तमसो मा ज्योतिर्गमय
GITS
Darkness to Light

GEETANJALI INSTITUTE OF TECHNICAL STUDIES

NBA
NATIONAL BOARD of ACCREDITATION

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT

E-NEWSLETTER

BITS AND BYTES

Volume V, Issue II

JULY - DECEMBER 2021

"The present is theirs; the future, for which I really worked, is mine."

— Nikola Tesla

Vision of CSE Department

To nurture the students to become employable graduates who can provide solutions to the societal issues through ICT.

Mission of CSE Department

To focus on practical approach towards learning and exposing the students on the latest ICT technologies.
To foster logical thinking among the students to solve real-time problems using innovative approaches.
To provide state-of-the-art resources that contributes to inculcate ethical & life-long learning environment.

PSOs of CSE Department

PSO1: Professional Skills: The ability to understand, analyse and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.
PSO2: Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3: Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

PEOs of CSE Department

PEO1: To enable the students to think out-of-the-box solutions for addressing societal issues through ICT.
PEO2: To impart skills in students to analyze, design and implement Software/Hardware solutions to solve interdisciplinary and complex problems.
PEO3: To expose the students towards effective dissemination of research findings in order to become successful entrepreneurs or to pursue higher education.

About CSE Department

The Department of Computer Science and Engineering educates and conducts research covering wide areas of information science, from fundamental technologies such as software design, object-oriented programming, computer architecture, database system, discrete mathematics, and Internet technologies, which support infrastructures of the highly information-oriented society, to applied and advanced technologies including multimedia, robotics, computer vision, data mining, human-machine interface design, bioinformatics, computational science, life science, distributed computing, and theoretical computer science.

To achieve our mission, we provide attractive educational programs for students to learn from the basics to advanced technologies related to computer science and engineering.

Through our educational programs students are expected to become leading engineers and researchers who are highly motivated and have practical, creative, and management skills to drive an advanced next-generation information society in all industrial fields.

DIRECTOR'S DESK

Dr.Vikas Misra
Director, Geetanjali Institute Of Technical Studies, Udaipur

Geetanjali Institute of Technical Studies, Udaipur is pledged to its mission of administering an engineering and technology education affordable for every student and at par with the finest. Contemporary infrastructure, dedicated faculty, and best academic practices make this green campus ideal for academic pursuit. What sets us apart is not only our strong thrust on fundamental knowledge, innovative student projects, faculty research, smart classrooms, internships, focus on communication skills, campus, and off-campus placements, but also our emphasis on sensitivity to societal and national growth, ability to solve ethically complex problems and future-readiness. These combined factors make our graduates successful and respected when they begin their careers.

> "Life isn't about finding yourself but about creating yourself."
>
> -Dr.Vikas Mishra

I feel immensely proud and gracious that the Computer Science and Engineering department is releasing the 6th edition of 'BITS & BYTES' as a forerunner of department activities.
The Institute is well positioned to create a conducive atmosphere for the development of the young brains into bright professionals of the future. We believe not only in education but in personality development also so that our students are globally employable. Throughout the year, the Institute vibrates with activities----competitions, group discussions, quizzes, brain storming academic sessions, cultural and literary activities, guest lectures, sports activities, Seminars/Conferences/Workshops and social activities. Also, the alumni of the institute, in India and abroad, who got trained in our Institute or graduated from our Institute, have brought laurels to the Institute. At GITS, we are highly committed to providing high-quality education that applies to the needs and aspirations of all students and responsive to community expectations. I again warmly invite you to become a member of GITS fraternity and let your hidden potential be unleashed in the premier Institute of learning.

DIRECTOR'S DESK (IQAC)

Dr.Sudhakar Jindal
Director(IQAC), Geetanjali Institute Of Technical Studies, Udaipur

The very motto of our department is to develop and enhance the performance and administration of the institution that excites and motivates the students for effective learning. Learning isn't an effortless process though undergoing this would help them set their goal despite any difficulties encountered while achieving that goal. It deals with what you learn, how you master, where you get it, and willingness is the dominant factor for its accomplishment..

It is our pleasure to be a part of this process by stimulating curiosity within young minds and cultivating the values alongside academics to be sound and heard in the social and professional world.The excellent infrastructure, teaching faculty of the best kind ensuring quality education such as interaction among students, parents, and staff, along with a Training and Placement Cell ensures a bright future for our students.

I wish every success to the students in the accomplishment of their goals.

It is indeed a matter of pride that the Computer Science and Engineering Department is bringing out the 6th Edition of "BITS & BYTES", flaunting the academic excellence and artistic talent of our students.

In this pursuit of excellence, I heartily admire the parents and guardians for their constant support, which is indeed helping students to excel. Thus we are confident that our Engineers will emerge as assets not only to this institution and to the organization they belong, but also to the country at large

HOD'S DESK

Dr.Mayank Patel
HOD,Department of Computer Science Engineering

I feel proud to welcome you to the Computer Science and Engineering department of Geetanjali Institute and Technical Studies. Our Department comprises a common curriculum for all programs with major subjects which have been included to cultivate a strong base of engineering so as to kindle interest in the budding minds of the GITS students. Our dedicated and highly qualified faculties ably prepare the first year engineering students to reinforce their technical building blocks on which they can build word is missing during the subsequent years of the engineering course.

Today is the opportunity to build the tomorrow you want.

Beside the traditional classroom pedagogy method, novel learning practices like the NPTEL Lecture series, Virtual Laboratory Practices, seminars, and quizzes are employed to facilitate effective learning. This enables us to go over the course objectives with stipulated program objectives for each and every student. It also helps the students to grasp the basics of engineering methodology. This adds a dimension of personalization to the entire knowledge-acquisition process. Remedial classes which are carried out after regular college hours help the academically slower learners to catch up with difficult topics and turn their weaknesses to strengths. We also conduct sessions for good performers to improve their grades further and give them a motivational boost.

Objectives of Department

- Develop strong foundation to apply scientific knowledge to solve problems in all programs of engineering.
- Provide conductive environment for interdisciplinary research.
- Motivate students to work collaboratively on modern technology
- Enhance the moral and ethical values amongst GITS students.

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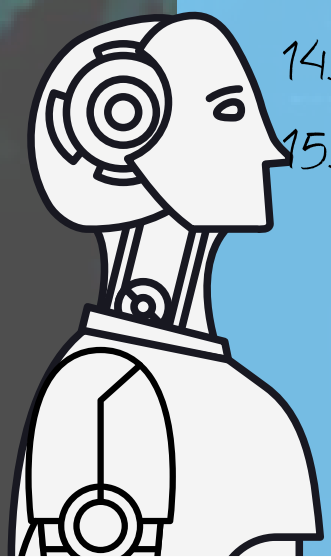

Induction Program

Induction Program for 3rd and 2nd Year Students

An Induction Program for the second and third year was conducted on 13th September 2021 and 14th October 2021 from 9:30 AM to 11:00 AM respectively welcome students to the Computer Science & Engineering Department. Earlier second-year students were part of the Basic Science Department, thus giving them a brief overview of the department, this program was conducted.

The program started as Head of Department Dr. Mayank Patel welcomed all students in the department.

Moving ahead, he discussed Courses, CO's and how the system is schemed to make it more student-centric with the overall development of students.

Sir also informed students about assignments and other assessments that will be carried offline or on platforms like Gate tutor and google classrooms.

Apart from academic activities, extracurricular activities for the overall development of students which are being planned and executed by student clubs were also discussed. These activities involve both technical as well as non-technical events.

Sir informed students about NPTEL courses which can give them extra knowledge and help them earn additional credit points that are mandatory to acquire your degree with honors.

To improve their coding skills, sir suggested a few online platforms like Codechef, HackerRank, and other resources.

Taking the event ahead, sir showed them pathways for future careers which can lead them to become successful employable graduates or even become entrepreneurs as per their passion. Sir explained to achieve their goals, how important it is to get good training and internships so that they can get corporate exposure and also a platform to implement their learning. Sir encouraged students to look for a good internship to get a good opportunity for placements. Sir informed the plans that the department and institute are mapping to prepare students for the placements. These steps involved aptitude and reasoning classes, soft skill classes, technical training, group discussions, and mock personal interviews to brush up students for final placements.

Sir introduced advisors to students for third year section A Mr. Vishal Jain will be their advisor, and for third year Section B Ms. Ruchi Vyas will be their advisor, and for second year section A Mrs. Monica Bhatt will be their advisor, and for second year Section B Mr. Bhupendra Teli will be their advisor. Every activity from attendance to assignments to marks will be monitored by advisors and subject faculties.

Winding up the event, sir interacted with students and asked if they were willing to discuss any point or were facing any issue. No issues from students were raised.

Thus, the induction event was successfully conducted.


