



INFOCAST



A NEWSLETTER PUBLISHED BY THE DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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“TO BE A NATIONWIDE RECOGNIZED DEPARTMENT THAT PRODUCES VERSATILE COMPUTER ENGINEERS, CAPABLE OF ADAPTING TO THE CHANGING NEEDS OF COMPUTER AND RELATED INDUSTRY”.

MISSION OF CSE DEPARTMENT

- .TO IMPART QUALITY TECHNICAL EDUCATION WITH SKILLS, KNOWLEDGE AND ATTITUDE TO SUCCEED IN COMPUTER SCIENCE & ENGINEERING CAREERS.
- .TO PROVIDE KNOWLEDGE OF EMERGING TRENDS IN COMPUTER AND RELATED INDUSTRY AND FOSTER AN ENVIRONMENT OF LIFELONG LEARNING.
- .TO DEVELOP GRADUATE ENGINEERS WHO INVESTIGATE RESEARCH, DESIGN AND FIND WORKABLE SOLUTIONS TO COMPLEX ENGINEERING PROBLEMS WITH AWARENESS AND CONCERN FOR SOCIETY AND THE ENVIRONMENT.



01. Will CRYPTOCURRENCY Destroy you?

CHINMOY BISWAS, (CSE, 6TH SEM)

Hey, isn't it a technical newsletter? Why are we talking about Economics Here? Not to worry, this article will help you to understand every bit of bitcoin.

First of all, we have to know, What exactly is a Cryptocurrency? What is the technology running behind the most hyped term 'Crypto'?

A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology.

Basically, Cryptocurrency is virtual money based on software. No one can control it alone. You can say, it is a network like the Internet. It is running on the fundamentals of blockchain.

Blockchain seems complicated, and it definitely can be, but its core concept is really quite simple. A blockchain is a type of database. Blockchain does not store any of its information in a central location. Instead, the blockchain is copied and spread across a network of computers. Whenever a new block is added to the blockchain, every computer on the network updates its blockchain to reflect the change.

Like everything else, it has some pros and cons. On one hand it is SECURE, INTEGRATE, FASTER and now TRACEABLE also. With advance modification, It also creates an irreversible audit trail. But on the other hand it consumes too much power, it can be hacked, it's not cost efficient. The worst part is this has Uncertain regulatory status.

So, now we know about the basics of the most discussable technology, let's know whether it's safe or not to invest your precious money in the cryptocurrency?

You know, Investments are always risky. Even as there is no complete legal backing for cryptocurrencies, including Bitcoin, in India, they are gaining popularity in the country.

According to our Finance Minister Nirmala Sitharaman, "The Government does not consider crypto-currencies legal tender or coin and will take all measures to eliminate use of these crypto-assets in financing illegitimate activities or as part of the payment system.". Many reputed investors think investing in cryptocurrencies are like betting. There can be win, there can be loss, as we have no control over it. At the end of the day it's your choice, any other person can't have a say on this.

Lets clear something, the blockchain technology doesn't mean only cryptocurrency. It has broader applications than cryptocurrencies. We have to explore that path of blockchain technology to enhance the security of the internet system. We should not limit ourselves to just one application of it. For example BLOCKCHAIN TECHNOLOGY can be effortlessly used in elections to prevent voter fraud. Blockchain's unique implementation of cryptography and record keeping is sure to become a necessary tool in order to keep track of data and secure it. I look forward to seeing what computer scientists and developers will do with blockchain in the coming years.

SEMINARS

1. Webinar series on career guidance for achieving excellence. (Recent trends in Computer science and engineering)
2. Webinar on role of IPR in academia and research.
3. Webinar on fundamentals of intellectual property rights.
4. Integrated approach in science and technology for sustainable future.
5. Webinar on sustainability and green IT-A path towards cleaner climate.
6. Shift Enter Siliguri
7. Flutter festival.
8. Roadmap to DSA.
9. Get started with Git and GitHub.
10. WEB CHRONICLES- into the vortex of web development.

02. QUANTUM COMPUTING

- SOUMWADEEP GUHA, 4TH SEM. ,2ND YEAR, CSE.

Quantum computing is an area of computing focused on developing computer technology based on the principles of quantum theory (which explains the behaviour of energy and material on the atomic and subatomic levels). Computers used today can only encode information in bits that take the value of 1 or 0—restricting their ability. Quantum computing, on the other hand, uses quantum bits or qubits. It harnesses the unique ability of subatomic particles that allows them to exist in more than one state (i.e., a 1 and a 0 at the same time).

Superposition and entanglement are two features of quantum physics on which these supercomputers are based. This empowers quantum computers to handle operations at speeds exponentially higher than conventional computers and at much lesser energy consumption.

The field of quantum computing started in the 1980s. It was then discovered that certain computational problems could be tackled more efficiently with quantum algorithms than with their classical counterparts.

Quantum computing could contribute greatly in the fields of finance, military affairs and intelligence, drug design and discovery, aerospace designing, utilities (nuclear fusion), polymer design, machine learning and artificial intelligence (AI) and Big Data search, and digital manufacturing.

