

October 2022, Issue 2

# Gbyte 3.2

Department of Computer Science & Engineering

## CYBER SECURITY



**Goel Institute of  
Technology & Management  
Lucknow**

Approved by AICTE, New Delhi  
Affiliated to Dr. APJ Abdul Kalam Technical University  
Lucknow



## Student Achievement & Awards

- Student participation and paper presentation in various National & International Conferences.
- Students awarded in various National Level Technical Project Competitions.
- Hackathon-2022 Screening.
- Active participation in Sports, up to Zonal & State Level.

## Innovation & Entrepreneurship

- Students innovation projects.
- Demonstration in Technovation Hackathon (SIH-2022).
- Regular interaction with Alumni Entrepreneurs.

# GOEL INSTITUTE OF TECHNOLOGY & MANAGEMENT LUCKNOW

Approved by AICTE, New Delhi  
Affiliated to Dr. APJ Abdul Kalam Technical University  
Lucknow

## Department of Computer Science & Engineering

**Campus** Established in 2008  
**Department**

- Quality focused and Global Standard academic system.
- Highly qualified and experienced faculty members.
- Faculty participation in research & Ph.D. Programs.
- Excellent placement record.
- Departmental club "CompuNerds".
- Department e-Magazine "Gbyte".

### Laboratories

- DBMS lab
- Computer Network Lab
- JAVA Programming Lab
- C/C++ Programming Lab
- R & D Lab
- Algorithms Lab
- Computer Graphics Lab
- Project Lab
- MATLAB Lab

### Placements (2021-22)

- Highest Package: 06 LPA
- Students Placed: 95% (2021-22)
- Companies visited in campus: 8
- Entrepreneur: 04
- Higher studies: 10

### Major Recruiters



### Our MoUs



# “ WORDS OF ENCOURAGEMENT ”

“ Do what You Can with All You Have, Wherever You Are ”

-Theodore Roosevelt

“ Simplicity, carried to the extreme, become elegance ”

-John Franklin

“ We need to understand that we all work on inclusion together, it’s going to be faster, broader, better, and more through than anything we can do our own ”

-Ellen Pao

“The quality, relevance, and impact of the products and services output by the technology sector can only be improved by having the people who are building them be demographically representative of the people who are using them”

-Tracy Chou

“A program is never less than 90% complete, and never more than 95%complete”

-Terry Baker

“The Computer was born to solve problems that did not exist before”

-Bill Gates

# DEAR READERS

It gives us immense pleasure to issue “G-byte e-magazine” for the month of October, 2022. This is a quarterly e-magazine issued by the Department of Computer science and Engineering for displaying the activities taken by the Department. This edition of the magazine include a glance at all the activities, accomplishments, and initiatives taken by the Department of the third quarter of the year 2022.

# INSTITUTE VISION

Bring together rural and urban students providing them quality education to become complete professionals.

# INSTITUTE MISSION

- \* To inculcate professional excellence in students with ethical and moral values.
- \* To arrange and maintain state of the art infrastructure to excel in studies.
- \* To nurture academic atmosphere to cater the need academics fraternity.
- \* To enhance industry institute interaction with close relationship with alumnus.

## DEPARTMENT VISION :

To provide a congenial environment for learning in discipline of Computer Science and Information and to mobilize students towards serving a globalized technological society.

## DEPARTMENT MISSION :

- >>To ensure that every engineering student is proficient with necessary computer skills.
- >>To familiarize students with latest developments in Computer Science and Information Technology and motivate them to embrace all challenges be future ready.
- >>To inculcate strong ethical values, research capabilities, professional behavior and leadership abilities so as to work with commitment for progress of the nation.

# PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

**PEO1:** The students will have a sound foundation of mathematics, scientific reasoning and computer engineering fundamentals to formulate, solve and analyze engineering problems.

**PEO2:** The students will be able to use modern engineering techniques, skills and tools of computer science and engineering in areas such as design development of techniques for solving the problem of day to day life using computer systems.

**PEO3:** To enhance knowledge and skills of understanding, analyzing and developing strategies utilizing the advancement of computer science engineering, in upcoming areas like data science and cloud computing, machine learning, computer vision and etc.

# PROGRAM SPECIFIC OUTCOMES

## (PSOS)

**PSO1:** To provide relevant knowledge of mathematics and algorithmic skills with core subjects of computer science engineering elevated with standard tools and technologies along powered by ethical and behavioural attitude in practice to have perfect suitability for industry, academia and research interface.

**PSO2:** To inculcate the ability of using abstractions and modelling techniques for formulating real world engineering problem of various domain and design solutions.

**PSO3:** To enhance knowledge and skills of understanding, analysing and developing strategies utilizing the advancement of computer science engineering in upcoming area like data science, cloud computing machine learning, computer vision and etc.



# CHAIRMAN'S MESSAGE



**Er. Mahesh Goel**

Chairman/Trustee

With the grace of god and blessings of our visionary grandparents Sri Roop Chand Agarwal and our father Shri Ramji Lal Agarwal, we formed a Trust Sri Roop Chand Ramji Lal Educational Trust (RCRL) with a vision to educate youth from all walks of life.

I am glad to say that in 10 years of this service to the nation, Goel Group of Institutions under RCRL Trust have been delivering education to all age of young minds in almost all fields of education.

Our emphasis is that even though students come from different backgrounds but when they go out, they are perfect professional and worthy citizen of this great country India.

I assure that Trust would fulfill the requirement of all the institutes to make its student successful professional to serve the society and country at large & I can proudly say that you send your toddler to the group and it may come out as a matured professional.

I welcome you to be a part of our journey to acquire knowledge that provides benefits to both self and mankind.