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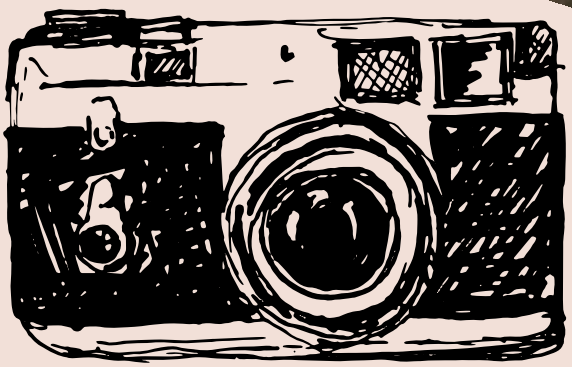


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Geetanjali Institute of Technical Studies (GITS), Rajasthan 313022,
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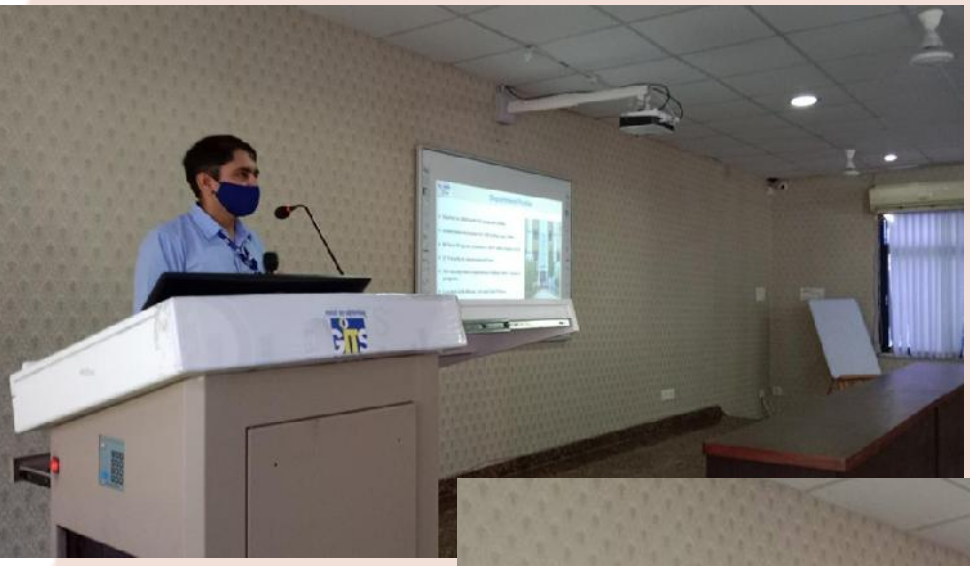
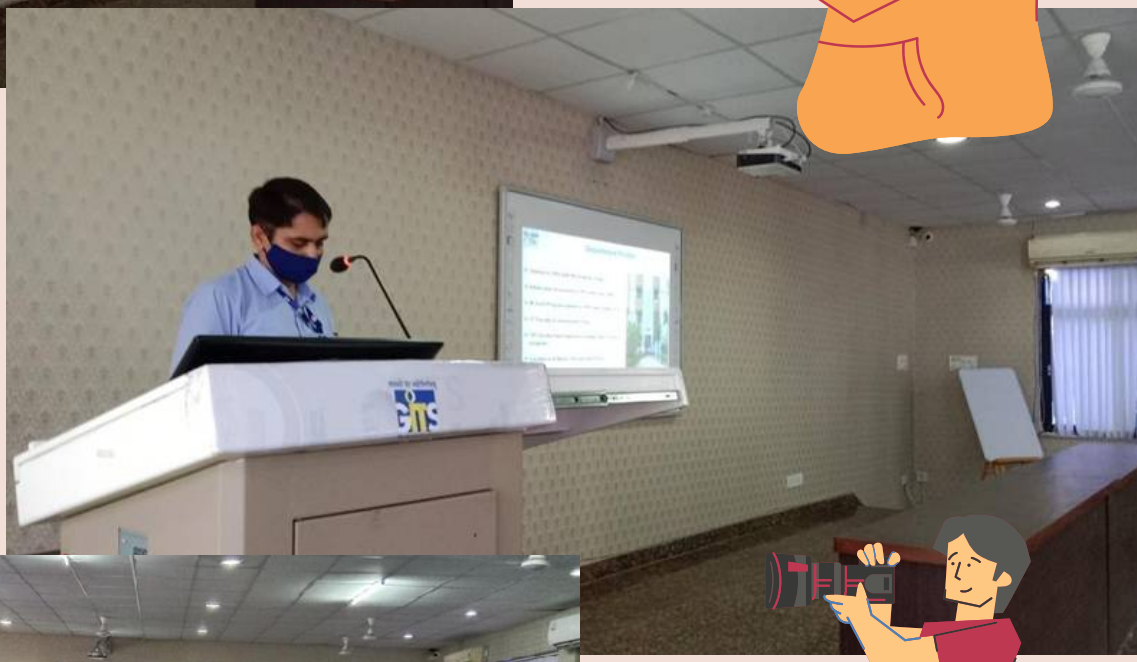
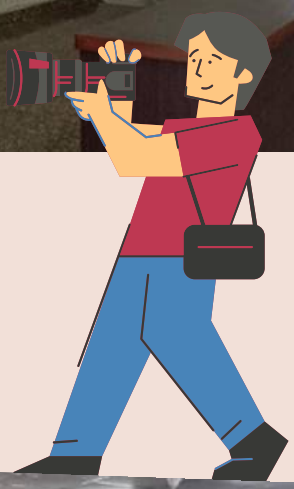






Seminars/Webinars

Getting Started with Corporate Career in IT Post your Graduation

Student club and Department of Computer Science and Engineering conducted an Online Webinar on Getting Started With Corporate Career In IT Post Your Graduation on 4th September 2021(11:30 AM - 12:30 PM). A total of 123 students attended this session. This session was supervised by Ms. Shipra Sharma (Assistant Professor,CSE), Event Coordinator, and there were two resource persons, and they are-

1. Mr. Mohit Roshan Srivastava (10 years work experience)

- Strategy and Operations Consultant
- Strategy formulation and execution specialist
- Topic: Methods and Tools you should know for starting Corporate journey
- MBA - IIM Bangalore

2. Mr. Chirag Soni (9 years work experience)

- Management Consultant
- Analytics and Machine Learning Specialist
- Topic: Developing a Corporate Mindset to excel in your first job
- MBA - IIM Bangalore

Objective:

This webinar intended to make students understand how to venture into the corporate world post their graduation, how to prepare for it, what tools and techniques could be beneficial to develop a corporate mindset, and how to excel in their first jobs

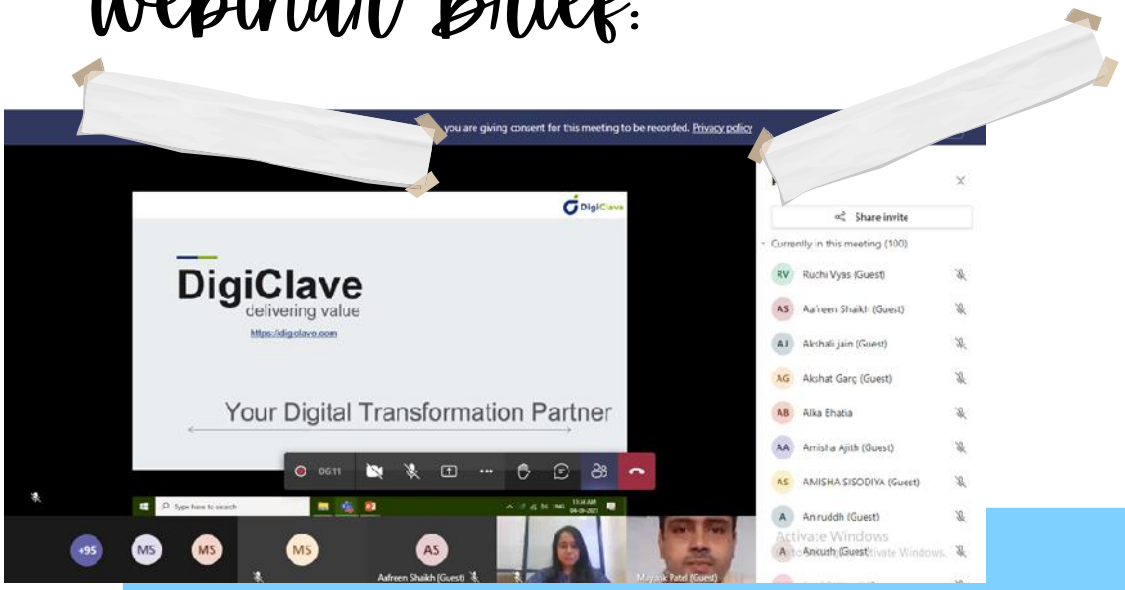
Inaugural Session:

In the inaugural session following were present.

