GLS UNIVERSITY
Promoted By Gujarat Law Society Since 1927

Accredited with A+ NAAC GRADE CGPA : 3.44

D-KOSMOS

DIGITAL TWINS

Issue - 24

Dec, 2024

Faculty of Computer Applications
& Information Technology

Message From Dean, FCAIT

In an era of rapid digital transformation, the convergence of physical and virtual worlds has given rise to one of the most revolutionary concepts of our time Digital Twins.

By leveraging Real-Time Data, Artificial Intelligence, and the Internet of Things (IoT), Digital Twins enable enhance simulation predictive analytics, and optimized decision-making across diverse sectors including smart cities, healthcare, manufacturing, and infrastructure.

This paradigm is not only redefining technological advancements but also shaping the future of intelligent systems. As technology advances, the integration of Digital Twins with Edge Computing, 5G Networks, and Blockchain is unlocking even greater potential.

These advancements are facilitating seamless data exchange, improving security, and enabling decentralized intelligence, thus pushing the boundaries of innovation. However, challenges such as data privacy, scalability, and computational complexity remain critical areas of exploration for researchers and technologists. Addressing these concerns will be instrumental in realizing the full capabilities of Digital Twin ecosystems.

The insightful articles and research contributions in this edition reflect the intellectual rigor, curiosity, and commitment of our students toward exploring cutting-edge technologies. Their efforts in examining the applications, challenges, and potential of Digital Twins exemplify the spirit of innovation that our institution strives to nurture. As we embrace this transformative technology, we encourage our students and researchers to continue exploring its implications, fostering a future where digital and physical worlds seamlessly converge for smarter, more efficient solutions.

Wishing you an enlightening and engaging reading experience.

--Dr. Tripti Dodiya

From Editorial Desk

Welcome to the 24th edition of our departmental magazine, where we embark on an insightful journey into the world of Digital Twins—a groundbreaking technology that bridges the gap between the physical and digital realms. As industries embrace this innovation, we witness a transformation in simulation, optimization, and real-time decision-making, redefining how we interact with data and systems. This edition not only sheds light on the technical aspects of Digital Twins but also highlights its real-world impact, inspiring students to explore its potential in their academic and professional pursuits.

In this issue, we delve into the intricacies of Digital Twins through thought-provoking student articles that explore its applications across various domains. Alongside this, we bring you glimpses of the dynamic activities that shaped our academic and cultural landscape over the past semester. Our students have demonstrated remarkable enthusiasm and creativity, showcasing their talents through writing, research, and hands-on participation in departmental initiatives.

Our department has been a hub of vibrant engagement, hosting Shadez, a cultural fest, and Cyber Shadez, a technical fest designed for school students, fostering early exposure to technology. The academic sphere was further enriched through seminars under CWDC, educational visits to CEE, Ahmedabad and Dandi Kutir, Gandhinagar, and an industrial visit to BISAG-N, offering students firsthand industry insights. These experiences not only enhanced their knowledge but also broadened their horizons, encouraging interdisciplinary learning and innovation.

Beyond academics, Tech Talk series, Code Crafter Club, Literary Club, and Theatre Club have continued to nurture creativity, critical thinking, and technical excellence, making learning a holistic experience. We take pride in providing a platform where students can express themselves, explore new ideas, and collaborate with peers to push the boundaries of knowledge and creativity.

This magazine stands as a reflection of our students' curiosity, dedication, and enthusiasm for both technology and knowledge-sharing. We invite you to immerse yourself in these pages, discover new perspectives, and celebrate the collaborative spirit of our department.

Wishing you an enlightening and engaging reading experience.

Members

Dr. Disha Shah, Dr. Poonam Dang, Dr. Bharti Shah, Prof. Monica Gupta, Prof. Garima Mishra, Dr. Kruti Vyas, Dr. Ruchika Rami, Prof. Drishta Barot

Designer

Dr. Bharti Shah

Designing Software:
Inkscape Vector Graphics

Introduction

In an era defined by rapid technological advancements, the ability to predict outcomes, optimize processes, and enhance decision-making has become a fundamental goal across industries. One of the most groundbreaking innovations driving this transformation is the concept of digital twins—highly sophisticated virtual replicas of physical objects, systems, or processes.

