# QUBIT 2022

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

BBD GROUP

CSe ADGITM New Delhi
Department of Computer Science & Engineering

DEVELOPING MINDS...

# MRS. ALKA DAS GUPTA
## (HON'BLE CHAIRPERSON)

**MRS. ALKA DAS GUPTA**

Innovation requires passionate explorers who propel transformation at the workplace. With an ever-changing global scenario, the key to success is responding to the complex and rapidly changing issues in the world of information technology. The Department of Computer Science & Engineering of ADGITM is always making efforts to justify these points.

We impart an education that is based on consciousness and we rear a breed of young minds that are bustling with self-confidence, motivation, and ever ready to take up challenges. The campus, sports, and academic facilities all bear testimony to this effort. In order to promote an internationally acceptable education, our key focus has been on overall development.

Proficiency in computing technology has become essential for modern-day managers, business leaders, entrepreneurs, and other professionals. It is a welcome development. I look forward to QUBIT 2022 setting a higher pedestal. I wish to QUBIT editorial team a grand success!

# MR. VIJAY SAGAR DAS
## (HON'BLE PRESIDENT)

**MR. VIJAY SAGAR DAS**

I feel so delighted to find that the path of creativity and innovation is consistently followed by the Department of Computer Science & Engineering. It always encourages its students to actively participate and compete in various competitions and events to show their abilities towards the new platforms of technology.

A great part of the magazine is the fact that it brings us a bouquet of topics which are of utmost relevance and interest to all. It is a great pleasure for me to get to know all the activities and achievements of the Department of Computer Science & Engineering of Dr. Akhilesh Das Gupta Institute of Technology & Management in the form of such an interactive read. I convey my best wishes for the success of QUBIT 2022.

# MR. S. N. GARG
## (C.E.O., ADGITM)

**MR. S. N. GARG**

Through the guidance of trained and inspired leaders, the students are taken across the gap of their present knowledge and experience and place data level of knowledge and competence that enables them to immediately step into the high standard of efficiency required in today's world of development.

We aim to cultivate talents by closely nurturing them throughout the whole program. We are unique in terms of our programs, academic structure, and core values. Our students are our assets. We develop our students to open them up in front of global scholarly endeavours. While the whole world is running after chances, it is essential to create your own opportunity.

# PROF. (DR.) SANJAY KUMAR
## (DIRECTOR, ADGITM)

**PROF. (DR.) SANJAY KUMAR**

In his book On Becoming a Leader, Warren Bennis wrote, "No leader sets out to be a leader. People set out to live their lives, expressing themselves fully. When that expression is of value, they become leaders. So the point is not to become a leader. The point is to become yourself, to use yourself completely - all your skills, gifts, and energies - in order to make your vision manifest. You must withhold nothing. You must, in sum, become the person you started out to be and to enjoy the process of becoming."

We at Dr. Akhilesh Das Gupta Institute of Technology & Management believe in helping students to manifest their vision completely. How do we do this? We offer a rigorous education program rooted in all forms of practice, coupled with a vast array of electives and opportunities that come from our position of being affiliated with a major university. We give you the tools to continue learning and growing long after you leave our doors; we create opportunities for internships and experiences that broaden new horizons. I take this opportunity to express the fact that every effort is made to improve the existing best services to bring out the best for the welfare of our institution and the growth of our students.

# DR. ANKIT VERMA
## (HOD, CSE, ADGITM)

**DR. ANKIT VERMA**

Once an author very rightly said that "Listen to the people who love you. Believe that they are worth living for even when you don't believe it. The Educational System of ADGITM is not limited to a defined curriculum only but to develop and cheer all the spheres of people especially students associated with.

ADGITM's Department of Computer Science & Engineering always works in the direction of enhancement of Entrepreneurial abilities among the students and helps them in working on those relevant projects which can act as a landmark for our developing society. Department of Computer Science & Engineering is a cluster of some of the great scientific research fields which when together work upon gives wings to dreams to touch the sky of reality. Students of Computer Science & Engineering are placed with top IT companies. Department of Computer Science & Engineering always works towards developing engineers with a rich set of technical, managerial, ethical and social skills so that they can contribute to nation building.