1. Dr.Mayank Patel, HoD CSE, GITS
2. Ms. Shipra Sharma, Assistant Professor,CSE
3. Mr. Mohit Roshan Srivastava
4. Mr. Chirag Soni
5. Guests

The program was inaugurated by Ms. Shipra Sharma, Asst. Professor by welcoming all the cherished dignitaries and participants. In the welcome speech, Dr. Mayank Patel, HOD(CSE), welcomed our eminent speakers, Mr. Mohit Roshan Srivastava and Mr. Chirag Soni, and briefed the students in knowing how important it is to have an understanding of the corporate world and culture.

webinar Brief:



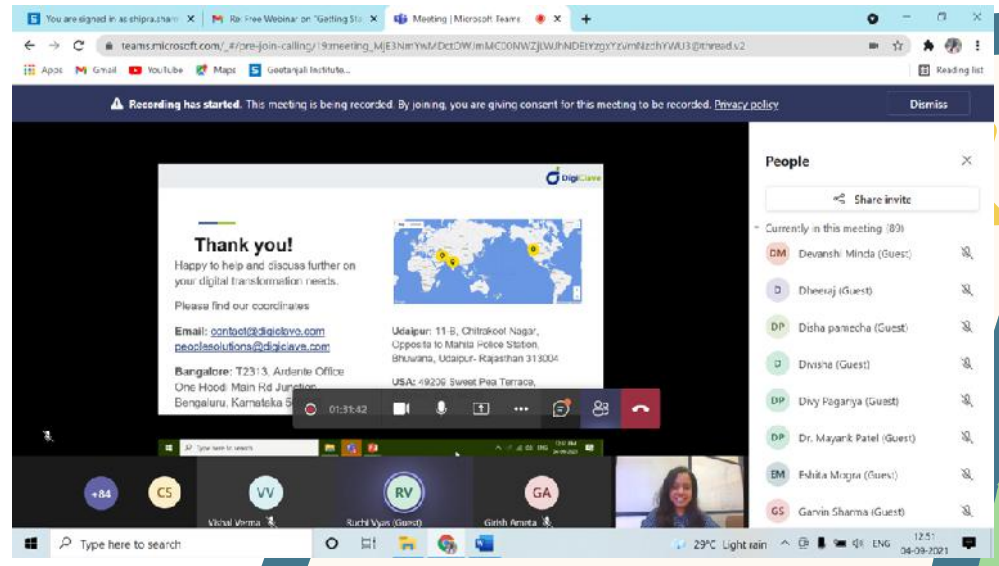
The webinar was initiated by Mr. Mohit Roshan Srivastava. He started his seminar by asking," What is the corporate mindset?". After receiving few responses from guests, the speaker expressed his views on the corporate mindset. He discussed necessary points to keep in mind while preparing for corporate life. A few of his key points were

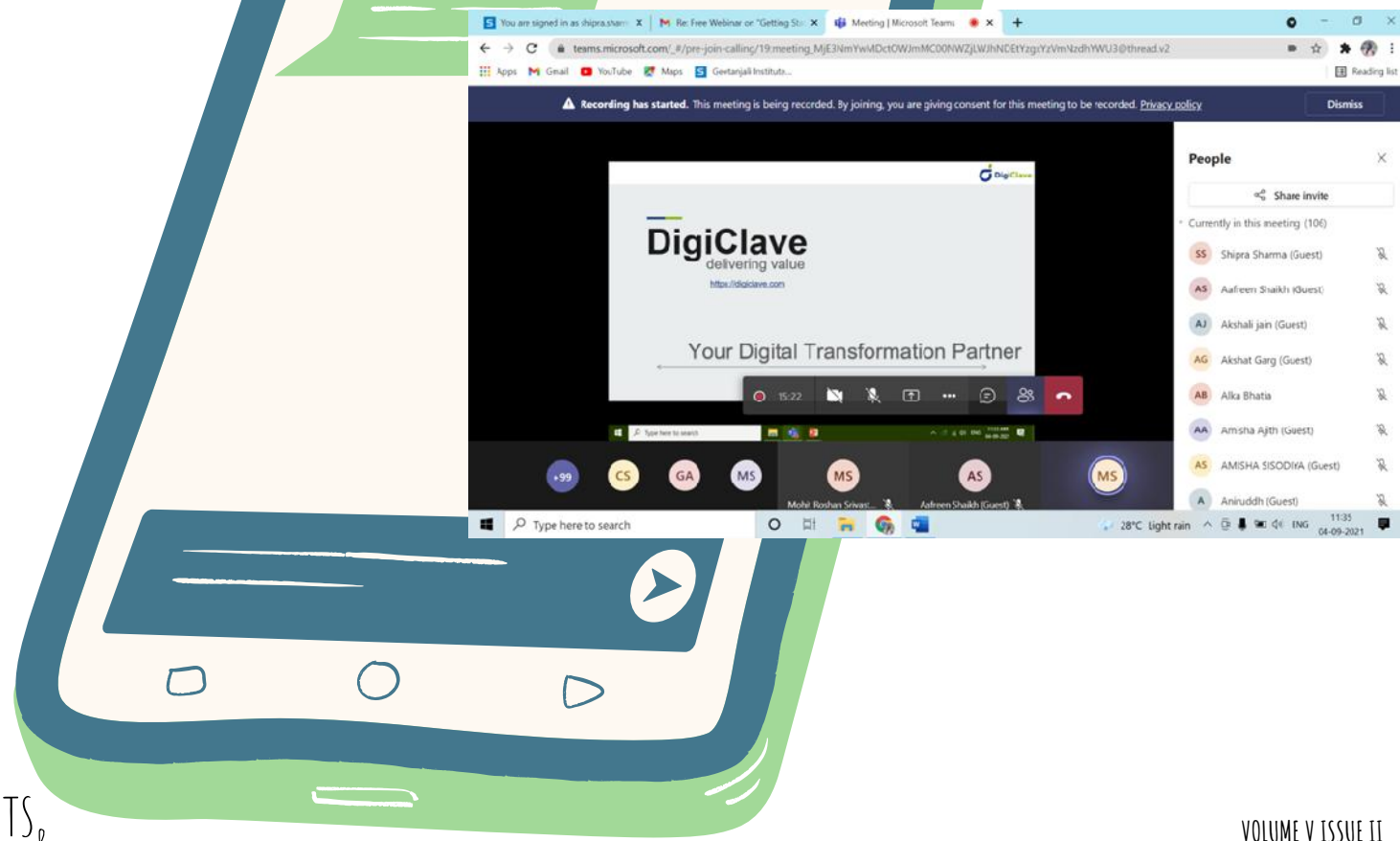
- You can still manage and grow in your career
- Most dangerous position to be in
- Most desirable place
- You need to change your thought process soon

Taking the session ahead, Mr. Chirag Soni started with his expert talk. He progressed by discussing his career paths and his decisions in the corporate world which gave our guests a brief overview of the career path. From his life lessons, he pointed out five key points that every aspiring candidate must evolve for a long and successful career. The points were as follows

- Become problem solver
- Be agile
- Develop fundamental skills/ first principle skills
- Develop expertise on one + Learn about others
- Learn how to tell stories with data

He ended his talk with a motivational saying by Walt Disney. He quoted, "The Way To Get Started Is To Quit Talking And Begin Doing." With this expression, he motivated guests and wished them great success ahead.





Outcome:

After this lecture, the audience will be able to understand corporate life. They will get an insight into how things work there and how to choose the correct career path. He also discussed the requirements to prepare for a successful career in the corporate world.

Trends and Language Structure using Fuzzy Similarity

Department of Computer Science and Engineering, GITS, Udaipur, conducted a two-day seminar on Trends and Language Structure using Fuzzy Similarity in an Offline mode on 3rd - 4th December 2021. In this seminar, around 60 students willingly participated. This was conducted under one resource person, Dr. Narendra S. Chaudhari, IIT Indore.

OBJECTIVE

The two-day seminar aims to introduce the fundamentals of recent techniques. However, the seminar focused on knowledge and its real-time application. Overall, this seminar served as a fruitful platform for students and researchers. The two-day event provided a close summary of some topics such as Language structure, Grammars, Fuzzy Logic, etc.


GEETANJALI
INSTITUTE OF TECHNICAL STUDIES, UDAIPUR
Department of Computer Science & Engineering
A TWO DAY NATIONAL SEMINAR ON
Information Technology and Computer Science & Engineering: Trends and Language Structure Using Fuzzy Similarity
03-04
DECEMBER 2021
10:00 AM
TO
04:00 PM
Venue: CSE Seminar Hall
DR. NARENDRA S. CHAUDHARI
Professor, Computer Science and Engineering
Indian Institute of Technology, Indore
www.gits.ac.in

Schedule:

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, UDAIPUR
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SEMINAR ON TRENDS AND LANGUAGE STRUCTURE USING FUZZY SIMILARITY
03-04 DECEMBER, 2021

DATE	TOPIC
3/12/2021	Trends in CS/IT
3/12/2021	Language Structure using Fuzzy Similarity

Inaugural Session:

The inaugural session of the seminar started on 3rd December 2021 in morning 9:30 A.M. and in this inaugural function following were present-

1. Dr. Vikas Misra, Director, GITS
2. Dr. Narendra S. Chaudhari, IIT Indore (Resource person)
3. Dr. Mayank Patel, HOD CSE, GITS
4. All the faculties of CSE Department and participants.

The program was inaugurated by Ms. Sheetal Sharma by welcoming all the cherished dignitaries and participants. In the welcome speech Prof. (Dr.) Vikas Misra, Director (GITS), shared his views with the participants that how seminars boost up the knowledge of participants and also enhance their technical skills.

Ms. Ruchi vyas, (Assistant Professor), GITS, welcomed our eminent speaker, Dr. Narendra S. Chaudhari, and briefed the importance of Trends & Technology in CS/IT and how this technology will change the world in terms of technology and work culture.

