

GYAN GANGA



Institute of Technology and Sciences

Department Of Computer Science and Engineering

Volume 1 Issue 1

August 2021



Societies
Hackathons
Clubs
Artificial Intelligence
Cyber Security
Data Science
Technology Advancements
Innovations
Oracle Cloud Technology

CSE Magazine Insight

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Word from HOD

It is a matter of immense pride for us that we have such quality students as part of our department. Our students have proved that even the Covid-19 pandemic & lockdown cannot stop them from growing. This issue includes the prestigious projects of the students for Smart India Hackathon 2020, an event organized by MHRD, i4c and Persistent Systems of National Acclaim. We also conducted a Motivational Webinar to motivate our students in the hard times of lockdown. The college further organized the Freshers Got Talent Event for 1st-year students of batch 2020-2024. Here they showcased their talents in singing, dancing, musical instruments, etc. Due to the Pandemic all these events were conducted virtually. We welcome any suggestion and feedback.



Dr Ashok Verma
Professor & HOD

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Vision :

- Imparting the best technical and professional education to the students of the Institute.
- Conceiving world – class Education, Ethics and Employability for students in global perspective.

Mission :

- Imparting intensive teaching and training through latest technology
- Motivating the teachers for higher learning and innovative research activities with social
- services.
- Generating maximum opportunities for placement of students in National, MultiNational companies and nurturing entrepreneurship quality.
- Producing highly intellectual citizens through technical education to constitute an
- elegant society and meeting social challenges.

Program Educative Objectives

- **PEO 1 :** Graduates will pursue their careers in global domain for software development with proficiency in analysis, design, coding, testing deployment, maintenance of system and application software.

- **PEO 3:** Graduates will enhance knowledge and skills through higher studies and lifelong learning new computing technologies for attaining professional excellence and research

- **PEO 2:** Graduates will show professionalism with effective communication skills, leadership qualities, teamwork, ethical, economic, cultural, environmental issues related to multidisciplinary projects for resolving social issues.

- **PEO 4:** Graduates will drive scientific and societal advancement through technological innovation and entrepreneurship.



Social Activities

विद्याऽमृतं मश्नुते
JABALPUR

*Fun
& Party*

GITS



Gyanotsav



Cultural night 2020 and the Gyanotsav 2020 Celebrity night are the two flamboyant events for which entire gyan ganga family is extremely excited and awaits throughout the year.



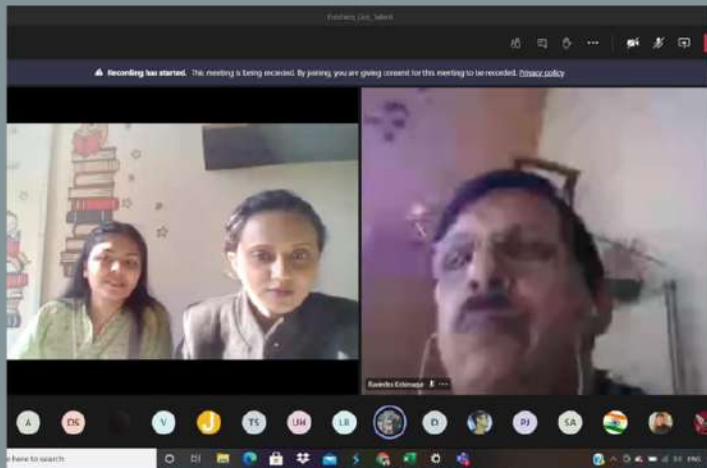
On 17th Jan 2020 the performances in the cultural night varied from traditional dance forms like bhangra, lavni, Rajasthani & kathak to hip-hop duets; the melodious voices and the tunes of band. The variety along with the perfection made it really difficult for the judges to choose the best one out.

To celebrate this festival of talent in gyan ganga, the institute was very proud to welcome DJ Aevik and rock star Ali Merchant on the Gyanotsav2020 Celebrity night. All the members of the Gyan Ganga family enjoyed the breath taking show presents by these dabsters.