# VISION & MISSION



## DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT, NEW DELHI

### DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### VISION

To produce technocrats, researchers, and entrepreneurs in the field of computer science & engineering who are socially responsible.

### MISSION

- To provide quality education in the field of computer science & engineering with emphasis on research and innovations.
- To inculcate professional behavior, strong ethical values, and leadership skills.
- To provide a platform for promoting entrepreneurship and multidisciplinary activities.

# Department of
## COMPUTER
## SCIENCE
### & Engineering

**CSE**

# EVENTS

# DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT, NEW DELHI

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**IN COLLABORATION WITH SPORTS COMMITTEE**

**ORGANISED**

## BASKETBALL MATCH FOR GIRLS

Date: 27th December, 2022
Venue: College Ground, ADGITM, New Delhi

## Activities Undertaken

- Intra-departmental basketball match was organised for girls by Computer Science & Engineering Department.
- Two teams participated named **RED WINGS & BALLS UP.**

## Results

- Team **BALLS UP** wins the match with a score of **22-4** by team **RED WINGS.**
- Players of winning team are:

| | |
|---|---|
| Nehal | Kritika |
| Manvi | Trisha |
| Priyanshiye | Nandini |
| Isha | |

# DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT, NEW DELHI

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING AND AI&DS

### ORGANISED

## TECHNICAL POSTER MAKING COMPETITION

Date of Event: 17th November 2022

Venue: Room No. 4303, Department of Computer Science & Engineering, ADGITM, New Delhi

Objectives: Showing the creativity using the technical poster making competition (for the students of CSE and AI & DS).

Activities done: Technical Poster Making Competition in two categories:

1. E-poster making
2. Physical Poster making

## KEY TAKEAWAYS:

Students participated with great enthusiasm and showed their creativity by designing technical posters.

Outcomes: 52+ students registered for the event and winners for both categories announced.

Beneficiaries: CSE and AI&DS students.

Photographs of event with title: Technical Poster Making Competition.

# TECHNICAL POSTER MAKING COMPETITION GLIMPSES

# DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT, NEW DELHI

## DEPARTMENT OF
## COMPUTER SCIENCE & ENGINEERING

### ORGANISED

## ALUMNI TALK

Date of Event: 20th October 2022

Venue: Auditorium, Dr. Akhilesh Das Gupta Institute of Technology & Management, New Delhi

Objectives: How to make Strategic Roadmap for Tier – 1 Company (for the students of CSE and AI & DS)

Delegates (Speakers, outsiders): Mr. Anuj Gupta – SDE – Swiggy

Activities done: Talk on Strategic Roadmap for Tier – 1 Company

## KEY TAKEAWAYS:

- What are the core subjects / topics to prepare?
- What the Tier 1 companies looking for?
- How he achieved his path? Success story
- Internships and Job options after course completion.
- Q&A Session

**Outcomes:** 110+ students attended the seminar and gather the information.

**Beneficiaries:** CSE and AI&DS students.

# ALUMNI TALK

Mr. Anuj Gupta an alumnus of our college currently working as SDE at Swiggy. He shared his knowledge on the topic "Strategic Roadmap for Tier – 1 Company". He guided students about how to crack Tier - 1 company.