# VICE CHAIRMAN'S MESSAGE



**Murari Lal Goel**  
Vice Chairman

In an era of globalization, a well planned infrastructure and faculty is a must for a Conducive teaching-learning process in the campus and a good connectivity to the countries at large.

I hope that my thirty years experience of construction marvelous buildings will fulfill a dream of my ancestors, my father Late Sri Ramji Lal Agarwal and grandfather, Late Sri Roop Chand Agarwal, to provide grand building and world class infrastructure which enhances the moral and confidence of our students to face the challenges in corporate and professional world.

I hope that will also create the landscape of my campus which is lush green, sprawling and eco friendly. In the end I would like to say that excellence is never an accident, it is the result of commitment, meticulous planning, firm determination and ceaseless effort.

I hope that we nurture sense of excellence in all our students and staffs.

# DIRECTOR'S MESSAGE



**Dr. Rishi Asthana**

Director GITM

Goel Institute of Technology and Management is on a fascinating path of growth and development. As it has completed 13 years of its establishment, it has evolved itself into one of the top technological institute of the state.

Starting with, B.Tech. Courses only, it has expanded to postgraduate programs in MBA, Mechanical Engineering, Electronics & Communication Engineering, and Computer science and Engineering. It is also facilitated the students to enter at diploma level in Mechanical, Civil, and Electrical engineering disciplines. The faculty at the institute is a good blend of young and experienced academicians and dedicated supporting staffs who work hard to develop students not only technically but also develop their intrinsic skills for overall personality development.

The Institute has excellent infrastructure, Center of Excellence, Industry-Academia collaboration, tie-ups with International and national reputed institutes for online course latest technology labs, and 100 MBPs speed facility round the clock helps the students to excel in their chosen field.

Institute is also having a Training and Placement cell which is continuously working hard to fill the gap between industry and the institute by arranging various personality development programs, seminars workshops, and Industrial Visits and thus enhancing their scope not only in campus placement but also in jobs of their choice at large.

# PROFESSOR'S MESSAGE



**Prof. Devendra Agarwal**  
Deans (Academics)

Learning is a continuous process and does not end with the acquisition of a degree, especially because steady and rapid advances in computing technologies shorten the life of tools and techniques prevalent today. Therefore, we do not aim to make our students walk manuals of language or package. Instead, they are given a strong foundation in computer science and problem-solving techniques and are made adaptable to changes. We believe that this approach to teaching and learning with practical experience gained during Industrial Training in reputed organizations, equips our students to handle the challenges posed by the software industry. I am confident that you will find our students worthy of your organization.

# HEAD OF DEPARTMENT



**Dr. Brijesh Pandey**  
Head of department CSE

Learning is a continuous process and does not end with the acquisition of a degree, especially because steady and rapid advances in computing technologies shorten the life of tools and techniques prevalent today. Therefore, we do not aim to make our students walk manuals of any language or package. Instead, they are given a strong foundation in computer science and problem-solving techniques and are made adaptable to changes. We believe that this approach to teaching-learning, coupled with practical experience gained during Industrial Training in an organizations, equips our students to handle the challenges posed by the software industry.

# EDITORIAL BOARD



Mr. Shivam Shukla  
Chief Editor



Ms. Samiksha Singh  
Editor



Ms. Anamika Sharma  
Editor

# STUDENT COORDINATORS



Aniket Singh  
IT 2nd Year



Khushi Singh  
IT 2nd Year



Sameer Tiwari  
CSE 2nd Year

## “MESSAGE FROM EDITORIAL DESK”

It is our greatest pleasure to present this edition of “G-Byte” to you. It showcases the literary talent, innovative ideas, creative work of students and teacher and proud accomplishment of the Department of computer science and engineering. The magazine started its journey as a mere thought, fighting all the obstacles coming in its way and, has finally reached our readers hands. We express our gratitude to all those who contributed to this dream to come true, especially to our authors. The generous efforts from the contributors to this magazine are the reasons for its possible existence. We hope you enjoy reading it.

Thank you all!

# FACULTY OF DEPARTMENT COMPUTER SCIENCE AND ENGINEERING



Dr. Devendra Agarwal



Dr. Brijesh Pandey



Mr. Yogendra Pratap  
Singh



Mr. Shivam Shukla



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Vishwakarma



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# EDITORIALS

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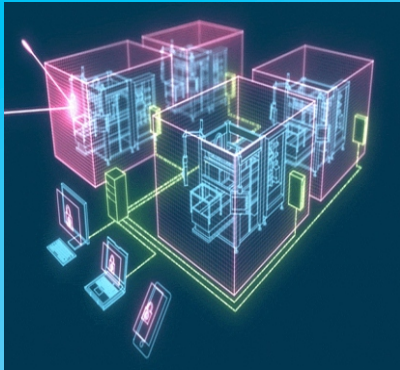


**ANIKET SINGH**

**IT 2<sup>ND</sup> YEAR  
GITM,CS**

# INDUSTRIAL CYBER SECURITY

## Cyber security threats force you to take action



Digitalization and the growing networking of machines and industrial systems also mean an increase in the risk of cyber attacks. Appropriate protective measures are an imperative, especially for critical infrastructure facilities.

## Plant Security

### Physical protection and security management for automation systems

Plant security employs a number of different methods to prevent unauthorized persons from gaining physical access to critical components, starting with conventional building access extending to the securing of sensitive areas by means of key cards.

## Network Security

### Secure communication in industrial networks

One of the key challenges for consistent communication is to additionally establish adequate protection of easily accessible systems. In addition to availability, the focus is on protecting automation networks against unauthorized access.

## System Integrity

Whether you want to protect existing know-how or exclude unauthorized access to your automation processes from the outset as a way of preventing faults in your production processes – we support you in implementing targeted measures to protect against a variety of threats and design complete solutions for maximum protection.

