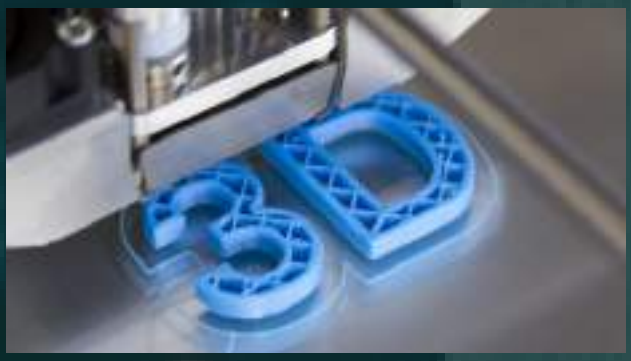
The smaller size of the millimeter waves compared to radio frequency waves allows for more data to be shared more quickly and creates a wide bandwidth that can support much larger tasks.

While the idea of more space for devices to be used is great for consumers, this will lead to a spike in energy usage for two reasons – the technology itself is energy demanding and will increase demand for more electronic devices.

INVESTIGATING THE WONDERS OF 3D PRINTING: THE ENLIGHTENED AGE OF INNOVATION

By Aakanksh Mishra (Sem 3)

Few breakthroughs in the history of technology have sparked as much interest and potential as additive manufacturing, generally referred to as 3D printing. This pioneering methodology for building three-dimensional objects has evolved from its beginnings as a simple prototyping tool to become a catalyst for revolutionary change in a variety of industries, including manufacturing, healthcare, art, and education. The commercialization of stereolithography by Charles Hull in the early 1980s served as the impetus for the development of 3D printing. Hull's discovery, which involves layer-by-layer consolidation of liquid resin using UV light, served as the impetus for the revolution in additive manufacturing. Fast-developing 3D printing technologies including fusion deposition modelling (FDM), selective laser sintering (SLS), and stereolithography apparatus (SLA) have arisen from this ground-breaking approach. The adaptability of 3D printing has made it possible for its integration into a wide range of industries, altering established procedures and fostering the development of new ones:



Sustainability and Customization:
By building things layer by layer, additive manufacturing reduces waste, enabling environmentally friendly and sustainable production. Another distinguishing feature of 3D printing is customization, permitting specialized answers for different demands. Despite the enormous potential of 3D printing, there are a few obstacles to be aware of.

Art and design:
By using 3D printing, artists and designers may create detailed and complicated objects that defy standard production processes. Artists who combine beauty and practicality create engaging works, including sculptors, architects, and fashion designers. Education and Research: Students and researchers can now experiment with physical models thanks to 3D printing, which has evolved into a teaching tool. It encourages hands-on learning in a variety of fields, notably engineering and palaeontology.

Organ transplants and bioprinting:
The development of bioprinting has the potential to transform medicine by making it possible to create useful human tissues and even organs for transplant.

Healthcare and Medicine:
3D printing has been adopted by the medical industry to create customized implants, prosthetics, and anatomical models. To improve surgical precision, surgeons use sophisticated 3D-printed replicas of patients' organs for preliminary preparation.

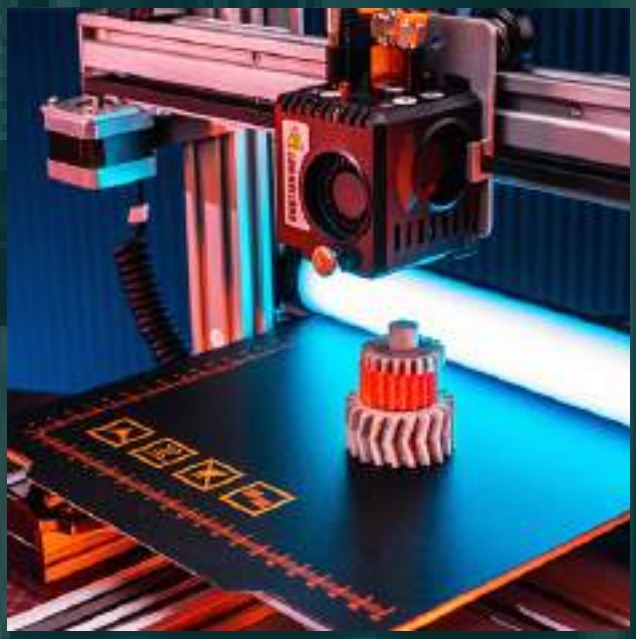
Limitations on Materials:
Although a large variety of materials are suitable for 3D printing, some applications call for materials with characteristics that are difficult to duplicate with current technology.