By creating a true-to-life digital simulation, industries ranging from healthcare and urban planning to manufacturing and disaster management can gain unparalleled insights, enabling them to anticipate challenges, improve efficiency, and mitigate risks. As digital twins continue to reshape the way we design, operate, and innovate, they are proving to be a critical tool in building smarter, safer, and more sustainable solutions for the future.

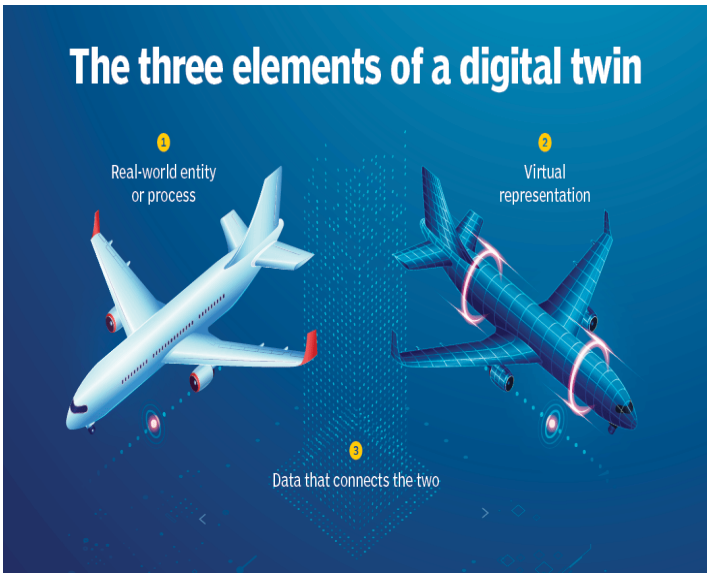
Emerging Innovations: Shaping the Future

At some point, we have all wondered: What if we could predict the future or prevent a mishap before it occurs? What if technology could provide us with the foresight to anticipate challenges and mitigate risks? Remarkably, this is now becoming a reality—at least to some extent.

Imagine a world where a digital model of a real-world object—such as an aircraft, a ship, an entire city, or even a building—can be created before it is physically constructed. Urban planners, for instance, can optimize city traffic and refine housing designs within a virtual environment before implementing real-world changes. Similarly, medical professionals can simulate surgical procedures on a patient's digital model, enhancing precision and reducing risks.

In disaster response, rescue teams can train more effectively using digital models of natural disasters, enabling them to strategize and act with greater efficiency. These digital representations provide invaluable insights, allowing for the prediction of potential drawbacks and the development of proactive solutions.

This is not the realm of science fiction; rather, it is the revolutionary concept of the digital twin—a highly accurate digital simulation that mirrors real-world objects. By leveraging this advanced technology, industries can gain a deeper understanding of the present, anticipate future developments, and design safer, more efficient, and more effective solutions.



As a cornerstone of innovation, digital twins are shaping the future by transforming industries, advancing smart cities, and driving technological progress across multiple domains. While the concept may initially seem complex, its potential to redefine the way we design, build, and operate within our world is undeniable.

As one of the most influential people of the 20th century once said, “THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE “IT”—ABRAHAM LINCOLN. And with the help of digital twins, we will be replicating and simulating various processes to predict the said “future” of the real-time objects.

Evolution of Digital Twins

- 2002: Concept introduced by Dr. Michael Grieves within Product Lifecycle Management (PLM).
- 2010: NASA develops simulations to improve spacecraft operations.
- 2017-Present: Digital twins become a top strategic technology trend, adopted by Tesla, IBM, Siemens etc.

Mirroring the Real World

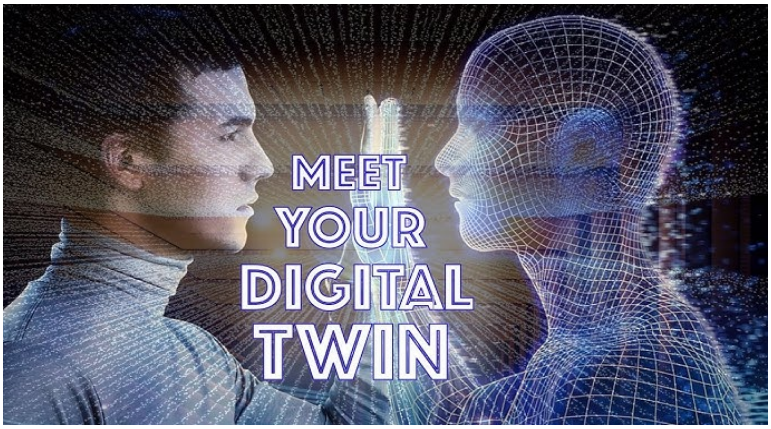
A digital twin is a virtual model that accurately represents real-world objects, systems, or processes in real-time. It updates using the data collected by the sensors embedded in its physical counterpart. Or, in essence, a digital twin is computer software that simulates the performance or forecasts the different processes of a product using the data provided by the real-time object.