Comprehensive  
concept  
as recommended  
by ICE 62443



## Industrial security alerts and updates

Siemens ProductCERT investigates all reported security issues and publishes Security Advisories on validated security vulnerabilities it directly involve Siemens products. Use our news ticker to gain an overview of the latest developments.





# SAMEER TIWARI

CSE 2ND YEAR, GITM

## RANSOMWARE ATTACK

### Introduction

Ransomware is a type of malware attack in which the attacker locks encrypts the victim's data, important files and then demands a payment to unlock and decrypt the data.

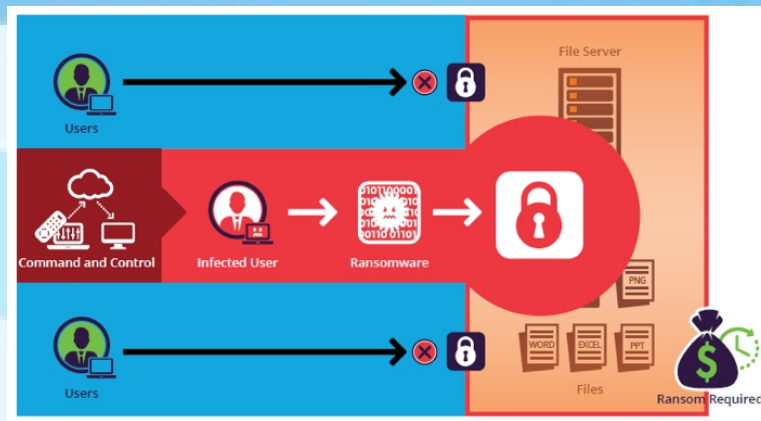
This type of attack takes advantage of human, system, network, and software vulnerabilities to infect the victim devices.

### Ransomware Attack Examples

There are thousands of strains of ransomware malware .Below we list a few malware examples that made a global impact and caused widespread damage.

### WannaCry

WannaCry is an encrypting ransomware that exploits a vulnerability in the Windows SMB protocol, and has a self-propagation mechanism that lets it infect other machines. WannCry is packaged as a dropper , self -contained program that extracts the encryption/decryption application files containing encryption keys and the Tor communication program. It is not obfuscated and relatively easy to detect and remove . In 2017 Wannacry spread rapidly across 150 countries, affecting 230,000 computers and causing an estimate \$4 billion in damages.



## Locky

Locky is able to encrypt 160 file types, primarily files used by designers engineers and testers. It was first released in 2016. It is primarily distributed exploit kit or phishing—attackers send emails that encourage the user to open a Microsoft Office Word or Excel file with malicious macros , or a ZIP file that installs the malware upon extraction.

## Cryptolocker

Cryptolocker was released in 2017, and affected over 500,000 computer. It typically infects computers through email file sharing sites, and unprotected download. It not only encrypts files on the local machine but can also scan mapped network drives, and encrypt files it has permission to write to. New variants of Cryptolocker are able to elude legacy antivirus software and firewalls.

## How Does Ransomware Work?

After a device is exposed to the malicious code, the ransomware attacks proceeds as follows. Ransomware can remain dormant on a device until the device is at its most vulnerable, and only then execute an attack.

## Ransomware seven-stage attack

**1. Infection**—Ransomware is covertly downloaded and installed on the device.

**2. Execution**—Ransomware scans and maps locations for targeted file type including locally stored files, and mapped and unmapped network accessible systems some ransomware attacks also delete or encrypt any backup files and folders.

**3. Encryption**—Ransomware performs a key exchange with the Command and Control Server, using the encryption key to scramble all files discovered during the Execution step. It also locks access to the data.

**4. User Notification**—Ransomware adds instruction files detailing the pay-for-decryption process, then uses those files to display a ransom note to the user.

**5. Cleanup**—Ransomware usually terminates and deletes itself, leaving only the payment instruction files.

**6. Payment**—Victim clicks a link in the payment instructions, which takes the victims to a web page with additional information on how to make the required ransom payment. Hidden TOR services are often used to encapsulate and obfuscate these communications to avoid detection by network traffic monitoring.

**7. Decryption**—After the victim pays the ransom, usually via the attacker's Bitcoin address, the victim may receive the decryption key.







**PINTU KUMAR VERMA**  
**CSE 2ND YEAR**  
**GITM,CSE**

# PROTECT YOUR PRIVACY FROM HACKERS, SPIES, AND THE GOVERNMENT

## Introduction

Data is a vague concept and can encompass such a wide range of information that it is worth breaking down different collections before examining how each area is relevant to your privacy and security.

## Browsing habits and website visits

Internet activity is monitored by an Internet Service Provider (ISP) and can be hijacked. While there is little consumers can do about attacks at the ISP level, the web pages you visit can also be tracked by cookies, which are small bits of text that are downloaded and stored by your browser. Browser plugins may also track your activity across multiple websites.

Why does it matter? Cookies are used to personalize internet experiences and this can include tailored advertising. However, such track can go too far, as shown when the unique identifiers added to a cookies are then used across different services and on various marketing platforms. Such practices are often considered intrusive.

## Online purchases, financial information

When you conduct a transaction online, this information may include credentials for financial services such as PayPal, or credit card information including card numbers, expiry dates, and security codes.

Magecart campaigns are not possible to avoid by the average consumer as they take place on vulnerable e-commerce websites, with code injected into payment portals to skim and steal card data input by customers. Past victims of Magecart groups include Ticketmaster, Boom! Mobile, and British Airways.

Why does it matter? Cybercriminals who steal financial services credentials through phishing and fraudulent websites, who eavesdrop on your transactions through Man-in-The-Middle (MiTM) attacks, or who utilize card-skimming malware, can steal these details when they are not secured.

Once this information has been obtained, unauthorized transactions can be made, clone cards may be created, or this data may also be sold on to others in the Dark Web.