The event was successful, filled with an immense plethora of knowledge and positivity, students attended the session with full devotion and seeked guidance regarding Strategic Roadmap for Tier-1 Company.
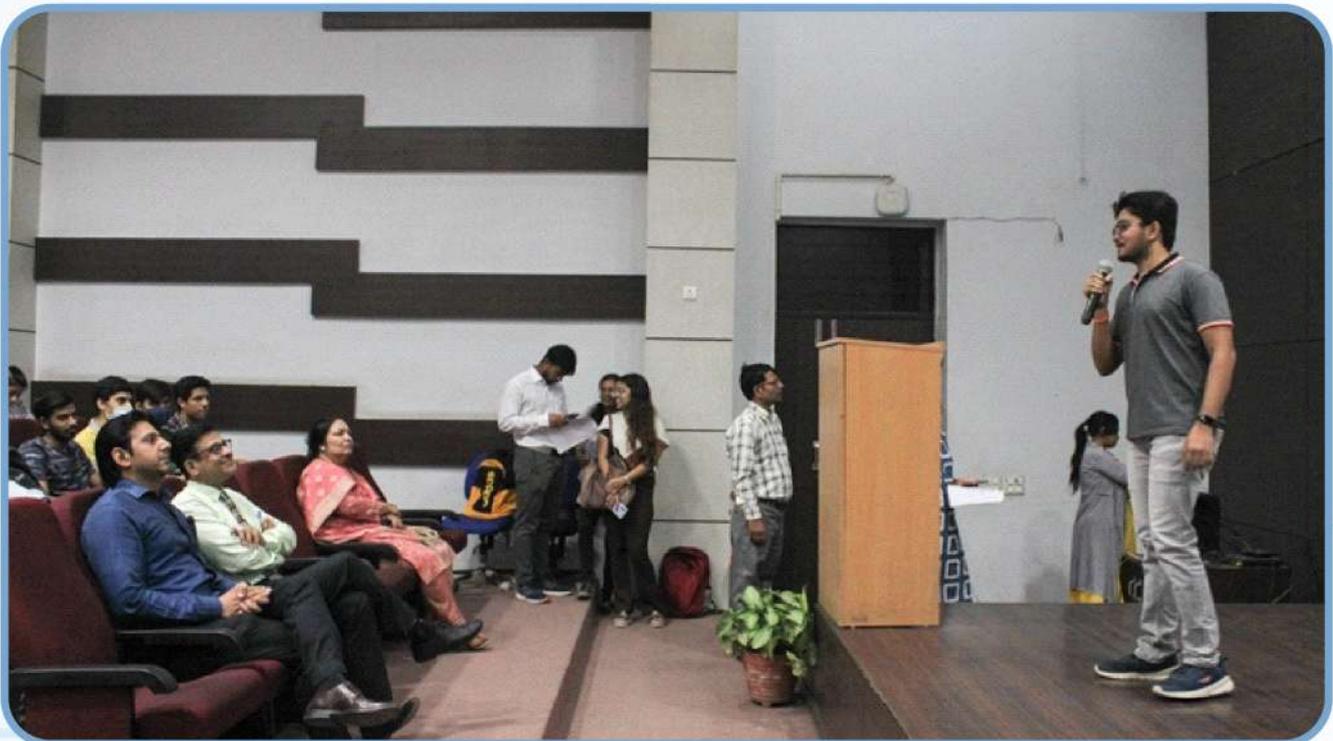
# ALUMNI TALK GLIMPSES

# DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT, NEW DELHI

## DEPARTMENT OF
## COMPUTER SCIENCE & ENGINEERING

### ORGANISED

### International e-Conference on
### "Advances in Computing Science & Technology"
### (IECACST-2022)

DATE : 5-6 JANUARY, 2022
MODE: ONLINE VIA ZOOM & GOOGLE MEET PLATFORM

## Dignitaries

Conference was graced with the esteemed presence of **Chief Guest Dr. S. B. GOYAL**, DEAN Faculty of Information Technology, City University, Malaysia **Guest of Honor Dr. Chaman Verma** Computer Research Scientist in the Department of Media and Educational Informatics, Faculty of Informatics, Eötvös Loránd University, Hungary, **Keynote Speaker Prof. (Dr.) Laxmi Ahuja** Dy. Director, AIIT Amity University, Noida. **Chief Executive Officer Shri S.N. Garg** ADGITM New Delhi, **Director Prof. (Dr.) Sanjay Kumar** ADGITM New Delhi **Assistant Director (HR) Ms. Pankhuri Aggarwal** ADGITM New Delhi, **Director (IQAC) Prof. (Dr.) Niranjan Bhattacharyya.**

## Activities Undertaken

The Conference was organized for two-days on Day I.ie. January 5, 2022 inaugural ceremony was followed by Technical **session chaired by Prof. (Dr.) Laxmi Ahuja Dy. Director, AIIT Amity University, Noida in which 12 research papers were presented.**

Day 2 i.e. January 5, 2022 was divided into 3 technical sessions of which Session 1 was chaired by **Prof. (Dr.) Pradeep Kumar Bhatia GJUST, Hisar, Haryana in which 14 research papers were presented. Session 2 chaired by Prof. (Dr.) Manju Khari JNU, New Delhi in which 15 research papers were presented and Session 3 chaired by Prof. (Dr.) Archana Kumar ADGITM, New Delhi in which 12 research papers were presented.**