As Maggie Mae Armstrong, one of the content directors and authors of Watson IoT, stated, “Analysis of the data from the connected sensors, combined with other sources of information, allows us to make these predictions. With this information, organizations can learn more, faster. They can also break down old boundaries surrounding product innovation, complex life cycles, and value creation.”

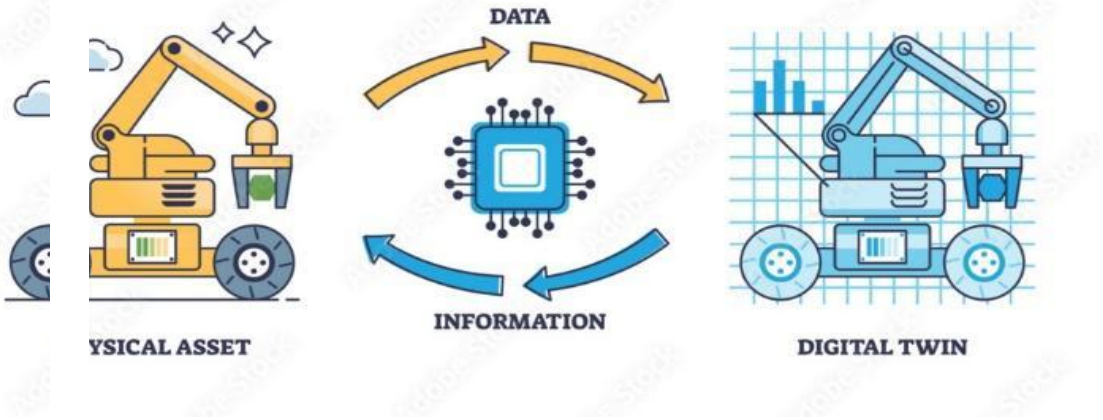
From Components to Process Twin a Journey of the Evolution of Digital Twin

Digital Twins will most likely advance and provide more accurate and sophisticated systems, which will evolve the industry 4.0 (IoT industry), AI, and edge computing,

This will help us move forward towards one of the fantasies of the human brain, “What is going to happen in the future?” While today it might seem absurd, the possibilities are now expanding and opening doors for more opportunities to tackle the world’s biggest challenges, from building sustainable products to bringing changes in the healthcare industry.



As we dive deeper, we have to take a glance at the journey of the evolution of the digital twin, which is constantly changing or adopting and evaluating.
Digital twins can be of many types, depending on the level of detail they represent. One of the ways we can differentiate is through their scope and applications. In most cases, the different types of digital twins can co-exist within a system. Each digital twin has its very own unique purpose, but we can generate an efficient mechanism when we put them together. Based on the level of product magnification, there can be various types of digital twins. Let’s take a little insight from them.



COMPONENTS TWINS: We can think of these as the building blocks of a digital twin, they are the smallest functional unit, and they generally refer to slightly less critical components. For example, the sensors in jet engines to predict overheating.

ASSET TWINS: When multiple components work together as a functional unit, they form asset twins, these twins help in deeper analysis of how one component interacts with the other, and one of the best examples of this is a robotic arm in an automobile factory.

SYSTEM TWINS: Now these are formed when multiple assets twins combine together to form a larger more interconnected system.

PROCESS TWINS: This is possibly the highest level of digital twin which helps us see the big–picture view of an entire operation, this helps us analyze how everything together flows from the production to supply chains and through this, we can fine-tune the process.

Digital Twin vs. Simulation: Understanding the Difference

Ever played an arcade bike racing game? That's Simulation in a nutshell. You're getting a feel for the real thing, but it's all pre-programmed, fixed. No matter how you twist the handlebars, the game world doesn't actually change based on your real-time actions. It's a prediction, not a reflection.

Now, imagine this instead of a screen, you're looking at a digital bike, linked to a real bike. As you race, sensors on the real bike track every move – speed, lean angle, even pedal pressure. All that data streams into the digital twin, mirroring your every action live. Suddenly, it's not a game anymore. It's a real-time reflection of reality. That's the power of a Digital Twin.