**GAURAV SINGH**  
IT 2ND YEAR, GITM

# CYBER ATTACKS

## Introduction

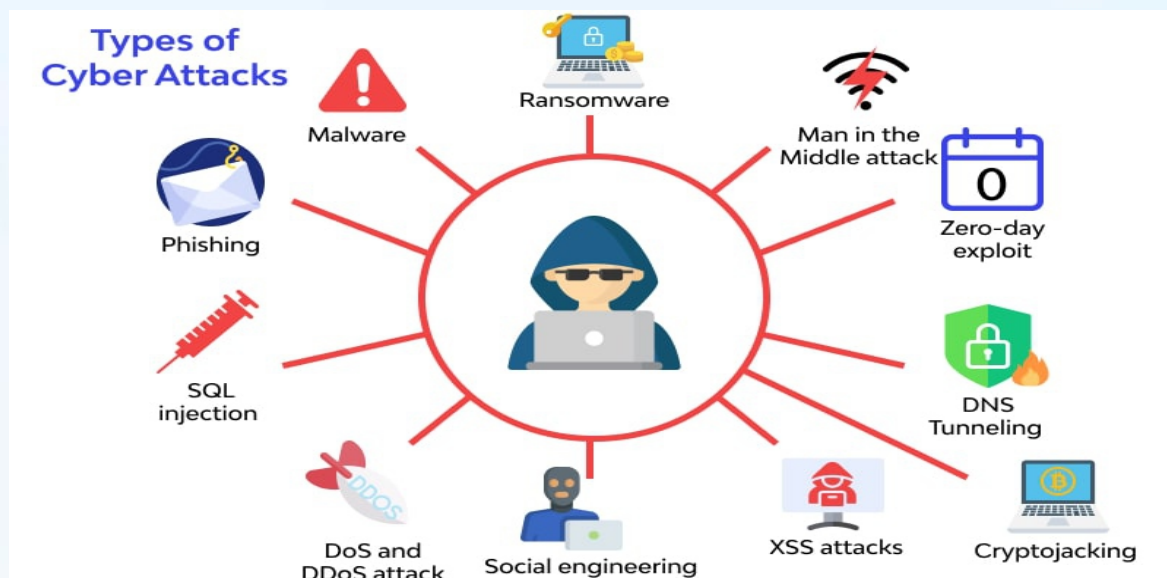
The exponential growth of computer networks has led to a tremendous growth in number of cyberattacks. All sectors of our society, from government to economy, to critical infrastructures, are largely dependent on computer networks and information technology solutions. Therefore, they are obviously vulnerable to cyberattacks. A cyberattack is an attack launched from one or more computers against other computer or net works. Typically goal of a cyberattacks is either to disable the target or take the services offline, or get access to the target computer's data.

Since the first denial-of-service (DOS) attack in 1988, the number and impact of cyberattacks have been increased remarkably. Indeed, has become one of the most challenging tasks in computer science field; and it is expected that the number and sophistication of cyberattacks will grow continually and exponentially.



Since the first denial-of-service (DOS) attack in 1988, the number and impact of cyberattacks have been increased remarkably. Indeed, cyber security become one of the most challenging task in computer science field and it expected that the number and sophistication of cyberattack will grow continually and exponentially.

Cybersecurity is a technology, process, and practice to protect network devices, programs, and data from attacks, damages, or unauthorized access According to the definition provided by Myriam Dunn Cavelty, “cyber security refers to the set of activities and measures, technical and non-technical inteded to protect the 'real geography' of cyberspace but also devices, software and the information they contain communi-cated, from all possible threats”.



Cybersecurity has become one of the most important issues in cyber space .Traditional cybersecurity methods work based on response to an attack and rely on the static control of security devices. For instance ,in case of network intrusion attacks, security systems monitor nodes according to a pre-defined set of rules. These methods wait to be notified that an attacked has occurred.





**ADITYA GUPTA**  
**CSE 2ND YEAR**

# CRYPTOGRAPHY

## Introduction

Cryptography is a technique of securing information and communications through use of codes so that only those persons for whom the information is intended can understand it and process it. Thus, it prevents unauthorized access to information. The prefix "crypt" means "hidden" and the suffix "graphy" means "writing".

In cryptography, the techniques which are used to protect information are obtained from mathematical concepts and a set of rule-based calculations known as algorithms to convert messages in ways that make it hard to decode. These algorithms are used for cryptographic key generation, digital signing, verification to protect data privacy, web browsing, and to protect confidential transactions such as credit and debit card transactions.

## Techniques used For Cryptography:

In today's age of computers, cryptography is often associated with the process where an ordinary plain text is converted to cipher text, which is the text made such that the intended receiver of the text can only decode it and hence this process is known as encryption. The process of conversion of cipher text to plain text is known as decryption.

## Features Of Cryptography are as follows:

### **1. Confidentiality:**

Information can only be accessed by the person for whom it is intended and no other person except him can access it.

### **2. Integrity:**

Information cannot be modified in storage or transition between sender and intended receiver without any addition to information being detected.

### **3. Non-repudiation:**

The creator/sender of information cannot deny his intention to send information at later stage.

### **4. Authentication:**

The identities of sender and receiver are confirmed. As well as destination origin of information is confirmed.

## Types Of Cryptography:

In general there are three types Of cryptography:

### **1. Symmetric Key Cryptography:**

It is an encryption system where the sender and receiver of message use single common key to encrypt and decrypt messages. Symmetric key Systems are faster and simpler but the problem is that sender and receiver have to somehow exchange key in a secure manner. The most popular symmetric key cryptography system is Data Encryption System (DES).

### **2. Hash Functions:**

There is no usage of any key in this algorithm. A hash value with fixed length is calculated as per the plain text which makes it impossible for content of plain text to be recovered. Many operating system use hash function to encrypt passwords.