**Total 60 research papers were received out of which 53 papers were presented which were selected.**

The inaugural ceremony of the International E Conference on "Advances in Computing Science & Technology organized by the Department of Computer Science & Engineering started with the welcome address by respected CEO Sir Shri S. N. Garg Sir and Director Sir Prof. (Dr.) Sanjay Kumar Sir. Introduction of the conference was given by Head of Department & Convener Prof. (Dr.) Anupam Sharma.

The Chief Guest of the day Prof. (Dr.) S. B. GOYAL, DEAN, Faculty of Information Technology, City University, Malaysia enlightened his valuable knowledge on "Industry 4.0".

The Guest of Honour of the day Dr. Chaman Verma Computer Research Scientist and Professional Assistant in the Department of Media and Educational Informatics, Faculty of Informatics, Eötvös Loránd University, Hungary shared his valuable experience and expertise.

The invited keynote Speaker Prof. (Dr.) Laxmi Ahuja Dy. Director, AIIT Amity University, Noida delivered her keynote address on the topic "Research Issue in Search Engine Optimization and Anti Spamming Techniques" with an insightful and informative presentation.

The Inaugural ceremony was ended with vote of thanks given by Convener Prof. (Dr.) Sonu Mittal. Followed by Technical Session in which successful research papers were presented on wide domain of advances in computing Science.

On Day 2 of the conference researchers successfully presented their research papers in three session on various emerging technology. Followed by Valedictory Vote of thanks by Co-Convener Ms. Megha Gupta in Valedictory Session. With the best wishes and hope to organize 2nd International Conference in forth coming year.

**Outcomes:** Great learning platform for Research Scholars, Faculty Members and students.

# INTERNATIONAL
# E-CONFERENCE GLIMPSES



Day 1 Technical Session Chaired by Prof. (Dr.) Laxmi Ahuja Dy. Director, AIIT
Amity University, and Noida.



Welcome Address by Respected Director Sir Prof. (Dr.) Sanjay Kumar ADGITM,
New Delhi.

Address by Respected Chief Guest Prof. (Dr.) S B GOYAL, DEAN, Faculty of Information Technology, City University, Malaysia.
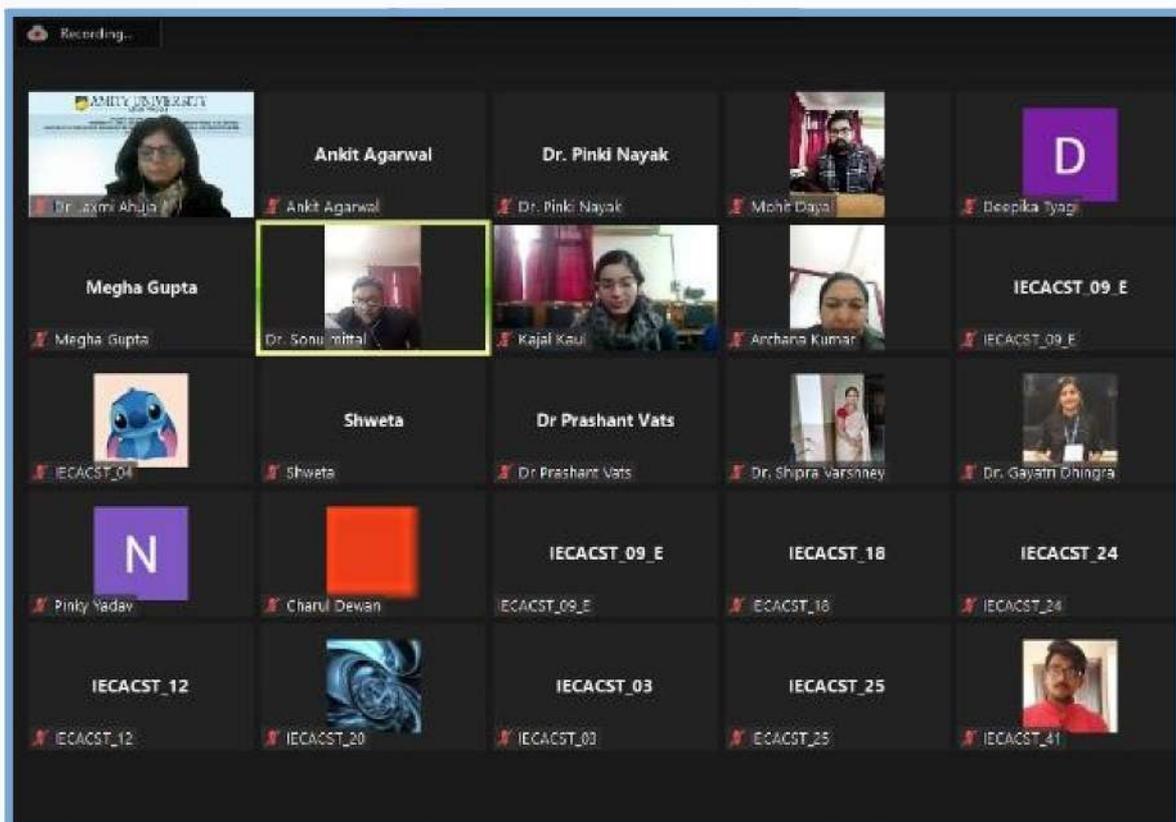