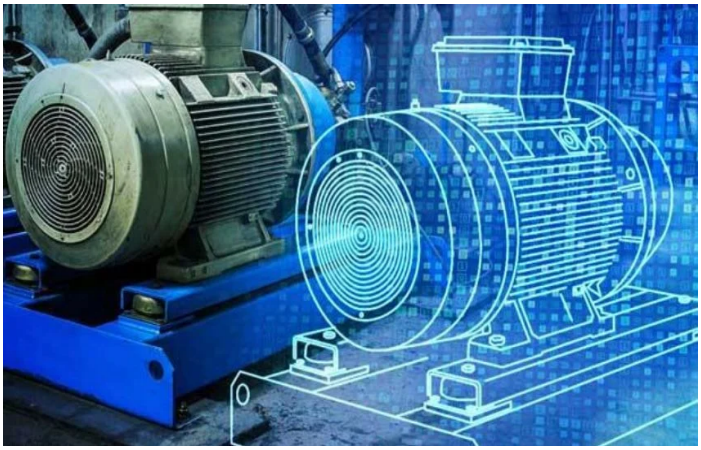
Simulation is like watching a pre-recorded race. Digital Twin is like racing yourself, with a virtual coach analyzing your every move and suggesting improvements in real-time. It's dynamic, adaptive, and incredibly powerful. Digital Twins aren't just about predicting what might happen; they're about understanding what is happening, and using that knowledge to shape the future.

Unlike traditional simulations, which are pre-programmed and fixed, digital twins dynamically adapt based on real-time data.

Feature	Simulation	Digital Twin
Real-time Updates	No	Yes
Predictive Analysis	Limited	Advanced
Interaction with Physical World	No	Yes
Adaptability	Static	Dynamic

Digital Twins: The Game-Changer for Modern Businesses

What if you could bend reality? Not literally, of course. But what if you could create a mirror image of the world – a digital twin – where you could test, experiment, and even predict the future?



What's the X factor driving their phenomenal success? Here's the discovery:

RISK-FREE INNOVATION: Say goodbye to expensive prototypes! Digital twins are a virtual sandbox for engineers. They can experiment with designs, test materials, and even simulate failures—all without real-world risks. It’s like an "undo" button for product development.

X-RAY VISION: See inside your product—no disassembly required! Digital twins provide real-time insights. Engineers monitor every component, from the smallest screw to the most complex circuit. This detail helps identify potential issues before they become major problems.

LEARNING FROM REAL-WORLD DATA: This is pure documentation of how a product performs. If, for example, a smartwatch overheats, the digital twin design improvement suggestion would follow. This critical feedback loop is the tool that takes products to ever-increasing reliability and user-friendliness.

PREDICTING THE FUTUREI: Assessing problems before they happen. Digital twins forecast potential failures or inefficiencies using sensor data to measure sensor reliability. A digital twin technology in a factory could predict machine breakdowns and allow preemptive maintenance. It’s a crystal ball for operations.

ACCELERATED PRODUCTION: Build smarter, not harder. Digital replicas simulate the entire production process before it begins. This identifies potential issues early, reducing delays and ensuring a smoother rollout. It's like a pilot running through pre-flight checks.

Digital Twins in Global Initiatives

We know why digital twins are so great. But how are they actually used in the real world? Get ready to be amazed:

MANUFACTURING MARVELS: Imagine designing a car and testing its crashworthiness before building a physical prototype. Digital twins make this possible! They're revolutionizing manufacturing by letting companies optimize everything from product design to factory floor operations.

HEALTHCARE HEROES: Doctors are using digital twins of organs to practice complex surgeries. Pharmaceutical companies are using them to develop personalized treatments. Digital twins are transforming healthcare, leading to better outcomes and more effective care.

SMARTER CITIES: Cities are using digital twins to become more efficient and sustainable. They can simulate traffic flow, optimize energy use, and even plan for future growth. It's like playing SimCity, but for real!ional simulations, which are pre-programmed and fixed, digital twins dynamically adapt based on real-time data.

RETAIL REVOLUTION: Digital twins change the way we shop. These allow retailers to design virtual stores, personalize the customer experience, and optimize their inventory. Imagine a store that knows exactly what you want – that's how retail is using digital twins.