Fresher's Got Talent

The event - "Fresher's Got Talent 2020" organised by GGITS, took place on 16th December 2020. The event took place virtually and in the gracious presence of Shree Ravindra V Kshirsagar, Principal GGITS and Engineer D C Jain Sir, Chairman & Patron Gyan Ganga Group. The event started after encouraging and blessing words from Kshirsagar Sir and Jain Sir. In the tough times of the Covid-19 Pandemic, this event greatly motivated the freshers. Various competitions took place and gave the students a chance to showcase their talents, like Singing, Dancing, Instrument Playing and Rapping. But apart from these Beat Boxing, a rather contemporary vocal art style was also presented for the first time.



Aman Dhattarwal Shaping your B.Tech and Spandan Seminar Event

The event “**Shaping Your B.Tech & Spandan**”, which comprised of two educational & motivational sessions for two different student groups was hosted by the Department of Computer Science and Information Technology and was organized by Team Indigo GGITS. The guest speaker for the event was **Mr. Aman Dhattarwal** who is a popular personality among the Indian youth. Dated **22nd February 2020**, the 1st seminar for high school students was attended by more than 100 students and the 2nd seminar for college students was attended by more than 500 undergrads. Also, we observed the gracious presence of Honorable Directors of the Gyan Ganga Group, Respected Principals of GGITS and GGCT and Respected Head of Departments. Completely organized and managed by the students of the first year, the event was a grand success and the seminars proved to be very beneficial and helpful for the students.



Aman Dhattarwal is the founder of Apni Kaksha, which is an online platform for learning Computer Sciences and Programming. He is the coordinator for Jaipur Foot USA and a Star Educator for IIT-JEE at Unacademy. Aman Dhattarwal is a B.Tech. graduate from NSUT Delhi in Information Technology. He is an alumni of Delhi Public School R.K. Puram.

International Women's Day International Women's Day Event

On the occasion of International Women's Day, Gyan Ganga commemorated the day by celebrating the victories of women and for all that they are.

Girl-Up Jabalpur, a club under the Girl-Up Campaign launched by UN Foundation, took to stage and shared their motto, i.e. empowering girls everywhere.

The founding co-presidents of the club, Arni Khare and Nandini Tandon also held the discussion about gender equality and shared their dreams for a better world. The event was a success with the ardent help of Anuj Bhatt and Abhishek Shrivastav.

महिलाओं का विजय जश्न मनाय



जबलपुर. अंतर्राष्ट्रीय महिला दिवस पर सोमवार को महिलाओं की विजय का जश्न मनाकर उन्हें बधाई दी। लड़कियों को समाज के सभी क्षेत्रों में बढ़-चढ़कर हिस्सा लेने और अपनी योग्यताओं को साबित करने के लिये प्रेरित किया गया। यह कार्यक्रम संयुक्त राष्ट्र फाउंडेशन द्वारा शुरू किए

में नवगठित गर्ल अप जबलपुर क्लब के द्वारा आयोजित किया गया। क्लब की अरनी खरे एर नंदनी टंडन ने लैंगिक समानता पर चर्चा, नारी के संदर्भ में एव बेहतर दुनिया कैसी हो, इस बा में अपने विचार साझा किये कार्यक्रम में अनुज भट्ट, अभिषेव श्रीवास्तव और अन्या सदस्यों क

#IWD2021
#HeforShe
#EqualityforAll



girlup™
JABALPUR
ADVOCATING FOR WOMEN'S RIGHTS WITH KINDNESS

Function held at Gyan Ganga

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Peheh Peheh

Peheh - ek nayi subah is a flagship event of Gyan Ganga where we honour and felicitate the 4th class staff (auxiliary staff) of our institutes and conduct some fun and refreshment activities for them.