DAY 1

On the first day of the Seminar, the emerging areas especially seeking the attention of many researchers in the field of Computer Science are designed and developed according to the latest market trends. Nowadays, trends in information technologies are directly or indirectly associated with the customer-centric approach. Here is helping medical science a lot. This field has a tremendous and promising scope of research and development considering the vast volume of data built by organizations and individuals in different sectors worldwide.

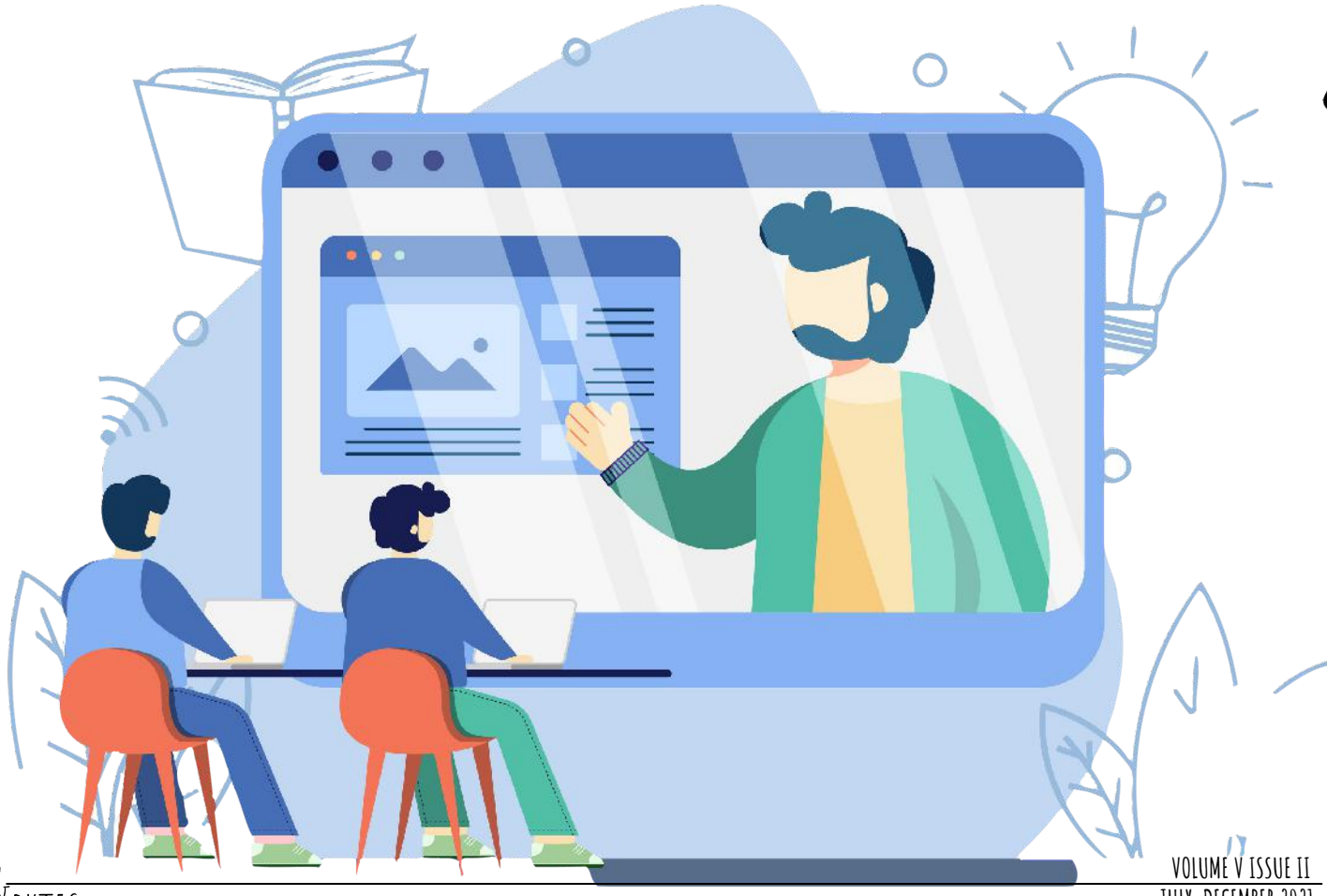
The existence of the newest trend of Virtual Reality can't be neglected. The extensive stakeholders of VR applications are medical science, physical sciences, environment, businesses, space industry, and entertainment industry. VR produces the data-sets that are employed to develop new models, training methods, communications, and interaction. The main disadvantages in the use of VR applications are time, cost, and technological limitations. But because of its support system, it is expected to become more affordable in the future. Today's generation is grown up having technology at their disposal.

DAY 2

Learning of (context-free) grammar rules that were based on alignment between texts of a given collection of sentences has attracted the attention of many researchers. We defined and studied the alignment profile and formulated Fuzzy similarity of alignment profiles for a given group of sentences. Using the Fuzzy similarity-based profile alignment, we gave a methodology to draw up stochastic context-free grammar (CFG) rules. We introduced a profile-alignment-based dynamic sentence similarity threshold to formulate the ruling of stochastic CFG. The benefits of our approach were experimentally demonstrated. Since our method did not make use of any domain knowledge, was expected to be beneficial in a broad spectrum of applications requiring model construction.

Outcome:

This Seminar enabled the audience to know about recent trends in CS/IT and language structure using fuzzy similarity and what are the future aspects of the same?



News: Dated 16/12/2021

गिट्स में आईआईटी प्रोफेसर का दो दिवसीय व्याख्यान

उदयपुर | गीतांजली इंस्टीट्यूट ऑफ टेक्निकल स्टडीज (गिट्स) में करंट ट्रेंड इन कम्प्यूटर इंजीनियरिंग एण्ड लेंग्वेज स्ट्रक्चर यूजिंग फजी सिमलरटी पर आईआईटी के प्रोफेसर का दो दिवसीय व्याख्यान हुआ। निदेशक डॉ. विकास मिश्र ने बताया कि आज के तकनीकी के युग में ऐसा कोई भी क्षेत्र नहीं बचा हैं जिसमें कम्प्यूटर दखल ना हो। आईआईटी इन्दौर के प्रोफेसर नरेन्द्र एस चौधरी ने अपने व्याख्यान में फजी लॉजिक एवं मेडिकल साइंस का कम्प्यूटर इंजीनियरिंग में उपयोग बिग डाटा के बढ़ते अनुप्रयोग तथा वर्चुअल रियलिटी के योगदान से छात्रों और अध्यापकों को अवगत कराया।

गिट्स में दो दिन का व्याख्यान हुआ

उदयपुर, (निसं)। गीतांजली इंस्टिट्यूट ऑफ टेक्निकल स्टडीज डबोक उदयपुर (गिट्स) में कम्प्यूटर साईंस इन्जिनियरिंग के तत्वाधान में "करन्ट ट्रेड इन कम्प्यूटर इन्जिनियरिंग एण्ड लेंग्वेज स्ट्रक्चर यूजिंग फजी सिमलरटा" पर आई.आई.टी. के प्रोफेसर द्वारा दो दिन का व्याख्यान हुआ।

संस्थान के निदेशक डॉ. विकास मिश्र ने बताया कि आज के तकनीकी के इस युग में ऐसा कोई भी क्षेत्र नहीं बचा हैं जिसमें कम्प्यूटर दखल ना हो। बिना कम्प्यूटर आधारित मशीनों के आधुनिक जीवन की परिकल्पना नहीं की जा सकती हैं। इसी सॉफ्टवेयर्स के ज्ञान को बढावा देने के लिए 2 दिन का सॉफ्टवेयर सम्बन्धित व्याख्यान आई.आई.टी. इन्दौर के प्रोफेसर नरेन्द्र एस चौधरी के सानिध्य में किया गया। धन्यवाद ज्ञापन विभागाध्यक्ष डॉ. मयंक पटेल तथा कार्यक्रम का संचालन असिस्टेंट प्रोफेसर रूचि व्यास ने किया गया।

