SSIPMT RAIPUR

Shri Shankaracharya Institute Of Professional Management And Technology

CYBER TRINITY

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CYBER TRINITY

NEWSLETTER

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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VISION

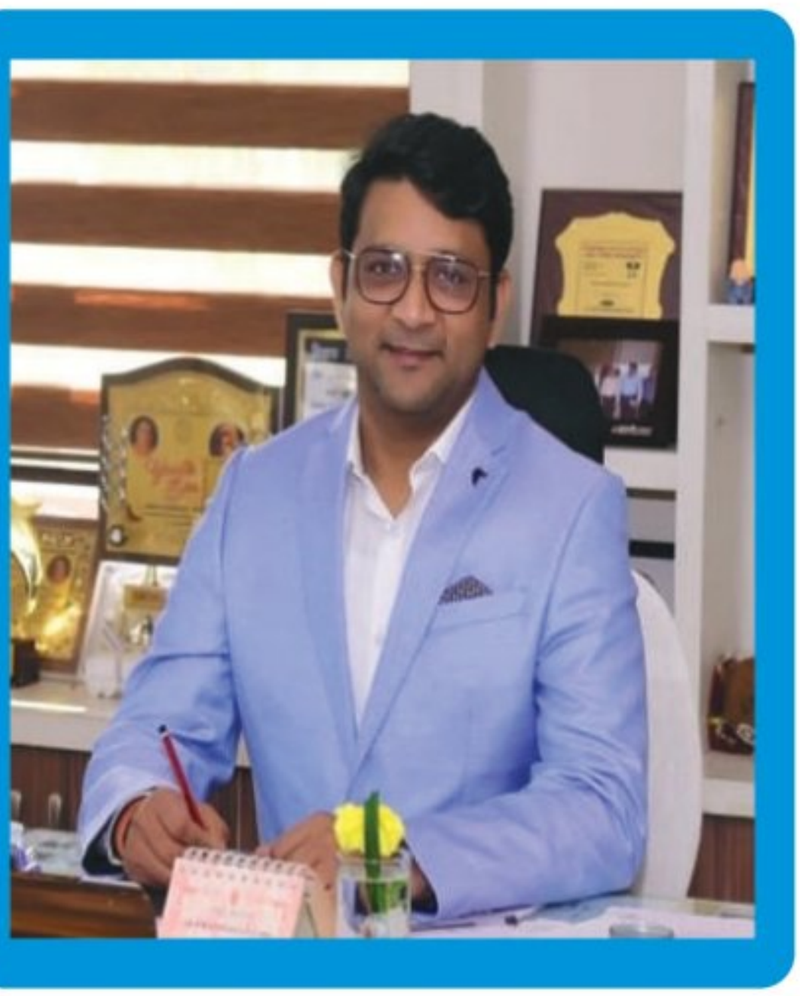
"To produce value-based quality Engineers with the knowledge of latest trends and research technologies to meet the developing needs of industry and society."

MISSION

- To impart quality education in line with quality teaching-learning process.
- To provide a better environment to encourage and support innovative research and development.
- To strengthen linkage between industry-academia for overall improvement of students.

CYBER TRINITY

MEMORANDUM



"The foundation of every state is the education of its youth."
Nowadays, we can see that we are undergoing through technological revolution,these technologies give us a helping hand. Technology remains the driving force of innovation .
Our institute focuses on providing quality education so that our students can improve their technical, reasoning and soft skills. We believe that the knowledge which students gain they can apply it to the real world and solve real life problems and our commitment of innovation remains steadfast .

SHRI NISHANT TRIPATHI
CHAIRMAN (B.G), SSIPMT

"Each new day gives a new opportunity to be the best version of yourself. Take it. And make the most of it."
SSIPMT Raipur has always focused on overall development of the students by providing them with a better environment. We are building the foundation of the country's young minds by providing them a platform and support. Our college organizes various events to help students explore their talents. We believe in nurturing the potential of the students and make them able to have a positive impact on the society.

DR. ALOK KUMAR JAIN
PRINCIPAL, SSIPMT

CYBER TRINITY

FACULTY MESSAGE

"Data is the new Science.
Big data holds the answers."

SSIPMT focuses on building great engineers. It also focuses on learning new technologies , framing new ideas. Our team continues to cross all the boundaries and turning ideas into reality. Each team member plays a crucial in our success. Big Data is the characterization of all kinds of data, specially the unstructured data. Big data involves use of audio data , text , images.
Explore the potential and future of big data in this edition.

MR. RIJU BHATTACHARYA
HEAD DEPARTMENT OF CSE

As we explore the vast realm of Big Data, I am thrilled to share insights on its transformative impact. Big Data is more than just a large volume of data - it is the catalyst for innovation and informed decision-making. Its power is paramount for our dynamic field, as it shapes the future of Computer Science. Let's embrace the challenges and unravel the mysteries of Big Data together, fostering a culture of curiosity and continuous learning. By working together, we can unlock its full potential and make significant advancements in the ver-evolving landscape of technology.