Its potential and projected market size have engaged some of the most prominent technology companies to work in the field of quantum computing, including IBM, Microsoft, Google, D-Waves Systems, Alibaba, Nokia, Intel, Airbus, HP, Toshiba, Mitsubishi, SK Telecom, NEC, Raytheon, Lockheed Martin, Righetti, Biogen, Volkswagen, and Amgen.

Quantum computers process information differently. Classical computers use transistors, which are either 1 or 0. Quantum computers use qubits, which can be 1 or 0 at the same time. The number of qubits linked together increases the quantum computing power exponentially. Meanwhile, linking together more transistors only increases power linearly.

Classical computers are best for everyday tasks that need to be completed by a computer. Meanwhile, quantum computers are great for running simulations and data analyses, such as for chemical or drug trials. These computers must be kept ultra-cold, however. They are also much more expensive and difficult to build.

Classical computing advances include adding memory to speed up computers. Meanwhile, quantum computers help solve more complicated problems. While quantum computers might not run Microsoft Word better or faster, they can run complex problems faster.

For example, Google's quantum computer that's in development could help with many processes, such as speed up machine-learning training or help create more energy-efficient batteries.

Quantum computing has a number of other applications, including securely sharing information. Other methods include fighting cancer and various health concerns, such as cancer and developing new drugs. As well, quantum computers can help improve radars and their ability to detect such things as missiles and aircraft. Other areas include the environment and using quantum computing to keep the water clean with chemical sensors.

Google (GOOG) is spending billions of dollars on its plan to build its quantum computer by 2029. The company has opened a campus in California, called Google AI, to help it meet its goal. Google has been investing in this technology for years. As well, so have other companies, such as Honeywell International (HON) and International Business Machine (IBM). IBM expects to hit major quantum computing milestones in the coming years.

While some companies have built personal (although expensive) quantum computers, there is still nothing available on the commercial side. And there's interest in quantum computing and its technology, with JPMorgan Chase and Visa looking into the technology. Once developed, Google could launch a quantum computing service via the cloud.

Companies can also gain access to quantum technology without having to build a quantum computer. IBM plans to have a 1,000-qubit quantum computer in place by 2023. For now, IBM allows access to its machines if they're part of its Quantum Network. Those that are part of the network include research organizations, universities, and laboratories.

Microsoft also offers companies access to quantum technology via the Azure Quantum platform. This is unlike Google, which doesn't sell access to its quantum computers.

PHOTOGRAPHS Captured by the Students



PRITAM PAUL
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TANIYA GHOSH
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SWAPNIL DEN
4TH SEMESTER



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ALUMNI SPEECH

SHEETAL CHOUHAN
Software Engineer at BOSCH.

It's been fortunate to be a part of Siliguri Institute of Technology, the moment you step into the huge green campus, you get the feeling that you are in for something special. SIT the place where I got the platform to enrich my skills and henceforth a bright light towards my life, with the support and endeavor of my faculty member. My experience in SIT was just amazing, I got infinite love & lessons from my teachers, who made me do Work Hard for the way to success. This college also has a wonderful experience in organizing various Industrial Trainings, guest lectures, and conferences which gave the industry exposure and a practical sense to various things. The best part of this college is that they give you Internships and Placements in best reputed Organizations. During the most crucial time of placements, the Faculty and Placement team provides students with lot of preparatory sessions so that they come up with their best. Moreover, apart from studies, I also enjoyed the Co-curricular activities held in the college which nurtured me well. Wherever I stand today in my life, my college has a big contribution in that and I will always have it as one of my best memory.



EVENTS ROADMAP



STUDENT TRAINING PROGRAM



ALUMNI RELATION CELL INAGURATION



BLOOD DONATION PROGRAM



VISHWAKARMA PUJA



VISHWAKARMA PUJA



EYE CHECKUP PROGRAM



CLOTH DISTRIBUTION PROGRAM



TECH-FEST PRIZE DISTRIBUTION



TECH FEST



REPUBLICDAY CELEBRATION



MASTER CHEF COMPETITION



CHESS COMPETITION



NAACVISIT



SWARASWATI PUJA



VIVEKANADA JAYANTI



TECH-FEST



NETAJI JAYANTI

PUBLICATION UPDATE

LIST OF RECENT PUBLICATIONS

1. Sumit Banik, Sagar Banik, AnupamMukherjee- An Intelligent System for Securing Network From Intrusion Detection and Prevention of Phishing Attack Using Machine Learning Approaches - In book: Machine Learning Techniques and Analytics for Cloud Security (pp.193-212),2021 : Publisher: Wiley DOI:10.1002/9781119764113.ch10
2. Sutapa Bhattacharya,DhrubasishSarkar, Dipak K. Kole, PremanandaJana - Recent Trends in Recommendation System and Sentiment Analysis - Book chapter in "Advanced Data mining Tools and methods for social computing",Chapter-9 .pp 163-175. Elsevier, 2022: <https://doi.org/10.1016/B978-0-32-385708-6.00016-3>
3. Gupta, DayaSagar & Parai, Krittibas & Obaidat, Mohammad & Islam, SK Hafizul - "Efficient and Secure Design of ID-3PAKA Protocol Using ECC "- International Conference on Computer, Information and Telecommunication Systems (CITS),2021 - DOI:10.1109/CITS52676.2021.9618445

PLACEMENT RECORD



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