A beautiful and blissful initiative was taken by the TCS Campcorp club members on 30th October 2021, to honour those helping hands without whom our life would be much harder. Their resilience is so necessary that we need them in every walk of our life to live it safe, secure and sapient.

The whole GGITS family is glad to thank and appreciate all the members who are responsible for maintaining clean surroundings, maintaining discipline and security. Through Peheh our respective dignitaries show respect and reward them for their work.



Student Achievements



Smart India Hackathon



The Honorable Prime Minister of India, Shree Narendra Modi started the Smart India Hackathon in 2017, intending to provide students from all around the country with a platform to solve the various problems faced daily throughout the country. In this way, the students can develop a problem-solving mindset & keep up with the ever-evolving tech world.

In SIH 2020, a total of 344 Problem statements were registered from different organizations/ministries like State Government, Central Ministry, Industry Personnel and Student innovation.

Amidst the lockdown due to Covid-19 Pandemic, the students worked hard, and out of these 344 problem statements, four problem statements were nominated from the Institute. All four teams were eligible to participate in the Virtual Online SIH 2020 platform schedule from 1st August to 3rd August 2020.

A team from our institute cleared the final Round of SIH 2020 and has won a Cash Prize of Rs 1 Lakh. In the near future, if the team plans to convert their ideas into a startup, then they would get a fund of Rs 50 lakhs from Govt of India.

Winners – Team Ctrl_alt_defeat

Members:

Abhishek Raghuvanshi

Deepika Lalwani

Ekansh Verma

Rohit Verma

Samiksha Wadhwa

Vidushi Choubey



Imagine Cup 2021

Students of Gyan Ganga also participated in the Microsoft Imagine cup with zeal and Teams "The Metadaters" & "The Quarter" were the finalists of this Hackathon.

Team: The Metadaters

Topic: Agriculture

Chaitanya rai

Shruti Choudhary

Aditya sahu

Mohit Choudhary

Team: The Quarter

Topic: Lifestyle

Shailaja Upadhyay

Sakshi namdeo

Sanskriti paigwar

Yash wardhan verma

About the competition

Imagine Cup is a global competition designed to empower students to apply artificial intelligence and other technologies to solve some of the world's most critical social and sustainability problems. The 2021 India edition saw 353 team entries and over 10,000 individual entries from students across the country, competing to solve global challenges across four categories: Earth, Education, Health, and Lifestyle.



Smart Hack - 2021

Students of Gyan Ganga participated in the EICT Academy - IIT Kanpur Smart Hack - 2021 and cleared the first stage. This Hackathon was held at Gyan Ganga Institute of Technology and Sciences.

EICT Academy - IIT Kanpur Smart Hack 2021

at
Gyan Ganga Institute of
Technology & Sciences, Jabalpur

*Heartiest
congratulations*

**on Being the winner
of Stage-1**

of the 'Smart Hack-2021'



Winners -

**Yash Richhariya
Sneha Pritmani
Manish Pritmani**

Event conducted online by Gyan Ganga Institute of
Technology & Sciences, Jabalpur on 12th August, 2021.

A total of **294 students participated**
in the quiz, out of which three have topped the competition.
Final Phase to be held in IIT Kanpur.

**Prize Money worth
₹1.25 lakhs**

Alibaba Cloud Developer Campaign

Students of Gyan Ganga participated in the Alibaba Cloud Developer Campaign 2021 and the 6th sem Mihir Bhasin secured second position in the competition.. Also many studnets have won secured third position & innovation award was awarded to our students too.

 **ALIBABA CLOUD
DEVELOPER CAMPAIGN**

CONGRATULATIONS

WINNERS OF THE CAMPAIGN FROM
GGITS...!!