Advanced Materials:
By extending the types of products that can be 3D printed, research into cutting-edge resources, such as biocompatible metals, ceramics, and polymers is allowing for even more uses to be diversified.

Quality Control:
The standardization, dependability, and certification requirements for ensuring consistent quality across 3D-printed objects are difficult to meet.

Intellectual property and ethics:
Concerns regarding copyright protection and intellectual property rights are raised by how simple it is to duplicate designs. Additionally, 3D printing raises ethical concerns due to the possibility of creating harmful or even fake goods.

Workforce Disruption:
As 3D printing becomes more widely used, it may cause changes in the labour market that could lead to the displacement of positions in industries like traditional manufacturing. Future 3D printing has a wealth of opportunities and innovations.



Manufacturing and prototype:
3D printing has expedited the prototyping process, and decreased lead times and costs while enabling quick iteration and design improvement. This is true for both aircraft components and consumer electronics.

Space Exploration:
The ability to produce tools, spare parts, and even dwellings on-demand in the harsh environment of space is what 3D printing is poised to do for the field of space exploration.

The age of 3D printing offers a future where imagination knows no limitations and creativity flourishes in the physical realm of three-dimensional reality as the globe works to fully realize the endless possibilities of this technological marvel.

REVOLUTIONIZING CONNECTIVITY

THE POTENTIAL AND POWER OF EDGE COMPUTING

By Aishwarya Iyer (Sem 3)

In the dynamic world of technology, a novel contender has emerged to reshape our understanding of data processing and connectivity. Edge Computing, an innovative notion, is leading the charge toward faster, more efficient, and decentralized computing solutions. In our exploration of this transformative concept, we uncover its complexities and delve into the various ways it stands to reform industries, streamline operations, and usher in a fresh era of ingenuity. In a contemporary landscape where data fuels modern undertakings, the urgency for efficient processing and real-time responsiveness is remarkably pronounced. While conventional cloud computing holds remarkable prowess, it occasionally falls short in meeting instantaneous demands. Enter Edge Computing, a solution designed to bridge the chasm between data origination and processing.

The Emergence of Edge Computing

Traditional methods of data processing often involve sending data to a central cloud infrastructure for analysis. However, this approach can result in delays, especially in applications where real-time responsiveness is critical, such as autonomous vehicles, industrial automation, and augmented reality. This is where Edge Computing comes into play. Instead of transmitting data to a distant cloud, Edge Computing processes data locally, at the network's "edge," near the data's origin.

Opportunities Amid Challenges

Despite the numerous benefits of Edge Computing, challenges are inevitable. A significant obstacle is the requirement for sturdy and secure edge devices capable of handling intensive computational tasks. Additionally, the management and synchronization of data across a dispersed network present complexity that necessitate creative solutions. As industries embrace Edge Computing, addressing these challenges becomes crucial to fully unlocking its potential.

Diverse Applications Across Industries

Edge Computing's applications span numerous sectors, reshaping industries in unprecedented ways. In manufacturing, Edge Computing optimizes production lines by instantly analysing sensor data, leading to decreased downtime and heightened productivity. In healthcare, wearable devices equipped with Edge Computing capabilities can continuously monitor patient vitals, promptly alerting medical professionals to irregularities. Even in retail, Edge Computing enables tailored shopping experiences by analysing on-site customer preferences, and facilitating precise recommendations.

Edge Computing: An Environmentally Conscious Evolution

Beyond its immediate advantages, Edge Computing also contributes to ecological sustainability. By processing data locally, Edge Computing reduces the necessity for energy-intensive data centres. This shift aligns with global endeavours to minimize the ecological impact of technological infrastructure, positioning Edge Computing as a pivotal player in the drive for a more environmentally friendly future.

Unlocking the Power of Real-Time

The key strength of Edge Computing lies in its capacity to provide instant insights and actions. Envision a scenario where a self-driving car relies on immediate data processing to navigate a busy intersection. With Edge Computing, data collected by sensors can be swiftly analysed, enabling the car to make split-second decisions, thus enhancing safety and efficiency.

Welcoming the Future

As Edge Computing gains traction, its impact on the technological landscape becomes undeniable. The expansion of Internet of Things (IoT) devices, coupled with the need for rapid and dependable data processing, propels its advancement. The horizon holds captivating possibilities, from advanced smart cities that manage traffic and utilities in real time to enriched virtual reality experiences that seamlessly respond to user interactions.

Edge Computing has introduced a fresh phase of connectivity and efficiency. By moving computation closer to data sources, it reshapes industries, heightens user experiences, and contributes to ecological sustainability. Despite enduring challenges, the potential for innovation and advancement is boundless. As we stand at the cusp of this computing revolution, one thing is evident: Edge Computing surpasses being a mere catchphrase—it stands as a transformative influence that will sculpt our interaction with technology for years to come.