MR. YOGESH RATHORE
ASSISTANT PROFESSOR, CSE

INTRODUCTION TO BIG DATA

Big data is referred to as extremely large and complex data sets that require advanced technologies for storage and processing.
Data is huge in volume, yet growing exponentially with time. These data sets are so voluminous that traditional data processing software can't manage them. It improve operations, provide better customer service, create personalised marketing campaigns and take other actions. Big data is a combination of structured, semi-structured and unstructured data collected by organisations.It can be characterized by three Vs and those are volume, velocity, variety. Big data analytics can extract valuable insights from these huge data sets to inform decision making.

FACTS ABOUT BIG DATA

1. The amount of data that humans created from the dawn of civilization until the early 2000's, is currently created within 2 days.
2. Every day, internet users generate an astonishing 5 quintillion bytes of data.
3. Every minute, we send approximately 204 million emails, generate 1.8 million Facebook likes, send 278,000 Tweets, and upload 200,000 photos to Instagram.
4. Facebook users alone share 30 billion pieces of content among them every day.
5. If all the data generated in one day were burned onto DVDs, they could be stacked to reach the moon twice!
6. Only 0.5% of the data generated is analysed and used, leaving about 99.5% untapped.

WORKING OF BIG DATA

Big data brings together data from many sources and applications. for example, comments from social media, watching patterns in different apps. You first need to bring data, process it and after that it should be managed on the basis of storage. Store data in any form you want. The last step is to analyze the data, explore it to make new discoveries.

APPLICATIONS OF BIG DATA

Business Insights: Companies tracks the trends and interest growing in people to make changes in their products according to the customer's satisfaction.

E-Commerce: Personalized features, recommendations and improved advertisements to increase the engagement of customer and better inventory control system.

Financial Services: We can predict the market trends and interests of the people in the investing terms. The risk management and fraud detections are possible.

Education: We can reframe courses material and help students in career prediction according to their interests using big data.

Media and Entertainment: The watching hours, searches, likes-dislikes are tracked to recommend the collections of music, videos, etc. to the user and enhancing their preferences.

Government: To improve the services of government and know the demands of the public and develop better policies.

BIG DATA

ADVANTAGES

1. Big data is used to detect ,prevent and remediate financial fraud.
2. Big data helps for different firms like:-finance, banking ,government.
3. Big data can unlock significant value by making information transparent.
4. Improved business process
5. Improved customer service.

LIMITATIONS

1. The volume of data continues to grow exponentially, scalability becomes a critical challenges.
2. Big data may contain exponentially, scalability inaccuracies due to the volume and variety of source.
3. Analyzing big data requires advanced analytical tools and expertise.

FUTURE ASPECTS IN BIG DATA

"Data dynamo: Unleashing the power of tomorrow"

The growing dependency of world in big data will make cornerstone of innovation and transformative developments. The future of big data entails advanced analytics and AI integration, coupled with sophisticated machine learning, enabling deeper insights. Real-time and predictive analytics facilitate immediate decision. The rise of edge computing allows processing closer to data sources, while quantum computing could revolutionize by solving intricate problems rapidly. Hybrid cloud strategies offer flexibility and enhanced security measures address rising cyber threats.

TECH GEEK

QUANTUM COMPUTING: HOW QUANTUM COMPUTERS ARE RESHAPING THE FUTURE

In the ever-accelerating realm of computing, each passing year unveils newer generations of CPUs, delivering unprecedented computing power to the palm of our hands. Yet, amidst this rapid evolution, a groundbreaking frontier emerges—Quantum Computing. Unlike the normal arithmetic calculations of traditional computers, Quantum Computers harness the principles of quantum physics, propelling us into a realm where the rules of classical computing no longer apply. These quantum marvels don't merely compute; they dance with the possibilities of superposition and entanglement, unlocking a potential that promises to revolutionize our approach to problem-solving. Welcome to the future, where the extraordinary capabilities of Quantum Computing beckon us to explore computing possibilities beyond our wildest imaginations.

Quantum computing is a field that combines the concepts of both computers and quantum physics to develop more powerful computers. While a traditional computer uses bits as the basic unit of information, which can be either 0 or 1, a quantum computer utilizes quantum bits or qubits.

if you want to work on a quantum computer there are some points you should learn and like-

1. Develop a strong foundation of quantum mechanics.
2. Programming languages for quantum computing (for example-Qiskit-IBM quantum computers).
3. Practice with simulators.
4. Learn about quantum algorithms and explore their framework and hardware.