2ND PRIZE WINNER:

- MIHIR BHASIN - 6TH SEM CSE : RS. 75,000 INR CASH PRIZE + \$1,000 ALIBABA CLOUD CREDITS

3RD PRIZE WINNERS:

- ABHISHEK SHRIVASTAVA - 4TH SEM IT : RS. 37,500 CASH PRIZE + \$500 ALIBABA CLOUD CREDITS
- PRACHI GURJAR - 6TH SEM CSE: RS. 37,500 CASH PRIZE + \$500 ALIBABA CLOUD CREDITS
- ANAND PATEL - 8TH SEM CSE : RS. 37,500 CASH PRIZE + \$500 ALIBABA CLOUD CREDITS
- AISHWARYA YADAV - 6TH SEM IT : RS. 37,500 CASH PRIZE + \$500 ALIBABA CLOUD CREDITS

INNOVATION AWARD WINNERS:

- NITESH VISHWAKARMA - 6TH SEM CSE : \$200 ACC
- SHAH PREKSHA - 6TH SEM CSE : \$200 ACC

The campaign started in 28th January.

The final result was declared on 21st April.

Student Societies
Student Societies

Student



Welfare
Society



Gyan Ganga

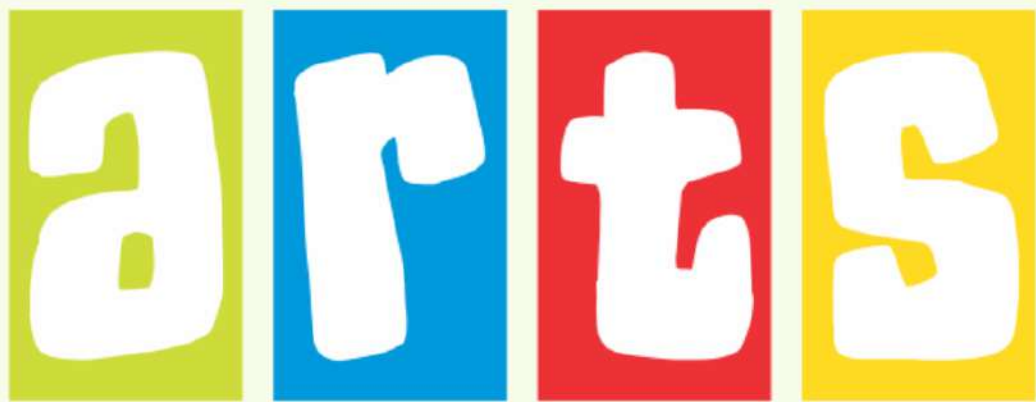
C.A.R.E.S.

Where Caring and Hope Meet...

COLLEGE ACTIVITIES TO REJUVENATE ENVIRONMENT & SOCIETY

SPORTS
SOCIETY

TECHNICAL
SOCIETY



S O C I E T Y



Literature
Society



Student Articles

Block Chain Technology

– Nidhi Upadhyay

Blockchain technology is a kind of distributed ledger technology that stores data in a chain data structure. It is a new distributed infrastructure and computing paradigm, which employs the distributed node consensus algorithm to verify the transaction data and further synchronize the entire network, as well as uses cryptography to ensure data security and credibility

The rich application scenarios of blockchain are basically based on the four core technologies of blockchain, namely, consensus mechanism, data structure, cryptography, and distributed storage. As the key future research direction of blockchain technology, cross-training technology has gradually become one of the core technologies of blockchain.

Blockchain constructs a distributed point-to-point system, which is a secure and verifiable mechanism for decentralized transaction validation and is widely used in financial economy, Internet of Things, large data, cloud computing, and edge computing. On the other hand, artificial intelligence technology is gradually promoting the intelligent development of various industries. As two promising technologies today, there is a natural advantage in the convergence between blockchain and artificial intelligence technologies. Blockchain makes artificial intelligence more autonomous and credible, and artificial intelligence can prompt blockchain toward intelligence. In this paper, we analyze the combination of blockchain and artificial intelligence from a more comprehensive and three-dimensional point of view. We first introduce the background of artificial intelligence and the concept, characteristics, and key technologies of blockchain and subsequently analyze the feasibility of combining blockchain with artificial intelligence. Next, we summarize the research work on the convergence of blockchain and artificial intelligence in home and overseas within this category. After that, we list some related application scenarios about the convergence of both technologies and also point out existing problems and challenges. Finally, we discuss the future work.