Vote of thanks by Convener Prof . (Dr.) Sonu Mittal, ADGITM, New Delhi.

# ACHIEVEMENTS

Archit Garg participated in Rehack, Level - Internation Hackathon, Position - Winner, Place - Online, organized by - Princeton University, USA, 3 hackathons (Building Blocks, Dinorapter, Codeathon), Level- National Level, Positon - 1st, Place - Online, Organized by - IGDTUW.

Pranshu Jain, batch 2020-24 scored 240/240 and bagged 1st position in college & AIR 554 in All India Coding Competition, CodeKaze organized by CodingNinjas.
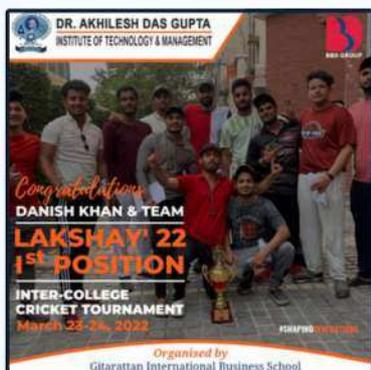




Danish Khan & Team achieved I$^{st}$ Position in Lakshya' 22, Inter-college Cricket Tournament held on 23-24 March, 2022 organised by Gitarattan International Business School.

Uday Yadav from batch 2019-23 secured the 1$^{st}$ prize & receiving $1,500.00 USD from Dev Community Inc. at Microsoft Azure Hackathon.
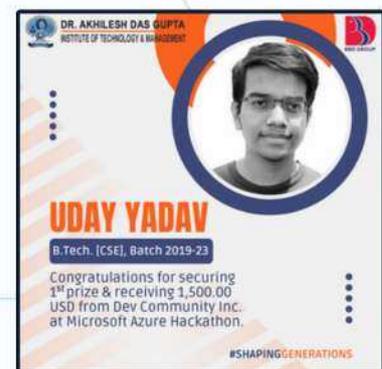
Dr. Kamal Upreti, Associate Professor published a book named "Designing Intelligent Healthcare Systems, Products, and Services Using Disruptive Technologies and Health Informatics", publisher CRC Press ,Taylor & Francis Group.





Ayushi Dhama, batch 2019-23 secured AIR 389 at 6th National Engineering Olympiad, March 2022.

Piyush Bharadwaj, batch 2019-23 attained 1st position in POST-TITIVA, an inter-college poster making competition in GNOSIS 2022, organised by #enactus_adgitm on 5th May 2022.





Tejaswini, batch 2019-23 attained 2nd position in POST-TITIVA, an inter-college poster making competition in GNOSIS 2022, organised by #enactus_adgitm on 5th May 2022.