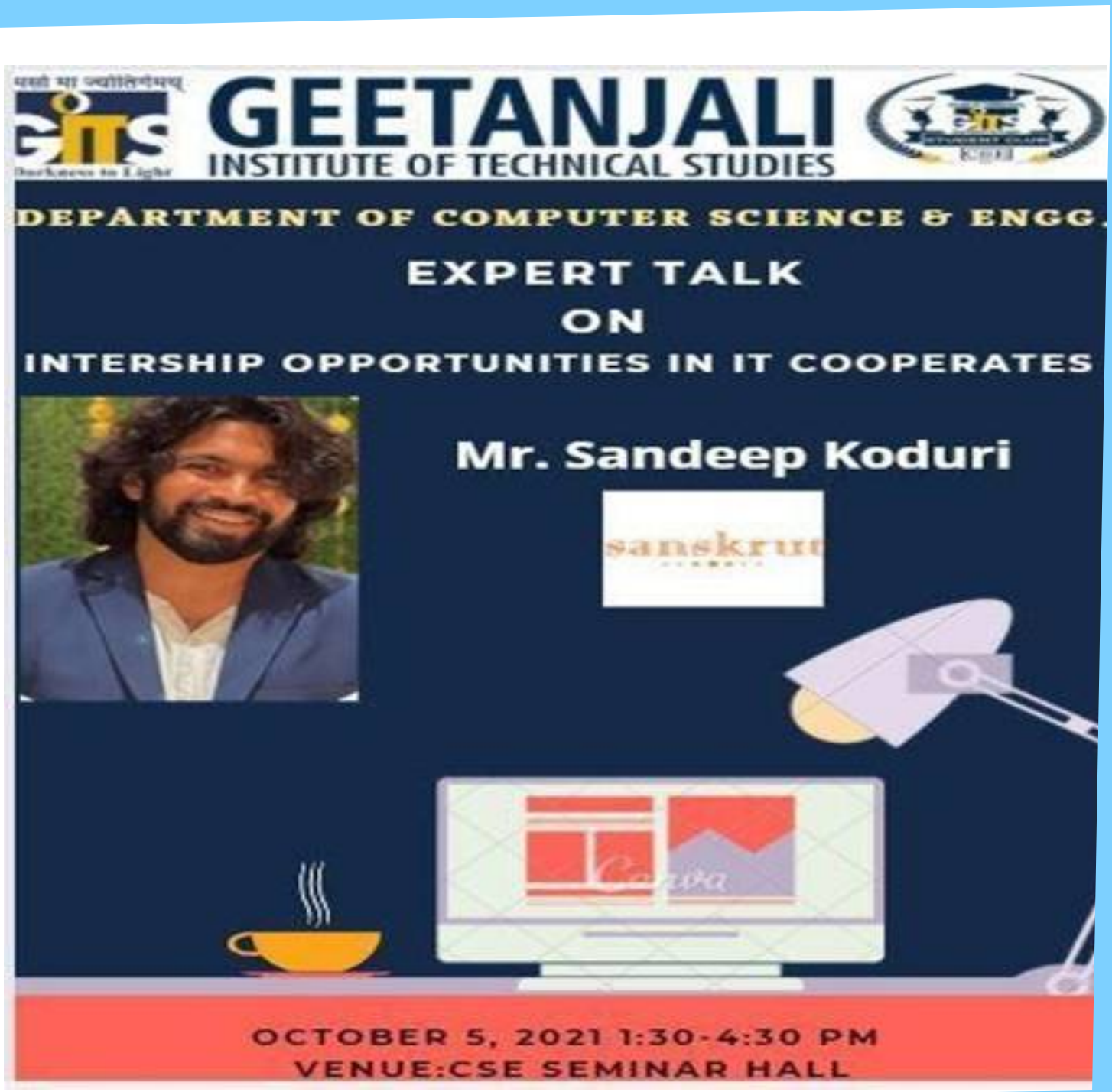
गिट्स में आईआईटी प्रोफेसर का दो दिवसीय व्याख्यान

उदयपुर | गीतांजली इंस्टीट्यूट ऑफ टेक्निकल स्टडीज (गिट्स) में करंट ट्रेंड इन कम्प्यूटर इंजीनियरिंग एण्ड लेंग्वेज स्ट्रक्चर यूजिंग फजी सिमलरटी पर आईआईटी के प्रोफेसर का दो दिवसीय व्याख्यान हुआ। निदेशक डॉ. विकास मिश्र ने बताया कि आज के तकनीकी के युग में ऐसा कोई भी क्षेत्र नहीं बचा हैं जिसमें कम्प्यूटर दखल ना हो। आईआईटी इन्दौर के प्रोफेसर नरेन्द्र एस चौधरी ने अपने व्याख्यान में फजी लॉजिक एवं मेडिकल साइंस का कम्प्यूटर इंजीनियरिंग में उपयोग बिग डाटा के बढ़ते अनुप्रयोग तथा वर्चुअल रियलिटी के योगदान से छात्रों और अध्यापकों को अवगत कराया।

Internship Opportunities in IT Corporates

CSE student club and Department of Computer Science and Engineering conducted a seminar in an offline mode on Internship Opportunities in IT Corporates on 5th October 2021(02:00 PM-4:30 PM). In this, approximately 80 students willingly participated. This event was organized under two resource persons, Mr. Sandeep Koduri and Ms. Punita Ojha, under the supervision of Event Coordinators, Ms.Ruchi Vyas & Mr.Vishal Jain (Assistant Professor, CSE).

Objective:This Seminar was directed to aware students of the various upcoming scenarios regarding Internship Opportunities in IT Corporates and also to enhance the capabilities of the students to make them more informed about the policies, procedures, and compliances.


GEETANJALI
INSTITUTE OF TECHNICAL STUDIES
DEPARTMENT OF COMPUTER SCIENCE & ENGG.
EXPERT TALK
ON
INTERSHIP OPPORTUNITIES IN IT COOPERATES
Mr. Sandeep Koduri
OCTOBER 5, 2021 1:30-4:30 PM
VENUE:CSE SEMINAR HALL

Inaugural Session:

In the inaugural session following were present-

1. Dr. Mayank Patel, HOD (CSE), GITS
2. Ms. Ruchi Vyas , Faculty Coordinator, CSE Student Club
3. Mr. Vishal Jain , Faculty Coordinator
4. Mr. Sandeep Koduri, Guest
5. Ms Punita Ojha, Guest.

The program was inaugurated by Ms. Ruchi Vyas, Asst. Professor by welcoming all the cherished dignitaries and participants. In the welcome speech Prof.(Dr.) Mayank Patel, HOD (CSE), welcomed our eminent speaker, Mr. Sandeep Koduri, and Ms. Punita Ojha brief the importance of data structure and other technical skills required for the upliftment of their knowledge.

Seminar Brief:

The eminent speakers gave a seminar on various internship opportunities available in the IT sector and what type of knowledge is required to get those opportunities, how to prepare for them. They also briefed about technical skills required and how to upgrade themselves. After the seminar, an interview session was there, where Sankrut Corporation identified bright students and offered them internships.

Outcome:

After this lecture, the audience has improved their data structure skills and will be knowing various opportunities in the IT sector, and further some of the students were offered internship opportunities also in Sanskrut corporation through rigorous interview sessions.

Introduction to Data Structure & Algorithm

CSE student club and Department of Computer Science conducted an Online webinar on Introduction to Data structure and algorithm on 16 July, 2021 (2:00 P.M). Around 50 students attended the webinar, this webinar is coordinated by Mr. Bhupendra Kumar Teli. (Assistant Professor, CSE).

Resource Person : Mr. Prakhar Srivastava, Analyst, Deloitte
Exclusive Talk by: Manu Sharma, IT Engineer, ZOHO

This webinar is organised to make the students aware about the importance of data structure and algorithm in placements and to make students familiar with industry environment.

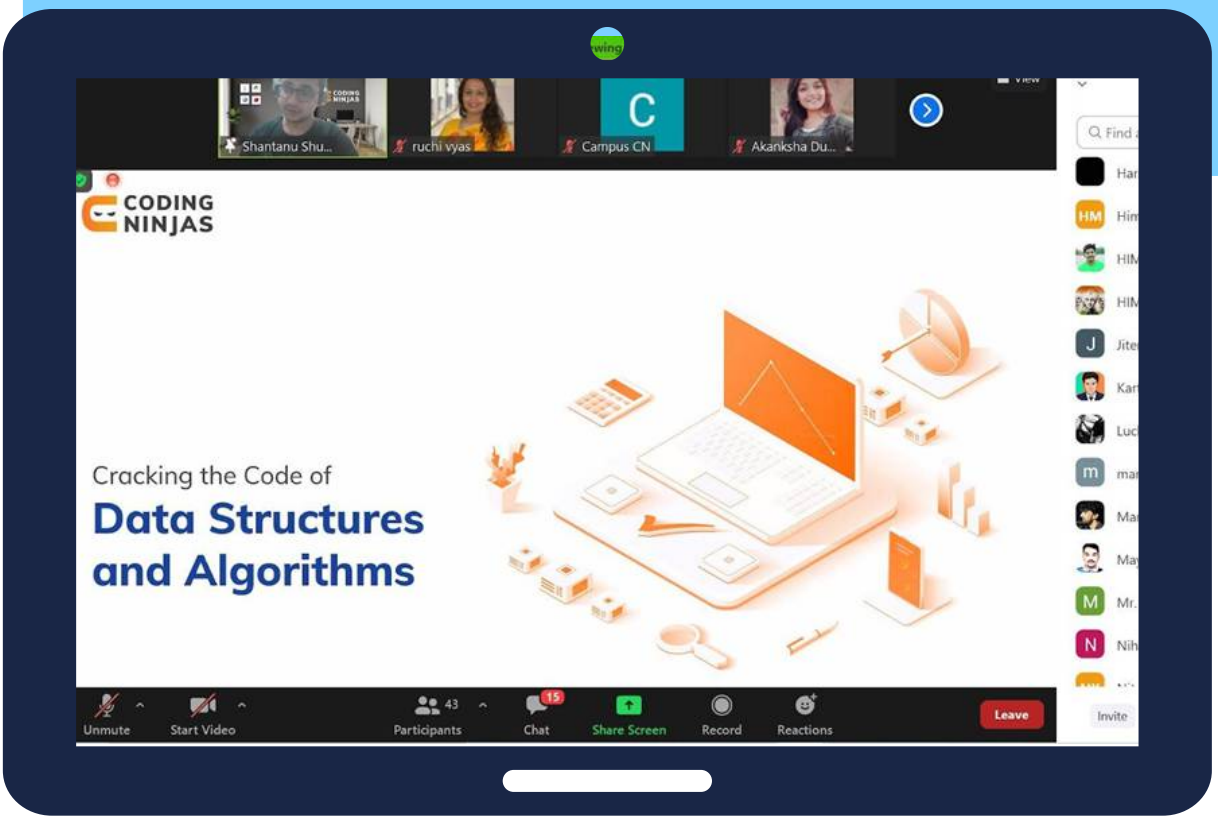

CODING NINJAS
WEBINAR on
Intro to
Programming with DS & Algo
IN ASSOCIATION WITH GITS UDAIPUR
16TH JULY | 2:00 PM
Prakhar Srivastava
Analyst Deloitte.
Exclusive Talk by
Manu Sharma
Member of Technical Staff
ZOHO