The following are the top blockchain benefits:

1. Trust

Blockchain creates trust between different entities where trust is either nonexistent or unproven. As a result, these entities are willing to engage in business dealings that involve transactions or data sharing that they may not have otherwise done or would have required an intermediary to do so.

Decentralized structure

Daniel Field

Blockchain really proves its value when there's no central actor who enables trust, explained Daniel Field, head of blockchain at UST, a global provider of digital technology and services.

Improved security and privacy

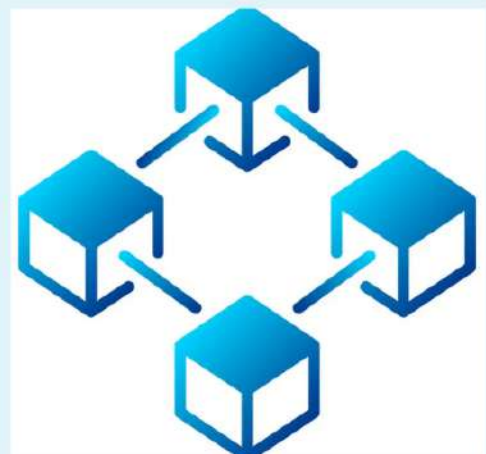
The security of blockchain-enabled systems is another leading benefit of this emerging technology.

Reduced costs

Blockchain's nature also can cut costs for organizations.

Speed

By eliminating intermediaries, as well as replacing remaining manual processes in transactions, blockchain can handle transactions significantly faster than conventional methods.



Non-Fungible Token (NFT)

- Shashank Shekhar Pandey

NFTs have been a speculative investment, and they have drawn criticism for the energy cost and carbon footprint associated with validating blockchain transactions as well as their frequent use in art scams.

NFTs are mostly used in digital art, as a common use case for NFTs. High profile auctions of digital art as NFTs have received considerable public attention, with "Merge" by artist Pak being the most expensive auction at the US \$69.3 million in 2021.

Above we have discussed NFT in brief, now let's see what is the benefit of buying and selling NFT. NFTs allow creators to make money directly from their work. It eliminates middlemen and allows the artist or the original creators to interact directly with their customers. This model benefits the creators by allowing them to earn a commission each time the NFT exchanges hands. Technically all NFTs are collectibles. They are unique and only one of each can exist. Upon buying them you can hold on to them and their value will increase over time.

Most people will get involved with NFTs for the prospects of making money. There are a lot of people earning a living from reselling them. Investing in NFTs for their resale value can lead to huge profits. Some of these collectibles have been resold for more than 20,000 USD while only a few thousand dollars were invested by the original buyer. By reselling, they made over 15,000 USD in just a trade!. The metadata on the token can never be altered by anyone. Also, it can neither get erased, misplaced nor be removed from the blockchain. Basically, they are meant to last forever as their data will always remain as is. This in itself, gives them collectability and high value.



One of the greatest advantages of the NFT technology is that it allows artists and content creators to retain their full copyright. This is uncommon in most licensing agreements. This allows them to still generate revenue without giving up their copyrights.

When it comes to NFTs, you can be assured of security. The blockchains are decentralized in nature, which means that the data they hold is hosted in different nodes around the globe. There is always an identical record of the database at each of the nodes. Even when the network is down, there is always going to be a record of it somewhere. The NFT technology gives you an assurance in knowing that no matter what happens to the blockchain itself, there are always nodes running. Thus nothing can really happen to the data. This is not only because of the amount of money they make but also the amounts they secure.