The Real-World Impact of Digital Twins on Global Innovation

DIGITAL TWINS: The ability to create a virtual replica of anything—from a car engine to an entire city—offers unprecedented opportunities for experimentation and learning.

CONSIDER INDYCAR RACING: Real-Time data from over 140 sensors per car feeds into digital twins, providing fans with unparalleled race insights.

Rolls-Royce employs digital twins for jet engine maintenance, optimizing performance and reducing costs.

Mars utilizes them to streamline supply chains, simulating production to identify bottlenecks. Orlando leverages a 3D digital twin of the city for smarter urban planning.

From IndyCar's data-driven fan experience to Orlando's urban planning, digital twins are proving their value.

BMW uses them for production streamlining, Tata Steel for greener steel manufacturing, Thames Water for water conservation, TIAA for enhanced client services, and Bayer Crop Science for agricultural innovation. These diverse applications underscore the real-world impact and future potential of digital twin technology.

How Digital Twins Are Transforming Jobs and Careers

Digital Twins aren’t replacing jobs—they’re reshaping them. As industries adopt this technology, roles are evolving, not disappearing. Engineers now need 3D modeling and data analytics, factory workers are becoming machine-learning operators, and urban planners use real-time simulations to improve cities. water conservation, TIAA for enhanced client services, and Bayer Crop Science for agricultural innovation. These diverse applications underscore the real-world impact and future potential of digital twin technology.

New careers like Digital Twin Architects and Simulation Analysts are emerging, creating opportunities for those who adapt. Instead of competition, think of Digital Twins as intelligent assistants that enhance efficiency and decision-making. The future belongs to those who embrace this change and upskill for the digital era.

Fun fact: Gartner says 50% of large manufacturers will use digital twins by 2026. Time to update that resume!

Beyond Today The Potential Of Digital Twins

As we stand at the edge of the next technological revolution, there is no doubt that Digital twins have made its way across industries and become the next game-changer.

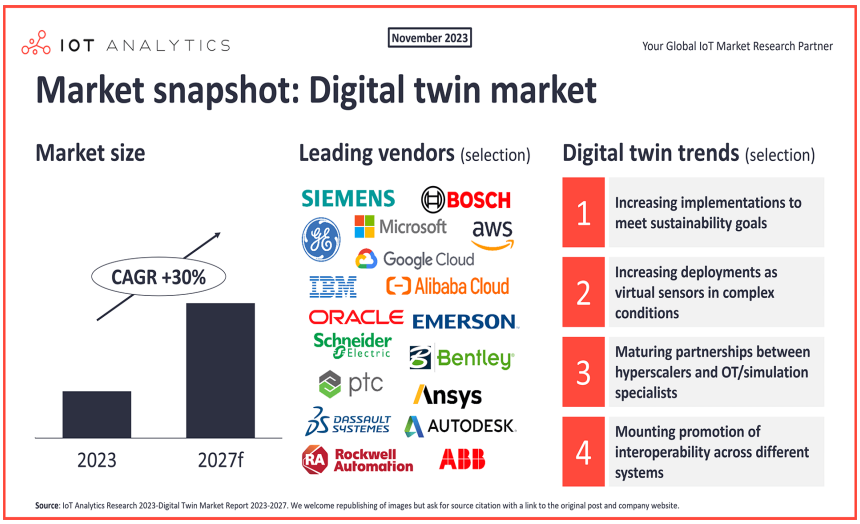
What started as a mere thought and vision of making a replica of a real –world object has now become a powerful tool for prediction, analysis, optimization and making real-time decisions.

From NASA to automobile industries, Digital twins are not just shaping the way we designs, test and improve the real world system but they are influencing career paths, innovations and the way we solve global challenges.

So if you are student, engineer or researcher understanding the need of Digital Twin today means being at the forefront of the next big wave of digital transformation. As Steve jobs once said that," Innovation is the ability to see change as an opportunity, not a threat". And that opportunity is here, Digital twins are leading the way and make sure you are part of the revolution.

Digital Twin Industry Analysis & Growth

The digital twin market is booming, estimated at $15 billion in 2023 and projected to reach $40 billion by 2028, growing at a 22% CAGR. Driven by Industry 4.0 and IoT advancements, demand is soaring across manufacturing, healthcare, and automotive, which currently hold a 65% market share. Major players like Siemens, IBM, and Microsoft, along with startups, are fueling innovation through intense R&D and significant VC funding. Despite challenges like data security, the future of digital twins is bright, promising increased efficiency, cost reduction, and groundbreaking innovation.