# ARTICLES

# VIRTUAL REALITY AND COMPUTER SCIENCE & ENGINEERING



Naman Maheshwari (batch 2020-24)

Virtual reality (VR) is a rapidly growing field that has the potential to revolutionize various industries, including entertainment, education, and training. As the technology continues to improve, it is becoming more accessible and is being used in a wide range of applications.

Computer science & engineering play a crucial role in the development of VR technology. Engineers and computer scientists are responsible for designing and developing the hardware and software that make VR possible. In this article, we will explore the various areas of computer science and engineering that are relevant to VR.



Computer Graphics is a key area of computer science that is essential for VR. Engineers need to have a strong understanding of 3D modeling, animation, and rendering techniques to create realistic and immersive virtual environments. They also need to be familiar with various graphics engines and game development frameworks that are used to create VR experiences.

Human-computer interaction is another important aspect of VR. Engineers need to design interfaces and controls that are intuitive and easy to use for the user. This includes designing for hand-held controllers, voice recognition, and natural language processing. They also need to consider the ergonomics of VR headsets and other equipment to ensure that the user is comfortable during extended use.
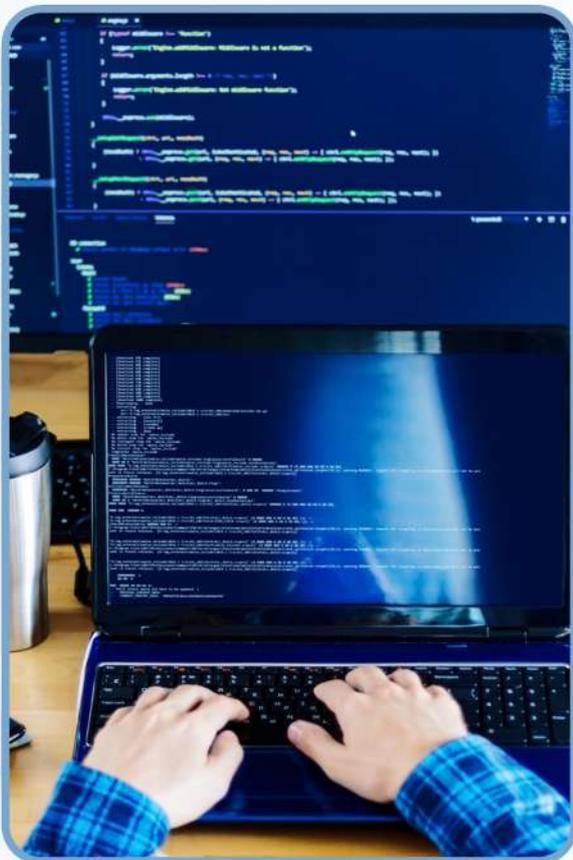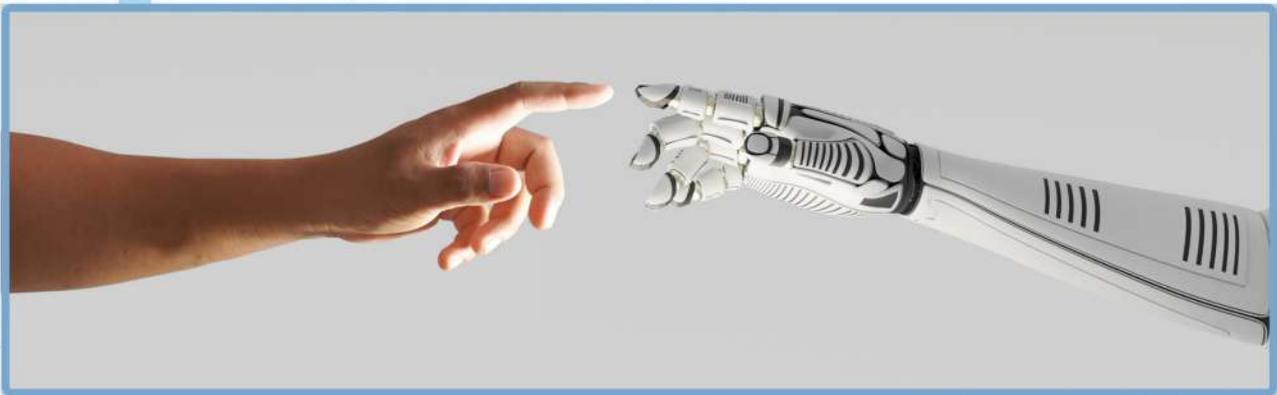




Hardware and software development are also crucial for Virtual Reality. Engineers need to have a good understanding of hardware, including the various VR headsets and sensors, and the software development for VR applications. They need to be familiar with the programming languages and tools that are used to create VR experiences, such as Unity, Unreal Engine, and WebVR.