Web-3 Technology

– Nandan Patkar

With the release of the iPhone in 2007, mobile internet access significantly expanded both the user-base and the usage of the Web. We went from dialling up to the internet a few hours a day at home on our desktops to an "always connected" state — the web browser, mobile apps, and personal notifications were now in everyone's pocket. This was the wave of Web 2.0.

Following the popularity of the Metaverse, Web 3.0 is the new buzzword sweeping the Internet world. Web 3.0, also known as the Decentralised web, is the third version of the Internet that improves on the current Web 2.0 Internet.

Web 3.0 is a next-gen web technology that focuses heavily on machine learning (ML) and artificial intelligence (AI) and is based on Blockchain Technology.

In Web 3.0, computers will be able to understand the information in the same way that humans do, thanks to Web concepts and natural language processing technologies. During this phase, the Internet will become more intelligent and could process information almost like a human brain using the strength of AI systems. Machine learning, a branch of artificial intelligence (AI) that uses data and algorithms to mimic how humans learn, will also be used in Web 3.0. These capabilities will allow computers to produce faster and more relevant results in a variety of fields such as drug development and new materials.

For example, if you are planning a vacation and have a limited budget, you would currently have to spend hours searching for flights, hotels, and car rentals, trawling through numerous websites, and comparing prices. With Web 3.0, intelligent search engines or bots will be able to collate all this information and generate tailored recommendations based on your profile and preferences, saving you time.



How it is Different from Web 1.0 and Web 2.0?

Web 1.0, also known as the "Static Web," was the first version of the internet. It was a Premature version of the internet where it was text only. Users could only use it to read text.

Web 2.0, also known as the "Social Web," is the second version of the internet. It was a lot more interactive. Users could comment on posts, share things and even chat with each other.

Web 3.0, also known as the "Decentralized Web," is the third version of the internet. There is no need for a central entity that owns all the information that can be hacked into. Transactions will be done "peer-to-peer" with no fee-collecting middleman. And every user is in control of their data. They can decide who they want to share information with on the internet

How will web 3.0 work?

Instead of using one big centralized server (like google), there will be many different decentralized servers all over the world. Each one will be run by its community of users. When you want to search for something, your search will go to all of these servers. They will each process your search and only show the best to you. Now you might think that's a lot of information. But that's where AI comes in to better organize it all.

The best part? You control who you share your personal data with.



AI to control Nuclear Fusion

– Nandan Patkar

Inside a tokamak, which is a doughnut-shaped tank used to contain a nuclear fusion event, there is a unique form of pandemonium. At unfathomably high temperatures, hydrogen atoms collide, forming a spinning, churning plasma that's hotter than the sun's surface. The key to unlocking the potential of nuclear fusion, which has been touted as the clean energy source of the future for decades, will be to figure out how to manage and confine that plasma. The science behind fusion appears to be sound at this stage, thus the engineering difficulty remains. "We need to be able to heat this matter up and keep it together long enough to extract energy from it," says Ambrogio Fasoli, director of the Swiss Plasma Center at the University of Zurich.

This is where DeepMind enters the picture. The artificial intelligence business, which is sponsored by Google parent company Alphabet, has previously worked on video games and protein folding, and has been collaborating with the Swiss Plasma Center on a joint research project to develop an AI for regulating a nuclear fusion process. However, every time researchers want to change the plasma's configuration and try out other forms to see if they can get more power or a cleaner plasma, they have to do a lot of engineering and design work. Traditional systems are computer-controlled and based on careful simulations and models, but they are "complicated and not always necessarily optimised," according to Fasoli.

DeepMind has created an artificial intelligence (AI) that can control plasma on its own. Researchers from the two groups taught a deep reinforcement learning system to control the 19 magnetic coils inside TCV, the variable-configuration tokamak at the Swiss Plasma Center, which is used to conduct research that will inform the design of larger fusion reactors in the future, according to a paper published in the journal *Nature*. "AI, particularly reinforcement learning, is well adapted to the difficult problems presented by managing plasma in a tokamak," says Martin Riedmiller, DeepMind's control team lead.