Emerging Fields in Digital Twins: A Glimpse into the Future

Imagine a world where healthcare is tailor-made for you, cities anticipate your needs, and shopping knows you better than you know yourself. It's not science fiction—it's the power of digital twins, virtual replicas of real-world entities, processes, and systems, constantly fed with real-time data from IoT sensors and other sources.

HEALTHCARE: Personalized medicine leaps forward. Virtual patients, built from your data, let doctors simulate treatments and predict outcomes. Surgeons rehearse procedures on digital organs. Drug discovery accelerates with virtual trials.

SMART CITIES: Urban landscapes become living models. Digital twins, fueled by AI, optimize traffic, predict infrastructure needs, and enable sustainable communities. Disaster management becomes proactive through scenario simulations.

AGRICULTURE: Farms become data-driven. Digital twins, using sensor and drone data, optimize irrigation, fertilization, and pest control for maximum yield and sustainability.

EDUCATION: Learning gets personal. Immersive environments and adaptive platforms cater to each student's unique potential.

The future of Digital Twins is incredibly exciting. As technology advances, we can expect Digital Twins to become more sophisticated and accessible. Here are some trends to watch:

AI & MACHINE LEARNING: Integrating AI with Digital Twins will enable even more accurate predictions and automation.

IoT EXPANSION: The growth of the Internet of Things (IoT) will provide more data for Digital Twins, making them even more powerful.

INDUSTRY 4.0: Digital Twins will play a key role in the fourth industrial revolution, transforming manufacturing and other industries.

PERSONALIZED EXPERIENCES: From healthcare to retail, Digital Twins will enable highly personalized experiences for individuals.

Priya Pratheesh, Anchal Tiwari, SYBCA, Sem-III

CYBER SHADEZ-2024 (School Category)

The Cybershadez 2024 – School Category was organized on September 21, bringing together over 200+ students from 25 schools across India. The event featured various competitions, including Elocution, IT Quiz, Programming, Web Designing, and Idea Presentation, providing a platform for young minds to showcase their talent and innovation.

The event commenced with a prayer, setting a calm and focused atmosphere. Dr. Tripti Dodiya, Dean delivered an inspirational inauguration address, emphasizing the role of technology in shaping the future and the significance of platforms like Cybershadez in nurturing students' skills.

Following the inauguration, a seminar on "Emerging Trends in Information Technology" was conducted for the students. They explored the transformative impact of technology in education and discussed cutting-edge advancements in artificial intelligence, offering valuable insights into AI's growing influence across industries.

After the seminar, participants engaged in a series of competitions, demonstrating creativity and problem-solving abilities. From thought-provoking elocution topics to intense IT quizzes, innovative programming solutions, and creative web designs, the contests reflected the immense potential of these young innovators.

The event concluded with a valedictory ceremony and prize distribution, where winners were awarded trophies, cash prizes, and certificates in recognition of their excellence. Cybershadez 2024 – School Category proved to be a resounding success, fostering an environment for students to explore and excel in the ever-evolving field of technology.

Tech Talk Club: Exploring Emerging Technologies

The Tech Talk Club serves as a dynamic platform for students to explore emerging technologies, share insights, and engage in discussions that foster innovation and knowledge sharing. These sessions provide valuable exposure to cutting-edge trends, practical applications, and industry advancements.

Tech Talk – Exploring Google Applications, July 15, 2024: Led by senior students, the session highlighted key features, practical use cases, privacy considerations, and the impact of Google services on daily life and business. Participants explored emerging Google tools through interactive discussions and hands-on experience, enhancing their digital proficiency.

Tech Talk - Generative AI, August 7, 2024: A talk provided a foundational understanding of generative AI, its distinction from traditional AI, and key models used today. It explored applications

Tech Talk - On Prompt Engineering, December 18, 2024: It focused on crafting precise prompts to optimize AI interactions, enhancing students' understanding of AI applications, critical thinking, and creativity. The discussion emphasized the role of prompt engineering in refining AI responses and streamlining industry processes, preparing students for the evolving tech landscape.