### **3. Asymmetric Key Cryptography:**

Under this system a pair of keys is used to encrypt and decrypt information. A public key is used for encryption and a private key is used for decryption. Public key and Private Key are different. Even if the public key is known by everyone the intended receiver can only decode it because he alone knows the private key.

# Grad's Talk





# NIKHIL NIGAM

COMPANY- DXC TECHNOLOGY

DESIGNATION- SENIOR ASSISTANT

APPLICATION DEVELOPER

I am highly satisfied as our college provided good placements. Looking back at the last 4 years that I spent in engineering, so many memories come as flashback I had chosen this course because I like coding and computer related things. The faculty here are so good and helping in nature. They will always treat you like a primary school students. GITM helped me in building knowledge and also build my strengths. I would like to thanks all the faculties for providing every possible deep knowledge in simple and efficient way.

Thank you!!





# ATENDRA VERMA

COMPANY- IGT SOLUTION

DESIGNATION- IT TRAINEE

Placement quality is also good, are very large number of student through college placement drive. College are very supportive and help to Placement student industry or company. Our college and different department also take measures for conducting coding contest, seminars, quizzes and extracurricular activities. Faculty member are good well qualified and knowledgeable. Their teaching quality is up to the mark. Campus Life was very good. I have best experience in my college campus .This is my turning point and I have learned a lot in this college. The lectures are very good. They have given me more knowledge how to learn and how to get job in company.

THANK YOU!!!



# AYUSH TRIPATHI

COMPANY - DXC TECHNOLOGY  
DESIGNATION- SENIOR ASSISTANT  
APPLICATION DEVELOPER

Four years were very memorable of my engineering life, so many memories come as flashback. I had the pleasure of completing my graduation from GITM under the guidance of highly efficient Professors and Management. I had learned so many skills and new innovative things and these made me more perfect. It is a period which defines your life. You enter a college as a confused teenager and a right Institute serves the very purpose of molding you up in each and every aspect. I had to face a lot of hard work and troubles to get a good place in which college helped a lot I would like to thanks all the faculties for providing every possible deep knowledge in simple and efficient way.

Thank you!!



# ARYAN SOMVANSHI

COMPANY- INFOSYS

DESIGNATION- SYSTEM ENGINEER

Engineering is taken into account a field of brain, technical knowledge, day and night quality study. better place to relax with friends over a cup of tea. Goel institute of technology and management always boosted me and day by day developed interest toward my goal. To achieve something in life we need someone's support and GITM gave that support. be crazy in life because love is crazy too. I would like to thank you everyone to being a part of my beautiful engineering life.

Thank you so much.



# POET'S CORNER

# “कुछ नहीं”

मुह उठा के चले आते हैं लाते कुछ नहीं,  
लेने को सब चाहिए लेकिन दिलाते कुछ नहीं,  
वो जिन्हे पढ़ने का मन ही होता नहीं,  
वो सबसे कहते हैं के कॉलेज में पढ़ाते कुछ नहीं..।।

कर के वक्त बरबाद लड़की चाय सुट्टा यार पर,  
फेल होने पर वो पापा को बताते कुछ नहीं,

कुछ नहीं करते मगर वो चाहते हैं सब मिले,  
मिल गया कुछ तो छूपाते है दिखाते कुछ नहीं,  
मैं नहीं कहता के कुछ भी कर नहीं पाओगे तुम,  
कुछ भी करने के लिए तुम भी तो करते कुछ नहीं..।।

वो जिन्हे पढ़ने का मन है होता नहीं,  
वो सबसे कहते हैं के कॉलेज में पढ़ाते कुछ नहीं,

है नहीं दोनो में कुछ कैसे ये कोई मान ले,  
कुछ तो है दोनो में पर दोनो बताते कुछ नहीं,  
सौ बात की इक बात है जो कर साको वो कर लो तुम,  
मैं भी ये हूं जानता तुम करने वाले कुछ नहीं..।।

प्यार की दो बात मैंने लकड़ियों से बोल दी,  
ऐसी बात कहने को है लड़कियों में कुछ नहीं,  
मन कहां लगे जब मन लगा कही और हो,  
मन लगा तेरा जहां वहा पढ़ना वढ़ना कुछ नहीं.... ॥

**BY- MD IJHAR SIDDIQUE**

**B-TECH IT 2ND YEAR**

# EXPRESSING YOURSELF

all the noise  
in the world  
and in my head

it keeps me  
on the surface  
but I want  
to swim deeper

its not that  
I do not like  
the world  
or its people

I am just yearning  
for a quiet place  
where I can sink  
into the layers  
of my being.

by-Amit Khushwaha  
IT 2nd year

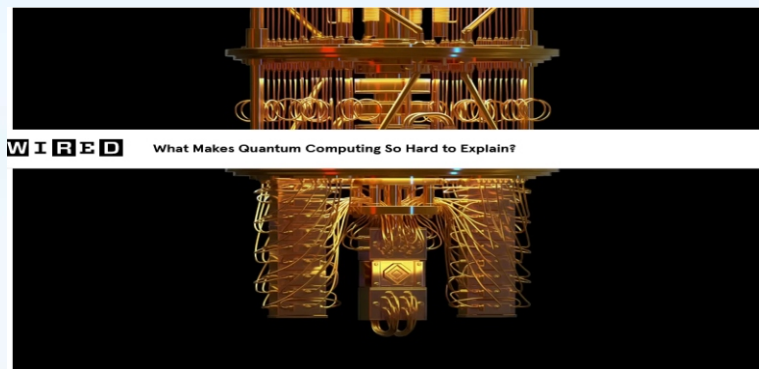


**BUZZWORTHY**

## NEWS:1

# WHAT MAKES QUANTUM COMPUTING SO HARD TO EXPLAIN?

Quantum computers, you might have heard, are magical uber-machines that will soon cure cancer and global warming by trying all possible answers in different parallel universes. For 15 years, on my blog and elsewhere, I've railed against this cartoonish vision, trying to explain what I see as the subtler but ironically even more fascinating truth. I approach this as a public service and almost my moral duty as a quantum computing researcher. Alas, the work feels Sisyphean: The cringeworthy hype about quantum computer has only increased over the years, as corporations and governments have invested billions, and as the technology has progressed to programmable 50-qubit devices that (on certain contrived benchmarks) really can give the world's biggest supercomputers a run for their money. And just as in cryptocurrency, machine learning and other trendy fields, with money have come hucksters.