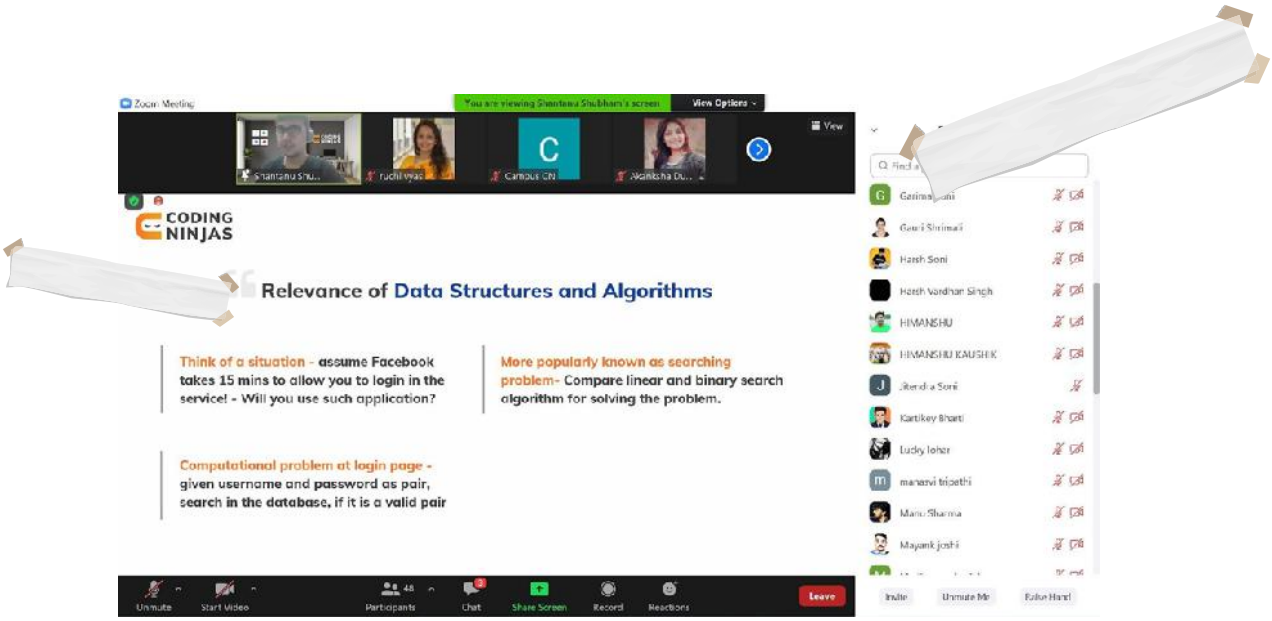
Inaugural Session:

In the inaugural session following were present.

1. Dr.Mayank Patel, HoD CSE, GITS
2. Mr. Bhupendra Kumar Teli, Event Coordinator, CSE
3. Ms.Ruchi Vyas, Faculty Coordinator, CSE Student Club
4. Mr. Prakhar Srivastava , Guest

The programme was inaugurated by Ms.Ruchi Vyas, Asst. Professor by welcoming all the cherished dignitaries and participants. In the welcome speech Prof.(Dr.) Mayank Patel, HoD CSE, (GITS) welcomed our eminent speaker Mr. Prakhar Srivastava and also shared his views with the participants that if they want to develop themselves, then attending such webinars would enhance their technical skills. .





In this webinar students acknowledged a complete knowledge of Data Structure; A data structure is a specialized format for organizing and storing data. General data structure types include the array, the file, the record, the table, the tree, and so on. Any data structure is designed to organize data to suit a specific purpose so that it can be accessed and worked with in appropriate ways. In computer programming, a data structure may be selected or designed to store data for the purpose of working on it with various algorithms.

The key points that were enclosed in the webinar were:

- Relevance of data structure & algorithms
- Time Complexity
- Optimal searching problems

Trainings

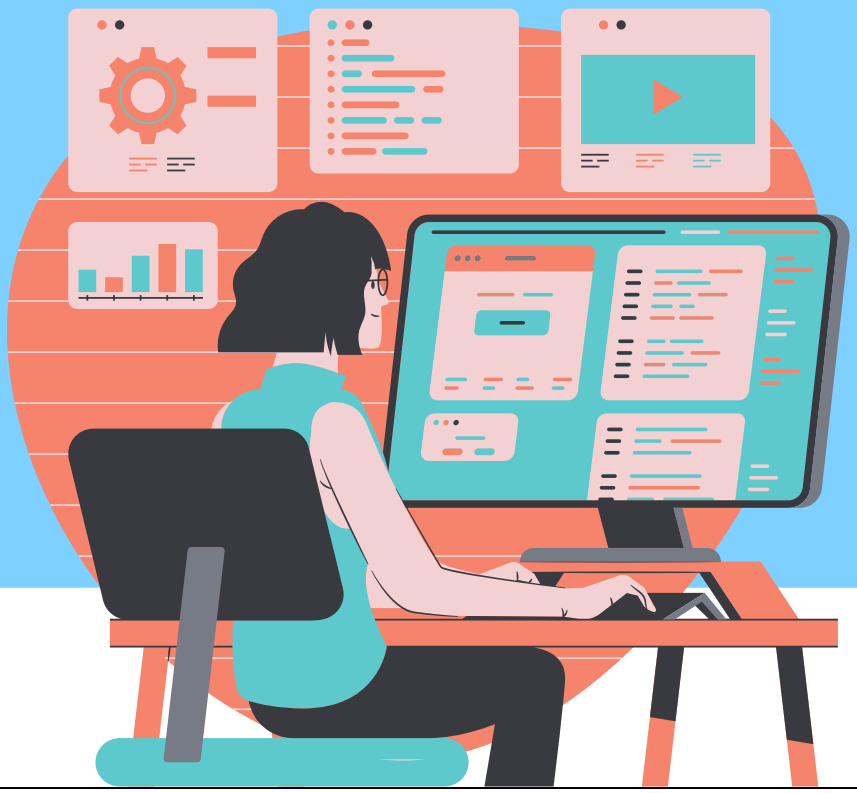
STTP On Competitive Programming

CSE Student club and Department of Computer Science and Engineering conducted training on STTP On Competitive Programming in an offline mode from 13th September 2021 to 28th September 2021, where approximately 110 students were present. This training was organized by the two resource persons, Ms. Jyoti Kaushal and Mr. Vishal Jain (CSE)

Training Brief

Overview

This training was planned to prepare students for technical competitions which are held at various placements and exams. This training was designed to revise students' concepts of basic C/C++ programming and give them hands-on practice to implement basic and advanced concepts of programming.

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GEETANJALI
INSTITUTE OF TECHNICAL STUDIES
STTP
On
Problem Solving &
Competitive
Programming
IDEA
13th - 27th
Sep,2021
Daily 9:00 AM to 4:00 PM
Organized By:
Department of Computer Science & Engineering

Prerequisites

Students should be familiar with the operating system (Linux, Unix, Windows, Solaris, macOS, etc.) on which they will be running C/C++. While not mandatory, basic skills with at least one other programming language are desirable.

Software Needed on Each Student PC

- Any Windows, Linux, or macOS operating system
- Turbo C/ Codeblocks / Dev CPP

Objectives

- Revise concepts of programming.
- Implement basic fundamentals and concepts practically.
- Logical thinking enhancement with respect to coding.
- Prepare for various placement drives and entrance exams.

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-1	Fundamentals of Programming Language	• Illustrate features, application, errors & structure of C program • Identify keywords, identifier, constant & Choose appropriate data type • Classification of operators, precedence & associativity • Use different Input/output statement, Escape sequences • Use type casting & write simple C programs
Day-2	Decision Making Statements	• Use of simple if, if else statement • Use of nested if else with programs • Use of if else ladder with programs • Switch statement & write programs based on choice.