AUGMENTED REALITY

BRIDGING THE GAP BETWEEN REAL AND VIRTUAL WORLDS

By Shantaram Sawant (Sem 5)

In today's rapidly evolving technological landscape, Augmented Reality (AR) has emerged as a revolutionary force that seamlessly merges the physical and digital realms. This comprehensive exploration of Augmented Reality delves deep into its foundational concepts, its diverse applications spanning various industries, the multifaceted challenges it encounters, and the exhilarating potential it holds for the future.

Understanding Augmented Reality:
Augmented Reality serves as a dynamic bridge between the tangible and the digital, weaving a tapestry that enriches our everyday experiences. By overlaying computer-generated elements onto the real world, AR enhances our sensory perception and encourages interactive engagement. A symphony of cutting-edge technologies, including computer vision, object recognition, and spatial mapping, converges to create an immersive and transformative experience.

Applications Across Industries:
AR's versatility has engendered transformative changes across a spectrum of industries. In the retail sector, AR has elevated the shopping experience by allowing customers to virtually try on clothing and accessories, offering a personalized and convenient avenue for exploration. In education, AR has revolutionized learning by introducing interactive 3D models and immersive simulations, thereby rendering complex ideas tangible and comprehensible. Meanwhile, architects and designers have harnessed AR's capabilities to visualize and refine projects within the context of real-world environments, streamlining the creative process.

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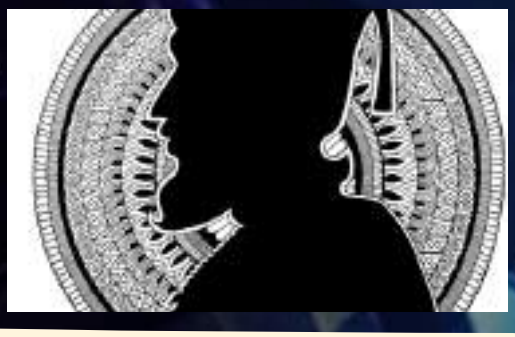
Transforming Entertainment and Gaming:
Entertainment and gaming have been propelled into new dimensions by AR, where the boundaries between the real and the fantastical blur. The groundbreaking success of Pokémon GO introduced a novel genre of location-based AR gaming, inviting players to explore their surroundings and interact with virtual creatures. AR has also redefined storytelling by enabling narratives to transcend the confines of pages and screens, inviting readers to immerse themselves actively in characters and plotlines.

Advancements in Healthcare:
In the realm of healthcare, AR has emerged as a harbinger of transformative progress. Surgeons are empowered with AR overlays during procedures, offering critical insights and precise guidance, which enhances precision and patient outcomes. Medical education receives a significant boost from AR simulations, creating a risk-free environment for honing skills and enhancing competence. The integration of AR-enhanced medical imaging augments patient care, empowering medical professionals with unparalleled visualizations of intricate anatomical structures.

Augmented Reality stands at the crossroads of innovation and imagination, poised to redefine our interactions and perceptions of the world around us. Its potential to reshape industries, revolutionize entertainment, and redefine education is unparalleled. Yet, this journey demands a delicate balance of ingenuity, ethical awareness, and technical mastery. By embracing responsible development and unbridled creative exploration, Augmented Reality is set to bridge the gap between reality and virtuality, enriching our lives in ways that were once confined to the realm of dreams.

The Creative Pod

By Sakshi More (Sem 3)



By Aditya Pawar (Sem 3)

By Poorva Raut (Sem 3)

By Siddhi Patil (Sem 3)

By Rhea Gomez (Sem 5)



By Mayuri Phapale (Sem 5)




By Faisal Sarang (Sem 7)


Shayari Corner

Bahut khoobsurat hai aankhein tumhari
Inhe banado kismat hamari
Hume nahi chahiye jamane ki khushiyaan
Agar mil jaye mohabbat tumhari

Dekha use toh dil ko chain aya tha
Hothon ki ajab muskan dekh uske
Aaina bhi sharmaya tha

Har shuruaat teri baat se ho
Maano suraj bhi jaise barsaat se ho
Mein toh shaam hi na hone du
Bass har subha teri mulakaat se ho

Uss roj badalon mein fir sitare aye the
Lapetkar sang apne teri yaadein laye the
Pucha tha meine tere baare mein unse
Bekhabar ve phir muskuraye the

Kuch bigde hue the haalaat humare
Jaise chaand bhi adhura ho ratke sath
Usse mehfil bhi aisi sajani thi
Jaha khamoshi bhi ho shor ke sath

-BY PIYUSH MORE(SEM 5)

Shayari Corner

इश्क हैं जनाब!!