Academic Activities

Soft Skills Seminar "Cracking the Confidence Code"

On July 16, 2024, Ms. Rebecca Sudan, a renowned happiness and behavioral communication coach, delivered an enlightening seminar on "Cracking the Confidence Code." Attended by over 800 students, the session explored confidence as a skill, distinguishing it from arrogance and self-doubt. Ms. Sudan introduced behavioral strategies such as positive self-talk, goal setting, visualization, and reframing negative thoughts. Engaging physical activities like power posing, breathing exercises, and group interactions reinforced these techniques. The seminar provided students with practical tools to enhance confidence through mindset shifts and habitual practices. Concluding with an interactive discussion, the session left a lasting impact on the attendees.

Technical Seminar-2024

The Technical Seminars 2024 series provided students with valuable insights into emerging technologies, industry trends, and professional skills. Conducted by experts from academia and industry, these sessions aimed to bridge the gap between theoretical learning and real-world applications. Covering topics such as Artificial Intelligence, Blockchain, Immersive Experiences, LinkedIn for Career Growth, and Google Applications, the seminars equipped students with knowledge essential for academic and professional success. The initiative fostered interactive discussions, skill enhancement, and a deeper understanding of advancements shaping the IT and business landscape.

Seminar Title	Date	Speaker
Artif cial Intelligence	July 24,2024	Dr. Mansi Shanishwara, FCAIT, GLS University
Emerging Trends	July 13,2024	Dr. Purna Tanna, Prof. Riddhi Kundal, Prof. Garima Mishra, FCAIT, GLS University
Metamorphosis: Transition from School to College	Aug 22,2024	Abhishek Singh Gautam, Chief Marketing Of cer, IMS Gujarat
LinkedIn: Future of Job Search	Sept 10,2024	Mr. Alok Shah, Owner, I-Inspire Education Pvt. LTD.
Enhancing User Experience with Immersive Tech	Sept 17,2024	Mr. Geet Sharma, Assistant Professor, NMIMS School of Design
Blockchain Applications	Sept 23,2024	Prof. Neha Samshir, FCAIT, GLS University
Google Scripts & Mobile Applications	Sept 24,2024	Prof. Nasrin Aasofawala, FCAIT, GLS University
Mastering Group Discussion & Personal Interviews	Sept 25,2024	Prof. Drishta Barot, FCAIT, GLS University

Co-Curricular Activities

CWDC Activities

The Collegiate Women's Development Cell (CWDC) remains committed to fostering a safe and inclusive environment through seminars and training sessions focused on wellness, self-defense, and life-saving skills.

On August 7, 2024, CWDC organized a seminar on Mental and Physical Wellness of Women, featuring Dr. Hetal Patolia from Khyati Multispeciality Hospital. The session addressed key aspects of women's health, providing valuable insights and practical self-care strategies. With an interactive format, students actively engaged in discussions, gaining essential knowledge to maintain their overall well-being.

A First Aid & CPR Training session was conducted on September 25, 2024, by Mr. Naresh Gohil from the Indian Red Cross Society. Covering Basic Life Support (BLS) techniques, including CPR, the Heimlich maneuver, and wound management, the session provided hands-on practice to ensure participants could confidently respond to emergencies.

On December 18, 2024, CWDC hosted an impactful session on Women's Rights and Self-Defense, led by PI M.A. Ambalia along with legal and self-defense experts. The discussion highlighted societal challenges and the necessity of self-defense training. Practical demonstrations equipped attendees with essential skills to enhance their safety and confidence.

SHADEZ 2024: A Celebration of Creativity, Culture, and Community

SHADEZ 2024, a vibrant cultural extravaganza, was held on December 26–27. The two-day festival provided a dynamic platform for students to showcase their talents across literary, artistic, and theatrical domains. Events like debates, poetry, drama, and music captivated audiences, while cultural highlights such as Bollywood Day and Group Day added a spirited touch. With over 200+ participants, SHADEZ 2024 was a remarkable celebration of creativity, unity, and community, leaving an indelible mark on all who attended.

Gratitude to Gurus: Guru Purnima Celebration

Expressions of gratitude and admiration filled the air as students came together to celebrate Guru Purnima on July 20, 2024. Organized by FCAIT Students, the event was a heartfelt tribute to teachers for their unwavering guidance and support in shaping students' academic and personal journeys.

The celebration featured a variety of performances highlighting students' creativity and talent. A short play by the Theatre Club humorously yet thoughtfully portrayed the daily interactions between students and teachers. A stand-up comedy act brought moments of joy and laughter, adding a lively touch to the event. As a meaningful conclusion, students presented Tulsi saplings to their mentors as a symbol of appreciation and respect.