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-3	Loop: While, Do-While, For Loop	• Discuss use of for, while, do while loop with syntax • Write while & do while loop programs • Compare while with Do While • distinguish break & continue
Day-4	Nested Loop	• Use of Loop inside loop • Write simple & complex loop programs for generating patterns.
Day-5	Function	• Define Function & Contrast the use of call by value & call by reference • Make programs based on modularizing approach • Recursive Function

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-6	Revision-Test & Assessment-I	• Test based on the topics covered
Day-7	Array	• Defining 1D and 2D Array • Working with matrices • Performing different operation on matrix
Day-8	String	• Learn different operation on string
Day-9	Structure	• Understand concept & write program related to structure • Understand concept of union & enumerated data type
Day-10	File Handling	• Make use of different file handling library functions • Write simple & complex programs related to file handling

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-11	Revision-Test & Assessment-2	• Test based on the topics covered
Day-12 & 13	Pointers	• Determine the use of different type of pointer & its importance • Write complex programs related to pointer
Day-14	Dynamic Memory Allocatio	• Understand concepts & build dynamic memory allocation programs • Write programs related to DMA
Day-15	Revision-Test & Assessment-3	• Test based on whole syllabus

Outcome

After this Short term Training Program, students will understand concepts and fundamentals of Competitive Programming and can use them in various programming languages.

Training on Python Programming

TCSE student club and Department of Computer Science and Engineering conducted training on Python Programming Training in an Online mode from 23rd August 2021 to 10th September 2021, where approximately 120 students were present. This session was conducted by the one resource person Ms. Neha Jain (CSE).

Training Brief Overview

This Python training course leads students from the basics of writing and running Python Coding to more advanced features such as file operations, and using the extensive functionality of Python modules. Extra emphasis was made on features unique to Python, such as tuples, array slices, and output formatting.

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STTP
on
PYTHON PROGRAMMING

August 23, 2021 to Sept. 10, 2021
Time: 9:30 AM -12:30 PM

Organized By:

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING.

◆◆◆

Link For All Sessions:
https://meet.google.com/bbw-xmxb-wnd

Prerequisites

Students should be familiar with the operating system (Linux, Unix, Windows, Solaris, macOS, etc.) on which they will be running Python. While not mandatory, basic skills with at least one other programming language are desirable.

Software Needed on Each Student PC

- Any Windows, Linux, or macOS operating system
- Python 3.x installed (Anaconda bundle recommended)
- An IDE with Python support (PyCharm Community Edition is an excellent free option, but there are several other good ones).

Objectives

- Learn core Python variables and flow control structures.
- Discover how to work with lists and sequence data.
- Write Python functions to facilitate code reuse.
- Use Python to read and write files.
- Make their code robust by handling errors and exceptions properly.
- Work with the Python standard library.
- Explore Python's object-oriented features.
- Establish Database Connectivity.
- Developed some Python Games

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-1	An Overview of Python	• An Overview of Python • What is Python? • Interpreted languages • Advantages and disadvantages • Downloading and installing • Which version of Python • Where to find documentation • Getting Started • Using variables • String types • String operators and expressions • Math operators and expressions • Writing to the screen • Command line parameters • Reading from the keyboard
Day-2	Basic Input- Output Functions	Basic input output • Input(),print(),eval function • Slicing • Mathematical calculation based programs

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-3	Flow Control	Flow Control • About flow control • Indenting is significant • The if and elif statements • while loops • Using the for statement • The range() function
Day-4	Project	Media Player Project
Day-5	Function	• Functions • Syntax of function definition • Formal parameters • Global versus local variables • Passing parameters and returning values

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-6	Dictionaries and Sets List and Tupple	• Dictionaries and Sets • Dictionary overview • Creating dictionaries • Dictionary functions • Fetching keys or values • Testing for existence of elements • Deleting elements • Sets • List and Tupple
Day-7	Errors and Exception Handling	• Errors and Exception Handling • Dealing with syntax errors • Exceptions • Handling exceptions with try/except • Cleaning up with finally
Day-8	Game Creations	• Game Creations ·Guess a Number ·Snacke,Water,Gun ·Stone Paper Scissors

Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-9	Map, reduce ,lambda ,filter	• Programs based on Map, reduce ,lambda ,filter
Day-10	Python Programming Coding	• Developed the coding based all mixed topic
Day-11	Modules and Packages	Modules and Packages • What is a module? • The import statement • Function aliases • Packages
Day-12	OOPS Concept in Python	• An Introduction to Python Classes • About o-o programming • Defining classes • Constructors • Instance methods • Instance data • Class methods and data • inheritance

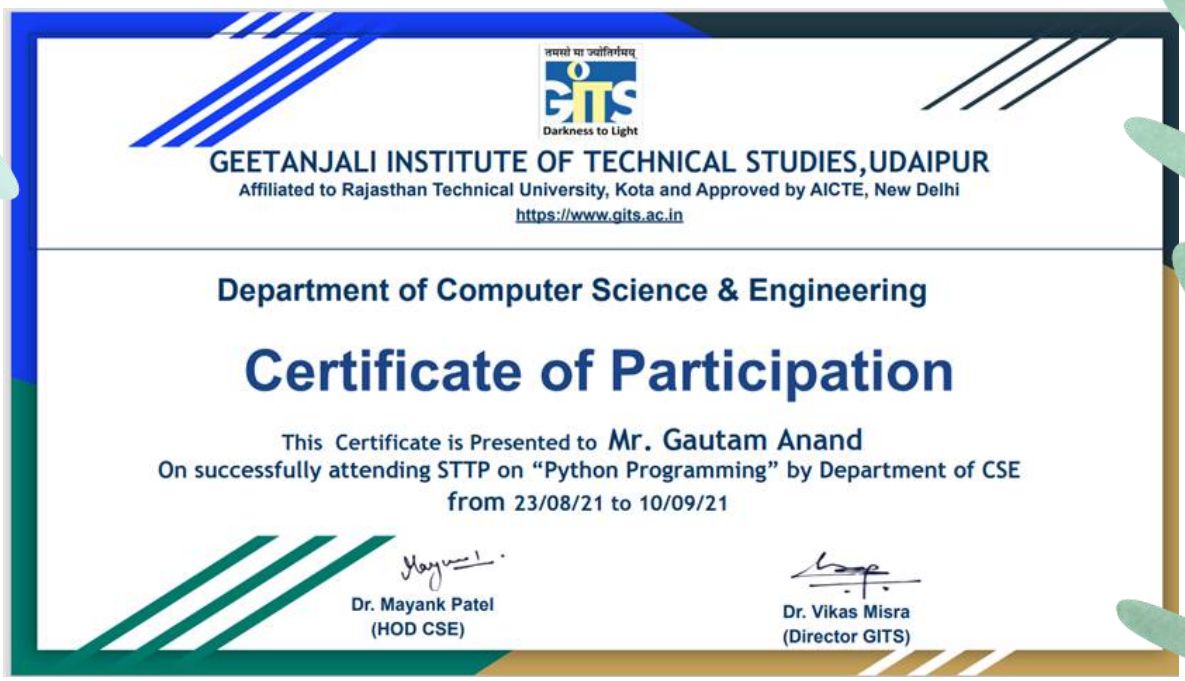
Outline

DAY	TOPIC	LEARNING OBJECTIVES
Day-13	Project	• Project • ATM Machine • Library management System
Day-14	Database Connectivity	• Database Connectivity • Creating and Searching Tables • Insert, Update and delete data • SQL Database Connection using Python
Day-15	Revision-Test & Assessment	• Test based on whole syllabus and discuss Projects

outcome

- After this Short term Training Program, students will be able to understand the relevance of Python Programming in various areas and applications

Sample Certificate:-



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Affiliated to Rajasthan Technical University, Kota and Approved by AICTE, New Delhi
https://www.gits.ac.in