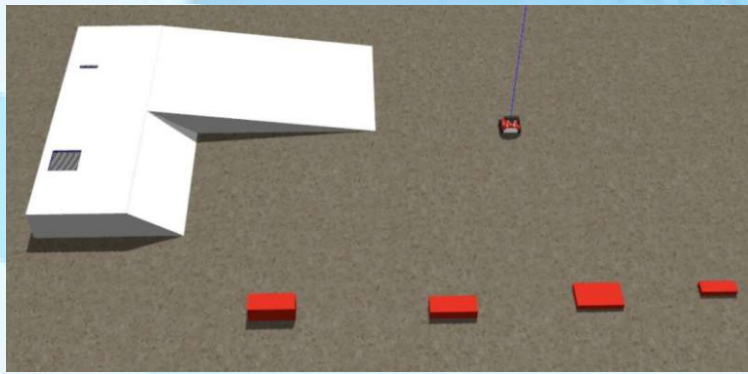


## NEWS:2

# A NEW SYSTEM THAT COULD IMPROVE ROBOT NAVIGATION IN UNEVEN TERRAINS.

As mobile robots become more advanced, they also become easier to deploy in a wide range of real-world settings. One of the factors that will enable their large-scale implementation is their ability to autonomously move around within different types of environments.





**NEWS:3**

## **NEW WALKING ROBOT DESIGN COULD REVOLUTIONIZE HOW WE BUILD THINGS IN SPACE**

Researchers have designed a state-of-the-art walking robot that could revolutionize large construction projects in space. They tested the feasibility of the robot for the in-space assembly of a 25m Large Aberture Space Telescope. They present their findings in *Frontiers in Robotics and AI*. A scaled-down prototype of the robot also showed promise for large construction applications on Earth.



## NEWS:4

# 'DARK DATA' IS KILLING THE PLANET. WE NEED DIGITAL DECARBONIZATION

This "dark data" is anchored the real world by the energy it requires. Even data that is stored and never used again takes up space on servers—typically huge banks of computers in warehouses. Those computers and those warehouses all use lots of electricity.

This is a significant energy cost that is hidden in most organizations. Maintaining an effective organizational memory is a challenge, but at what cost to the environment?



## NEWS:5

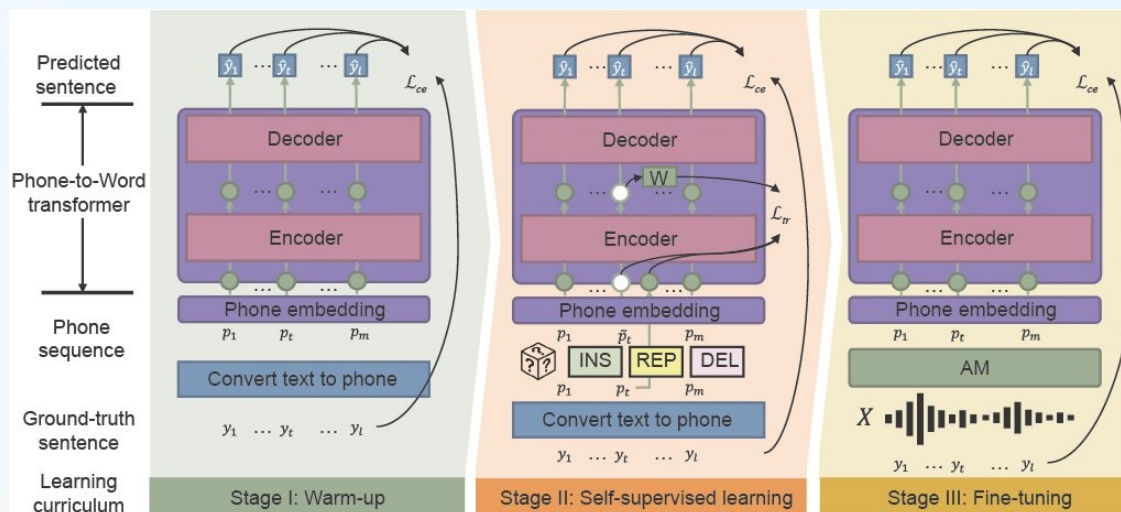
# NEXT GENERATION OF HEARING AIDS COULD READ LIPS THROUGH MASKS

A new system capable of reading lips with remarkable accuracy even when speakers are wearing face masks could help create a new generation of hearing aids.

An international team of engineers and computing scientists developed the technology, which pairs radio-frequency sensing with Artificial intelligence for the first time to identify lip movements.

# RESEARCHERS PROPOSE NEW AND MORE EFFECTIVE MODEL FOR AUTOMATIC SPEECH RECOGNITION

Popular voice assistants like Siri and Amazon Alexa have introduced automatic speech recognition (ASR) to the wider public. Though decades in the making, ASR models struggle with consistency and reliability, especially in noisy environments. Chinese researchers developed a framework that effectively improves the performance of ASR for the chaos of everyday acoustic environments.