Industrial Visit to Dandi Kutir and BISAG-N

On August 13-14, 2024, FCAIT students, accompanied by four faculty members, embarked on an educational visit to Dandi Kutir and the Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG-N) in Gandhinagar. This visit aimed to provide practical insights into the application of technology in cultural heritage and geoinformatics, bridging the gap between theoretical knowledge and real-world applications.

At Dandi Kutir, students explored interactive exhibits showcasing India's rich history, emphasizing the role of technology in preserving cultural heritage. The visit to BISAG-N introduced them to advancements in geospatial technology, satellite communication, and remote sensing, highlighting their significance in various domains. The visit offered a valuable learning experience, deepening students' understanding of technological applications across diverse fields.




Educational Visit

On December 24, 2024, students visited the Centre for Environment Education (CEE), Ahmedabad for an insightful educational tour focused on ecology, biodiversity, and sustainability. CEE provides interactive learning experiences through nature trails, conservation activities, climate change awareness programs, and hands-on environmental experiments.

During the visit, students participated in a trail walk, exploring diverse plant and animal species while understanding their ecological significance. Engaging activities like the Food Web Game illustrated ecosystem interdependence, while the Survival of Animals Game highlighted adaptation strategies. The visit concluded with a Q&A session where experts addressed queries, followed by a reflective feedback session. This immersive learning experience broadened students' understanding of environmental sustainability, reinforcing key ecological concepts through practical and engaging activities.

Code Crafter Club: Nurturing a Culture of Coding and Innovation


The Code Crafter club at FCAIT serves as a dynamic platform for students passionate about coding, problem-solving, and technological innovation. With a vision to foster technical skills, collaborative learning, and hands-on experience, the club organizes various events, workshops, and discussions aimed at equipping students with industry-relevant knowledge. From coding challenges to expert-led seminars, Code Crafter continues to empower students, preparing them for hackathons, competitions, and real-world tech challenges. Through these diverse initiatives, Code Crafter continues to bridge the gap between theory and practice, equipping students with the skills needed to excel in the ever-evolving tech landscape.

Introduction to Code Crafter and Its Vision (July 16, 2024): The Code Crafter event introduced students to the club's mission of creating a collaborative space for coding enthusiasts. The club president outlined its vision of providing hands-on exposure to the latest technologies, fostering teamwork through hackathons, and preparing students for coding competitions to sharpen their problem-solving abilities. This session served as an inspiring introduction to the numerous opportunities available within the club.

Panel Discussion: Thinking of Building Your Own Tech Startup? (August 9, 2024): . Encouraging entrepreneurial thinking, Code Crafter hosted an engaging panel discussion titled "Thinking of Building Your Own Tech Startup?" at the GLS Auditorium. The session featured four accomplished tech founders—Vishal Rewari, Maadhav Sharma, Bhavesh Patel, and Ashish Kasama—who shared their experiences, challenges, and insights into building and scaling tech startups. Attended by over 150 students,the discussion served as a source of inspiration, equipping aspiring entrepreneurs with practical knowledge and motivation to embark on their own startup journeys

From Figma to Functional: Building a Client-Ready Landing Page (December 14, 2024): With the goal of enhancing students' technical expertise, Code Crafter organized a hands-on workshop focused on transforming Figma designs into fully functional, responsive landing pages. The session covered essential web development tools, best practices, and techniques for building professional interfaces. Additionally, interactive discussions explored topics such as mastering GitHub and leveraging coding skills for earning opportunities. A quiz competition added an element of excitement, recognizing students for their participation and technical knowledge.

Literary Club

The fusion of literature, film, and theatre came alive on August 21, 2024, as the Literary and Theatre Clubs organized two captivating events, enriching students' creative and intellectual pursuits.


The Literary Club hosted an insightful seminar on The Intersection of Film and Literature, featuring Dr. Hardik Solanki, founder of Nepathya-The Backstage. His engaging session delved into the art of literary adaptation, exploring how stories transition from page to screen. Through thought-provoking discussions, students gained a deeper understanding of cinematic storytelling and its connection to literary narratives.

On the same day, the Theatre Club conducted an immersive workshop, "Natyapravah" led by seasoned actor and production manager Ms. Saumya Thaker. The session introduced students to the fundamentals of theatre, covering stagecraft, voice modulation, and expressive techniques. Through hands-on activities, participants experienced the nuances of performance, fostering an appreciation for the dramatic arts.