Networking and cloud computing are also important for Virtual Reality as these experiences are often delivered over the internet. Engineers need to understand how to optimize network performance and use cloud computing to deliver VR content.





In addition, Artificial intelligence and machine learning are being increasingly used in VR to create more interactive and dynamic experiences. Engineers need to have knowledge of these technologies to incorporate them in VR.

Overall, VR is a multidisciplinary field that requires knowledge and skills in various areas of computer science engineering, including computer graphics, human-computer interaction, software development, networking, and artificial intelligence.

# NEW AI CAN AUTOMATICALLY DETECT A SERIOUS HEART CONDITION

Mohd Faaiz (batch 2021-25)

Utilizing intravascular optical coherence tomography images, a new technique made it easier to identify plaque erosion. Researchers have created a brand-new artificial intelligence (AI) technique that uses optical coherence tomography (OCT) images to automatically detect plaque erosion in the arteries of the heart. Monitoring arterial plaque is crucial because, if it disintegrates, it may obstruct blood flow to the heart, triggering a heart attack or other dangerous problems.

"If cholesterol plaque lining arteries starts to erode it can lead to a sudden reduction in blood flow to the heart known as acute coronary syndrome, which requires urgent treatment,". "Our new method could help improve the clinical diagnosis of plaque erosion and be used to develop new treatments for patients with heart disease."

# SCOPE OF TECHNOCRATS IN BLOCKCHAIN TECHNOLOGY

Satyam Agrahari (batch 2020-24)

Blockchain technologists are responsible for the development, design, and implementation of blockchain-based systems and applications. They work on creating decentralized platforms and solutions that can be used across various industries such as finance, supply chain management, and digital identity verification. These technologists are responsible for the code that runs the blockchain network, including designing, testing and maintaining the code. They also work on creating smart contracts and other blockchain-based applications.

In addition to development and implementation, blockchain technologists also play a vital role in research and development of new blockchain-based solutions. They explore new use cases, identify opportunities for innovation and evaluate emerging technologies.

This includes identifying new ways to apply blockchain technology to solve real-world problems, researching new blockchain platforms and exploring new technologies that can be integrated with blockchain. They also ensure that the blockchain networks and applications are secure and performant, and comply with regulatory requirements.
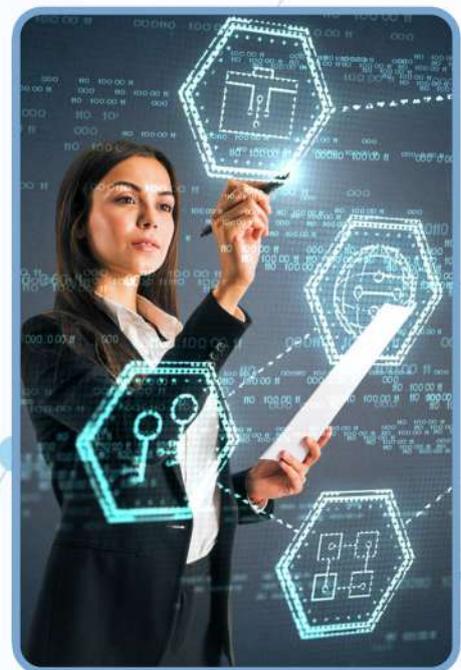
# IMPACT OF WEB3

Gagan Tomar (batch 2021-25)

Web 3, also known as the decentralised web, is the next generation of the internet that promises to bring greater transparency, security, and autonomy to online interactions. It is built on blockchain technology, which enables the creation of decentralised applications (dApps) that can run without the need for a central authority.



One of the key impacts of Web 3 is the democratisation of the internet. Traditional Web 2 applications, such as social media platforms and search engines, are controlled by a small group of powerful companies. These companies have the power to censor content, collect and monetize user data, and control access to information.