# **Department Chronnicles**

# CHRONICLES OF

# DEPARTMENT

## I. START UP SEMINAR

The Institution Innovation Council(IIC) of Goel Institute of Technology & Management (GITM), Lucknow and Training and Placement Cell, GITM organized a workshop on “ Innovation/prototype Validation- Converting Innovation into Startup” in association with Vision StartUPs on 13th June, 2022. The resource persons of the workshop were Mr. Sudhanshu Rastogi, President-Vision StartUPs Mr. Ankush Arora ,Secretary-Vision StartUPs ; Mr. Rishabh Agarwal, Member-Vision StartUPs; Ms. Nazia Rizvi, Member-Vision StartUPs & Mr. Neelesh Kapoor, Member- Vision StartUPs. The experts explained about the innovation cycle & product development phase starting from ideation to Proof of Concept (PoC) to prototype development in various technologies readiness levels & ultimately maturing it to a product for start up. The students were encouraged & motivated towards establishing startups by discussing real examples. The interactive and interesting workshop was well appreciated by students and faculty members.



The poster for the workshop features logos for the Institution's Innovation Council, GITM, and the Training & Placement Cell. It details the event's organization by the GITM Innovation Cell and its association with Vision StartUPs. The topic is 'Innovation/ Prototype Validation - Converting Innovation into Startup'. It lists five experts from Vision StartUPs: Sudhanshu Rastogi (President), Ankush Arora (Secretary), Rishabh Agarwal (Member), Nazia Rizvi (Member), and Neelesh Kapoor (Member). The event is coordinated by Dr. Priyanka Jaiswal (IIC) and Mr. Indrajeet Singh (Training & Placement Officer). The date is 13 June, 2022, at 12:00 AM onwards, at the Goelplex campus.



## 2. Foundation Day

Greetings on the Foundation Day!

The Management of Goel Group Institutions would like to thank all of our Executives, Faculty members, Staff, Students and all those who have supported us directly or indirectly.

Our successful and sustained journey of 14 years would not have been possible without your sincere contribution.

All of you are the driving force that keeps us going. As we set our focus, we remain true to the three pillars of resilience viz holistic education use of modern technology and pollution-free environment. We look forward to building a better tomorrow with you.

To commemorate 15th Foundation Day, We at Goel Group Of Institutions organised a tree plantation drive and Hawan on 4th July 2022, as per the programme. Some Glimpse....



## 3. Dandiya Nights

"Don't stop dancing till the beat stops.

Dance for the one who is dancing inside you"

This is what happened on 1st October at Goel Campus, Dandiya Night celebration 2022.



Thanks, everyone for contributing to its success and enjoyment . Great n superb show. We hope everyone had a wonderful time.

## 4. Presentation on Innovative ideas

The Institution's Innovation Council, Goel Institute of Technology and Management organized the Idea Generation Competition titled "Idea Spark-2022" on 17th September and 19th September 2022 in offline mode. Seventeen teams screened from the first round of this competition were held on 15th September 2022 on the celebration of Engineers Day. These 17 teams presented their ideas and thoughts to present their innovative product/service/process ideas for showcasing their entrepreneurial skills. The presentations covered all the aspects like total market, revenue model, scalability and value proposition with unique concepts. The top three ideas were selected after rigorous evaluation by jury members. The winners got the certificate of appreciation with support for further development by IIC-GITM. The event provided an opportunity for budding entrepreneurs to develop business ideas that could bring a substantial change in the existing market and address some of the issues of societal relevance.





## 5. MICROSOFT. Tech Saksham Program.

On the occasion of Engineers day, we are pleased to inform you that we have been now associated with Edunet Foundation for SAP & MICROSOFT. Tech Saksham Program.

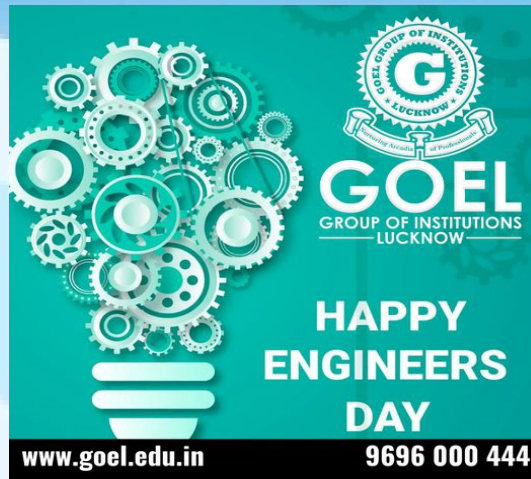
In this regard an orientation program organised by the company for our Btech students on 15 September 2022. The participation of the students were large in numbers and the session was being conducted by their technical trainer Ms Rashmi Mishra.



## 6. Engineering day

Warm greetings on Engineer's Day to you for putting your heart and soul into your profession, for creating such unique innovations and for surprising us every day.





## 7. Campus Recruitment Drive of CEDCOSS held on 6 September 2022 at our college GITM for BTech & BCA students





# Brain Teaser

# QUIZ ON CYBER SECURITY

- Q.1 What does cyber security protect ?
- Q.2 Who is father of computer Security?
- Q.3 Which of the following is type of cyber security?
- Q4. Which of the following is not a cybercrime?
- Q5. Which of the following is component of cyber security?
- Q6. "Cyberspace" was coined by\_\_\_\_\_
- Q7. In which year has hacking become a particular crime a matter of concern in the field of cyber technology ?
- Q.8 Which of the following act violates cyber security?
- Q.9 Which of the following is not type of peer-to-peer cybercrime ?
- Q.10 IT Security is any firm or organization is maintained and handled by

## Answer

- Ans-1. Cyber security protect criminals.
- Ans-2. August Kerckhoff's
- Ans-3. Cloud Security
- Ans-4. AES
- Ans-5. Internet of things
- Ans-6. William Gibson
- Ans-7. 1970
- Ans -8. Attack
- Ans-9. Credit card details leaks in the deep web
- Ans-10. IT Security Engineer