In laboratories and research centers worldwide, scientists and engineers are still working to transform these theoretical achievements into realities. As we enter a new era of computing and problem-solving, quantum computers have the potential to reach new limits and solve our most complex problems, allowing the fields of science and computer science to collaborate and make groundbreaking discoveries.

TECH GEEK

DIGITAL TWIN TECHNOLOGY: PREDICTING THE WORKING WORLD

In this ever-evolving technological era, something fascinating is cooking up, which has the potential to blur boundaries between the real and digital worlds. Imagine having a toy car that can move and stop like a real car, but instead of a toy car, it's a digital copy of your real car. You can throttle this digital car to its limits without worrying about any damage or finding out how well it will perform on a bumpy road. That toy car has now become a digital twin of your real car. It can now predict when your car's tires need a change or how much fuel it will need for the road trip you've been planning with your friends!

Digital Twin technology refers to the virtual representation of a physical object that can be updated and modified throughout its life cycle using real-time data. This is achieved through the use of advanced simulations and Machine Learning technology. Digital twins are like "real-time replicas of an object but in a digital, i.e., computer-generated format. They can accurately predict how a product or process will perform based on both, current conditions and historical data. Essentially, this technology allows the creation of a computer program that can use real-world data to create simulations that provide valuable insights into the performance and behavior of an object over time.

The working of a digital twin is a 3-step process: input, process, and output, similar to any other computer program.

· To create a digital twin of an object, sensors are installed on it to gather information about its performance, temperature, energy output, and other physical factors.

· This data is then processed and applied to the digital copy.

· Eventually, the digital twin program can generate output through simulations or suggestions for performance enhancement, which can be applied to the real object.

This technology has proven to be highly beneficial in the medical field. Healthcare providers can create a digital replica of a patient's body, based on their medical history, and perform various tests on it. This helps them to make better decisions regarding the treatment and care of the patient

Digital Twin technology when combined with IoT (Internet of Things) can work wonders for us! Retailers can now leverage real-time data obtained through IoT sensors installed within their stores to track store traffic. This data can provide valuable insights regarding customer behavior, such as their preferred routes, frequently visited areas, and sections of the store. By analyzing this information, retailers can make decisions to optimize their store layout, product placement, and marketing strategies.

Digital Twin technology is a simple yet fascinating invention that can make our lives much easier. However, this technology is still in its root phase which in turn creates new research and development opportunities. It is rapidly gaining popularity due to its wide range of applications and, it is not wrong to say that it has the potential to save lives in the future!

PLACEMENTS

Mohammad Kaif- Mercor
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Manmeet Kaur Banga- Airchains
Hitisha Gohil- Airchains
Utkarsh Sharma- Zscaler
Praveen Sahu- Zscaler
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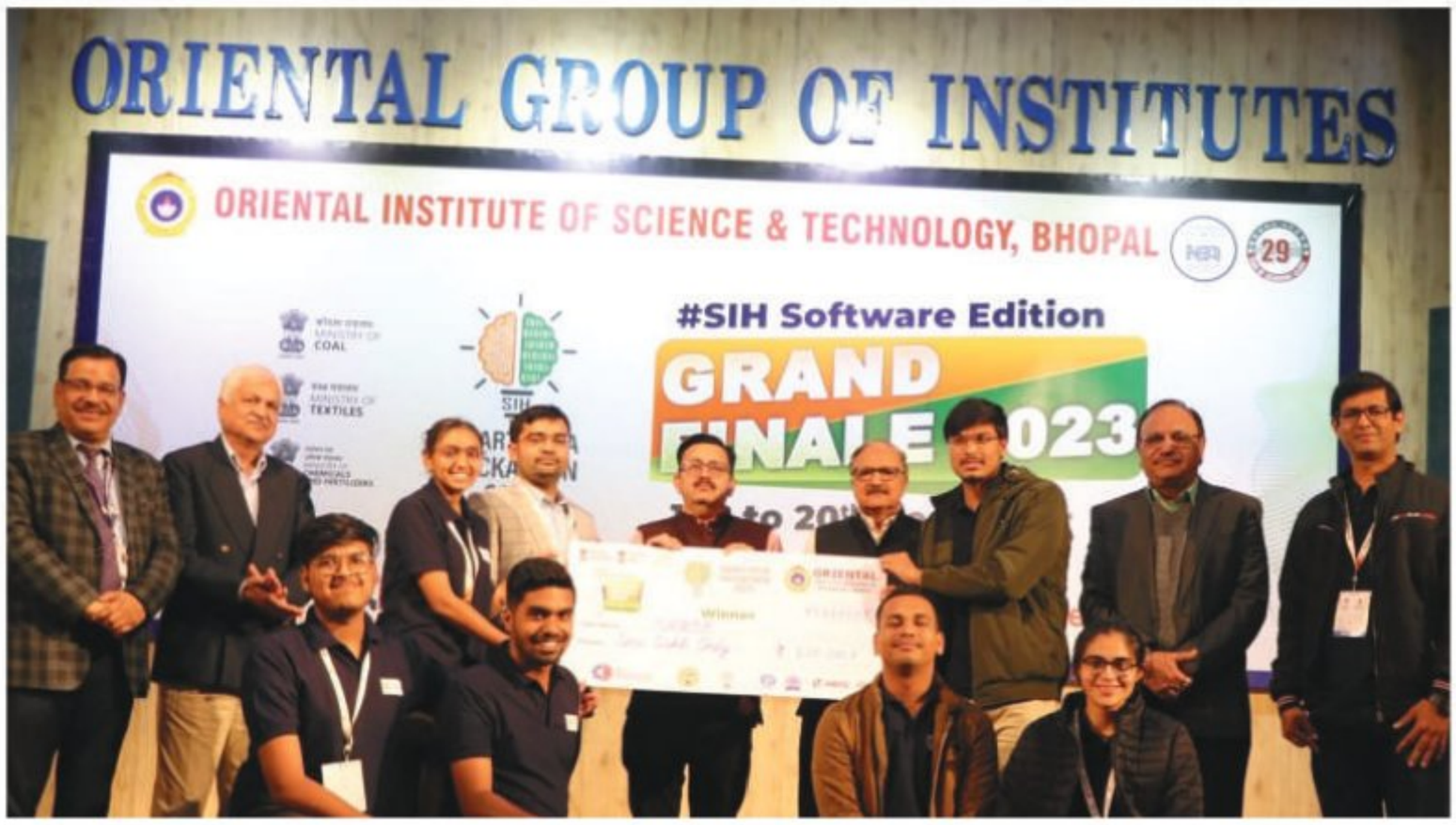
SMART INDIA HACKATHON