बहोतो को है यह सवाल बड़ा
इस इश्क को कैसे लाल रंग है चढ़ा?
क्यों इश्क का रंग सफेद नहीं होता?
ये इश्क हैं जनाब आसान नहीं होता!
मिल जाते है वो जिनका मुकद्दर एक हो
कोई पूछे उनसे जिनका जमाना नही होता

ये महोब्बत का रंग मलाल है बहोत
इसने खून के आंसू रुलाए है बहोत
जिसे चाहा वो हर दम अपना नहीं होता
यह इश्क है जनाब आसान नहीं होता

किसी की आस में किसीने जिंदगी गुजार दी
वो ना आएगा जान कर भी मन्नतें है मांग ली
खूनी है ये कई आशिकों का कातिल
ऐसा लाल रंग खून का इसने चढ़ाया नही होता

इसलिए इश्क का रंग सफेद नहीं होता
ये इश्क है जनाब आसान नहीं होता!!!

-BY SANCHI TIWADE(SEM 3)

POETRY

अच्छी बात

आज की अच्छी बात,
आज की सच्ची बात।
दिल को छूनेवाली,
एक छोटी सी बात।
कदर करनी है तो जीते जी करो,
तारिफ़ें सुनने नहीं आते लोग मरने
के बाद।
समय निकालो और बात करो
अपनों से,
अपनों के बिना जीवन बन जाएगा
अभिशाप।
आज मिट्टी के ऊपर, कल मिट्टी के
भीतर ,
तो फिर गुरुर आखिर किस बात का
है जनाब?

-By Abhishek Jha
(Sem 3)

POETRY

Falling for Her!!!

Looking at her no pain he felt
Until again their eyes met

The scars she had in the depth
The lies he said to keep her safe

All her flaws now made no sense
For him she was the rarest gem

She had it all carved in her eyes
Like a cascade full of rhymes

And pouring into entire world's love
He was a bird having its first flight!!

-BY SANCHI TIWADE(SEM 3)

POETRY

RELATIONSHIP

The dusky skies and the lush green trees, The sun
trying to peep in between,
What a combination to see!
Then the adamant clouds got into a fight,
With both getting angrier by the minute and might,
But down here in the lashing rains,
were moments of laughter and joy.
Bringing out those who we were coy,
Sigh! Such beautiful is the relation of
the trees and clouds,
That we can see them greeting each other
in gracious abound.
They have been here since millions of years, But
never did the nature thwart a life so dear
It is such an irony that man feels great because of his
clouts, Why can't he learn from them and rest his
doubts?

-BY ABHISHEK JHA(SEM 3)

POETRY

इतना बडा काम किया हैं उसने,
जन्म दिया हैं मुझे जिसने ।
लगता मुझे था, दर्द होता उसे था,
मना भी लेती थी, जब रोता मैं था ।
दिन मे चिल्ला-चिल्ला कर जो रुला देती
वही रात मे गोद मे सुला देती ।
नौ महिने मेरा दर्द साहा था, फिर भी
शिकायत के तौर पर कुछ ना कहा था,
जिंदगी का सफर दो पल में जी लेता हूँ मैं
जब उसकी गोदी से लिपट जाता हूँ मैं |

-BY PIYUSH MORE (SEM 5)

No Rose is Without a Thorn

A rose is a symbol of love, grace and happiness whereas a ‘Thorn’ symbolizes pain, sorrow and desperation. These both things present two ideologies. Still, together they rest in ‘nature’. ‘No rose is without a thorn’, if we can understand the inner meaning of this proverb and apply it in our lives ‘Nothing is unachievable!’.

Life metaphorically is a journey of miles, containing innumerable obstacles. But as said ‘The journey of thousand miles starts with a single step.’ If we aim for the rose(Success), it is obvious to have thorns(Failures) in the path. Nobody has achieved great heights of success without suffering great loss, pain and depression.Higher is the peak, more will be the efforts to climb it. Every step in the journey initiates a new challenge to confront.

Sometimes,we might stumble,sometimes we might become desperate and ready to give up, but the hope inside our souls convinces us to reach and obtain success and burn the fire of belief and strengthens us within. At the end of the journey we might be helpless, in intense pain and even pathetic at times.
But the sweetness of success is million times better than the bitterness of hardships faced.

‘Hard times don’t last long but hard people do’. Just stay calm, be steady and make yourself ready to face the obstacles(thorns) on the road to reach the magnificent roses of success and I bet you,
‘Nothing can stop you’.

-By Abhishek Jha (Sem 3)

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