# Placements

# CS PLACEMENT 2022

Student Name	Gender	Status	Company	Designation
Adarsh Kumar Singh	M	Placed	Chetu	Software Engineer Trainee
Adarsh Kumar Singh	M	Placed	HCL	Graduate Engineer Trainee
Aditya Saptarshi	M	Placed	KPIT Technologies	Software Engineer Trainee
Aditya Saptarshi	M	Placed	Mentor Infotech Solutions	Software Developer
Aditya Saptarshi	M	Placed	Square Yard	Management Trainee
Aman Verma	M	Placed	KPIT Technologies	Software Engineer Trainee
Anjani Kumar	M	Self Placed	Dotsquares	Software Engineer
Ankush kumar verma	M	Placed	Svayam Infoware Pvt Ltd.	Software Engineer
Ankush kumar verma	M	Placed	Takyon Networks Pvt. Ltd	Network Engineer
Anshuman Singh	M	Placed	Mentor Infotech Solutions	Software Developer
Aryan Somvanshi	M	Placed	Infosys	System Engineer
Aryan Somvanshi	M	Placed	Wipro	Project Engineer
Ashish Chauhan	M	Placed	Chetu	Software Engineer Trainee
Asiya Sayed	F	Placed	Infosys	System Engineer
Asiya Sayed	F	Self Placed	MindTree	Software Trainee
Asiya Sayed	F	Placed	TCS	Assistant Software Engineer Trainee
Atendra Verma	M	Placed	Chetu	Software Engineer Trainee
Atendra Verma	M	Placed	IGT Solutions	Java Trainee
Atendra Verma	M	Placed	Svayam Infoware Pvt Ltd.	Software Engineer
Atendra Verma	M	Placed	TCS	Assistant Software Engineer Trainee
Atendra Verma	M	Placed	Wipro	Project Engineer
Ayush tripathi	M	Placed	Chetu	Software Engineer Trainee
Ayush tripathi	M	Placed	DXC Technology	Sr Assistant Application Developer
Deepak Kumar	M	Placed	HCL	Assistant
Divesh Pal	M	Placed	Chetu	Software Engineer Trainee
Jitendra K Yadav	M	Placed	Chetu	Software Engineer Trainee
Mohammad kashif	M	Placed	Chetu	Software Engineer Trainee
Mohammad kashif	M	Placed	Infosys	System Engineer
Mohd Kaish Ali	M	Placed	Chetu	Software Engineer Trainee
Mohd Kaish Ali	M	Placed	Square Yard	Software Trainee
Namisha Bahadur	F	Placed	AttainU	Admission Specialist
Namisha Bahadur	F	Placed	HCL	Assistant
Nikhil Nigam	M	Placed	Chetu	Software Engineer Trainee
Nikhil Nigam	M	Placed	DXC Technology	Sr Assistant Application Developer

Nikhil Nigam	M	Placed	Wipro	Project Engineer
Nilakshi Sahu	F	Placed	Capgemini	Assistant Software Engineer
Poonam Maurya	F	Placed	Cedcross Technologies Pvt Ltd	Software Engineer
Prince Tiwari	M	Placed	Takyon Networks Pvt. Ltd	Network Engineer
Priti	F	Placed	Square Yard	Software Trainee
Priyanka Dixit	F	Placed	Taaza	Associate Software Engineer
Puneet Kumar Pandey	M	Placed	Chetu	Software Engineer Trainee
Puneet Kumar Pandey	M	Placed	Infosys	System Engineer
Puneet Kumar Pandey	M	Placed	TCS	Assistant Software Engineer Trainee
Puneet Kumar Pandey	M	Placed	Wipro	Project Engineer
Rishabh Singh	M	Placed	BirlaSoft	Trainee Engineer
Rishabh Singh	M	Placed	Chetu	Software Engineer Trainee
Rishabh Singh	M	Placed	Cloud Analogy	Salesforce Developer
Rishabh Singh	M	Placed	Infosys	System Engineer
Rishabh Singh	M	Placed	Sopra Steria	Trainee Engineer
Rohit kumar	M	Placed	Chetu	Software Engineer Trainee
Rohit yadav	M	Placed	Square Yard	Software Trainee
Samarjeet Singh Gautam	M	Self Placed	Infinisea Software Private Limited	Full Stack Developer
Samarjeet Singh Gautam	M	Placed	Svayam Infoware Pvt Ltd.	Software Engineer
Sangam pandey	M	Placed	Chetu	Software Engineer Trainee
Sangam pandey	M	Placed	DXC Technology	Sr Assistant Application Developer
Sangam pandey	M	Placed	IGT Solutions	Java Trainee
Sangam pandey	M	Placed	Wipro	Project Engineer
Shashank Agrahari	M	Placed	Chetu	Software Engineer Trainee
Shashank Agrahari	M	Placed	Mentor Infotech Solutions	Software Developer
Shashank Agrahari	M	Placed	Wipro	Project Engineer
Shiv Pratap Pandey	M	Placed	Mentor Infotech Solutions	Software Developer
Sumit Sachan	M	Placed	Mentor Infotech Solutions	Software Developer
Suraj Vishwakarma	M	Placed	Chetu	Software Engineer Trainee
Vikas Yadav	M	Placed	Chetu	Software Engineer Trainee
Vikas Yadav	M	Placed	Infosys	System Engineer
Vikas Yadav	M	Placed	TCS	Assistant Software Engineer Trainee
Vinita Rawat	F	Placed	Cedcross Technologies Pvt Ltd	Software Engineer



Approved by AICTE, New Delhi  
& Affiliated to Dr. A.P.J Abdul Kalam  
Technical University, Lucknow

Thank  
You

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