Smart India Hackathon, a competition organised by AICTE to encourage new innovations addressing major problems of the nation was won by none other than Students at SSIPMT.

The SSIPMT team was guided by Prof. Yogesh Kumar Rathore; the triumphant team included Omkar Deota, Vivek Agrawal, Shristi Verma, Ojas, Ashutosh Ssingh, and Suryanarayan.The team stood out in the Smart Automation sector within the software realm, concentrating on advancements related to Railway tracks, their quality, and accessibility. This automation facilitates the Railway in effortlessly accessing information on coal stock, a critical factor for efficient electricity generation to fuel trains.

ICAIIHI- 2023

IEEE INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR INNOVATIONS IN THE HEALTHCARE INDUSTRY

ICAIIHI-2023
"Growth is never by mere chance; it is the result of forces working together."

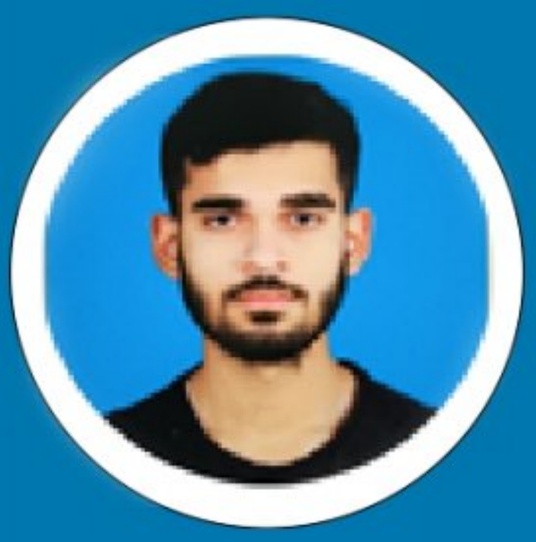
SSIPMT hosted the inaugural IEEE International Conference on Artificial Intelligence for Innovations in the Healthcare Industry. The entire conference revolved around exploring the future possibilities empowered by Artificial Intelligence. Across two days, the introductory session on the first day provided insights into AI's applications in the healthcare sector, concluding with paper publications and presentations. Given that artificial intelligence is increasingly utilized in healthcare, from answering patient queries to aiding in surgeries and pharmaceutical development, learning about AI becomes imperative in today's era where it is poised to take the lead.The conference was exceptionally impactful, motivating everyone in various aspects.Ultimately, the event signifies a promising beginning for the institute, indicating future iterations of similar conferences.

NEWSLETTER TEAM

In the ever-evolving landscape of technology, every innovation continually reshapes our world. In Newsletter, we pick the emerging technology and illustrate it in an interactive and easy to understand manner for the readers. It plays a vital role in creating a vibrant tech community, fostering learning, and preparing students for successful careers in the ever-evolving field of technology.
The main goal of the newsletter is to keep students updated on relevant industry trends, share educational events, and enhance overall learning experience by providing valuable insights and opportunities within the academic tech environment.

MENTOR RUPALI VYAS
ASST. PROFESSOR, CSE DEPT.

TEAM HEAD



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