In contrast, Web 3 applications are decentralised and run on a network of computers, making them more resistant to censorship and control.

Another impact of Web 3 is the potential for increased privacy and security. Blockchain technology allows for the creation of decentralised identity systems where users have control over their own personal data and can choose to share it with whomever they want. This can greatly reduce the risk of data breaches and identity theft. Additionally, Web 3 also enables new forms of digital ownership, such as non-fungible tokens (NFTs), which can be used to represent digital assets like artwork and collectibles.



Web 3 also has the potential to create new economic opportunities. Decentralized finance (DeFi) applications, for example, allow for the creation of decentralised lending and borrowing platforms as well as the creation of new types of financial instruments. This can greatly increase access to financial services for individuals and small businesses in underbanked areas.

In conclusion, Web 3 represents a significant shift in how the internet operates; it has the potential to democratise the internet, increase privacy and security, and create new economic opportunities. However, it is important to note that Web3 is still in its infancy, and it's yet to be seen if it will reach its full potential. The technology and infrastructure still need to be developed further and widely adopted for these benefits to be fully realized.

# PLACEMENTS

# 160
## STUDENTS PLACED

| Amazon | | 6 | |
| --- | --- | --- | --- |
| Kartik Mishra | | | **Rs. 44.15 LPA** |
| Bhavya Arora | | | Rs. 32 LPA |
| Darshpreet Singh | | | Rs. 32 LPA |
| Smriddhi Jain | | | Rs. 20.35 LPA |
| Karan Verma | | | Rs. 20.09 LPA |
| Ashi Saxena | | | Rs. 15.88 LPA |

| American Express | | 1 | |
| --- | --- | --- | --- |
| Sagorika Ghosh | | | Rs. 16.57 LPA |

| Grab | | 1 | |
| --- | --- | --- | --- |
| Chetan Singh Karki | | | Rs. 13 LPA |

| Josh Technology | | 6 | |
| --- | --- | --- | --- |
| Bhavyaaa Arora | Darshpreet Singh | | Rs. 10.50 LPA |
| Divyam Madhok | Rajat Mittal | | Rs. 10.50 LPA |
| Samriddhi Jain | Shantanu Sharma | | Rs. 10.50 LPA |

| Tejas Networks Ltd. | | 2 | |
| --- | --- | --- | --- |
| Abhishek Kumar Mishra | Prakhar Singhal | | Rs. 10 LPA |

| Freecharge | | 4 | |
| --- | --- | --- | --- |
| Gautam Kumar Gupta | Jatin Saini | | Rs. 9 LPA |
| Syed Md Danish | Yash Joon | | Rs. 9 LPA |

## Birdeye 3

| | | |
|---|---|---|
| Jatin Saini | Rahul Yadav | Rs. 9 LPA |
| Subhodeep Kundu | | Rs. 9 LPA |

## Sopra Banking Software India 6

| | | |
|---|---|---|
| Achal Jain | Manav Aggarwal | Rs. 8.50 LPA |
| Nikhil Tripathi | Samar Gupta | Rs. 8.50 LPA |
| Tushar Marwaha | Udit Jain | Rs. 8.50 LPA |

## Infosys 55 Rs. 8 LPA

## Magic EdTech 4

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|---|---|---|
| Abhinav Kumar Agrasen | Shubham Jain | Rs. 7.50 LPA |
| Siddhant Rawat | Yash Joon | Rs. 7.50 LPA |

## MAQ Software 7 Rs. 7.50 LPA

## RxLogix Corporation India Ltd. 2

| | | |
|---|---|---|
| Abhinav Gupta | Melvin Benny | Rs. 7 LPA |

## Hitachi Consulting 5

| | | |
|---|---|---|
| Prakhar Singhal | Ritvik Khanijo | Rs. 6.50 LPA |
| Sagorika Ghosh | Shivam Garg | Rs. 6.50 LPA |
| Shubham Kumar Mishra | | Rs. 6.50 LPA |

## Cognizant 9 Rs. 6.5 LPA

## NPCL 1

| | | |
|---|---|---|
| Damini Kumari | | Rs. 6.5 LPA |

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