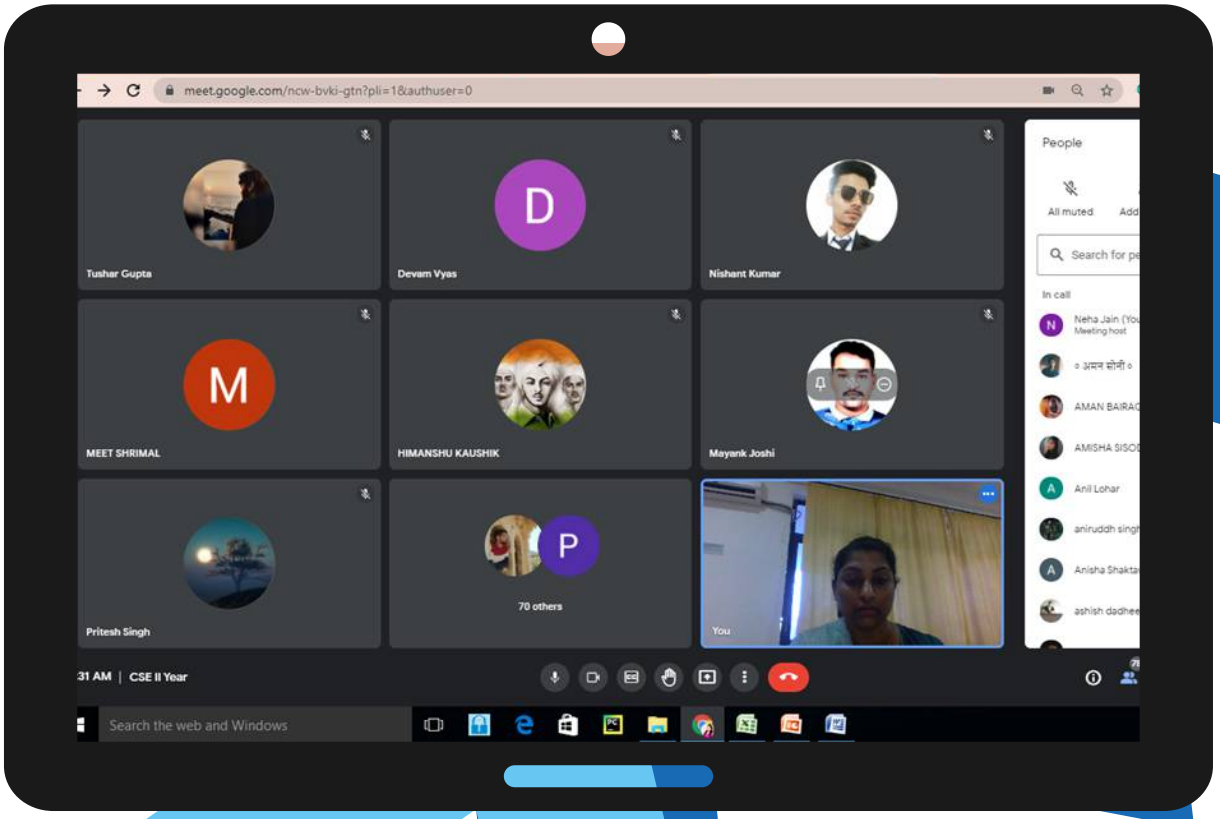
Department of Computer Science & Engineering

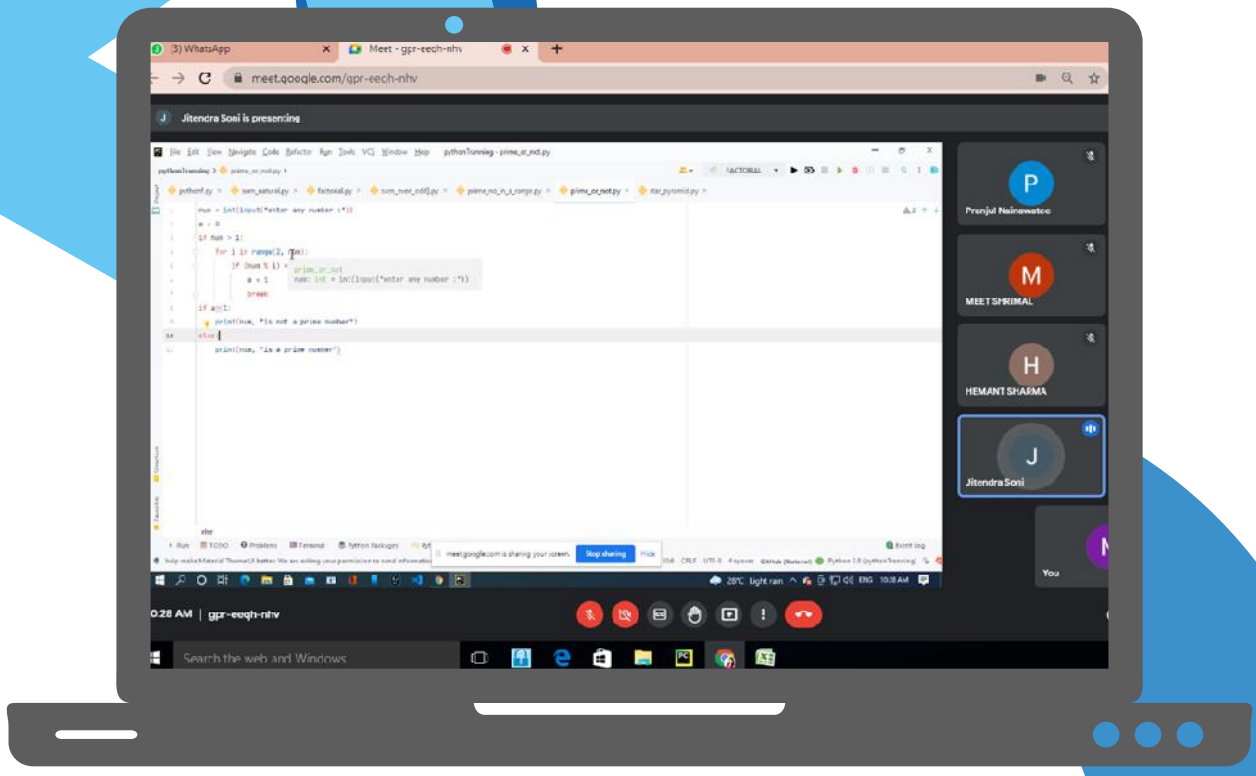
Certificate of Participation

This Certificate is Presented to Mr. Gautam Anand
On successfully attending STTP on "Python Programming" by Department of CSE
from 23/08/21 to 10/09/21

Dr. Mayank Patel
(HOD CSE)

Dr. Vikas Misra
(Director GITS)


meet.google.com/ncw-bvki-gtn?pli=1&authuser=0
Tushar Gupta
Devam Vyas
Nishant Kumar
MEET SHRIMAL
HIMANSHU KAUSHIK
Mayank Joshi
Pritesh Singh
70 others
You
People
In call
31 AM | CSE II Year
Search the web and Windows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Jitendra Soni is presenting
Prerjul Nainawatee
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Jitendra Soni
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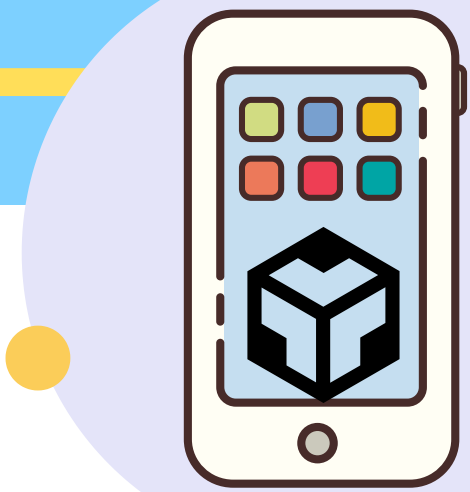
workshop



Workshop on Blockchain Technology

The Department of Computer Science & Engineering and CSI Udaipur Chapter conducted a 2-day workshop on Blockchain Technology in an offline mode, and around 133 students attended it. This workshop was conducted from 22nd November 2021 to 23rd November 2021 under one resource person Mr. Rakshit Kothari (CSE).
Resource Person: Mr. Rakshit Kothari (CSE)
Mode: Offline

Training Brief

Overview

The workshop provided an overview of Blockchain technology and its application in real-world organizations. A hands-on workshop for top management of an organization focused on how Blockchain, the technology of decentralization, and transactional sharing of data across a large network of distrustful participants can be implemented in their organization.

Prerequisites

- Students should already be comfortable using the operating system (Linux, Unix, Windows, Solaris, MacOS, etc.).
- Students are familiar with a few topics such as Security, Cryptography, and Cryptocurrency.
- Basic knowledge of at least one additional programming language, such as JavaScript or C++, is beneficial.

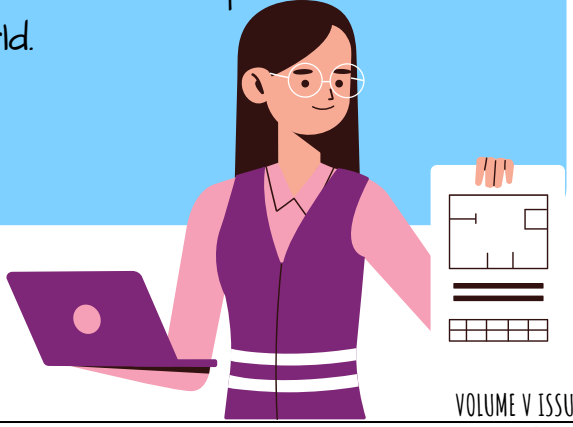
Software Needed on Each Student PC

- Any Windows, Linux, or macOS operating system
- Remix - Ethereum IDE for Solidity

Objectives

The objectives of this workshop were to:

- To disseminate the knowledge of Blockchain technology among students
- Better understand Blockchain technology and its implication to security
- Analyse and evaluate the current status of Blockchain technology and its maturity
- To discuss the current status of the Blockchain development and research work in India and across the world.



Outline

DAY	TOPIC	LEARNING OBJECTIVES
DAY 1	Understanding Blockchain Technology	·Introduction to Security and Cryptography ·Cryptocurrency - Bitcoin, Ethereum ·Consensus Protocols ·Smart Contracts ·Blockchain Technology Applications ·Concept of Mining and Miners ·Remix - Ethereum IDE ·Introduction : Solidity programming language ·Future of Blockchain Technology Research papers on Blockchain
DAY 2	Basics of Solidity and Remix IDE	·Introducing Solidity ·Sample Code ·Layout of Source File ·Structure of a Contract ·Creating smart contracts ·Working with Real-world projects like EVM, Health care etc.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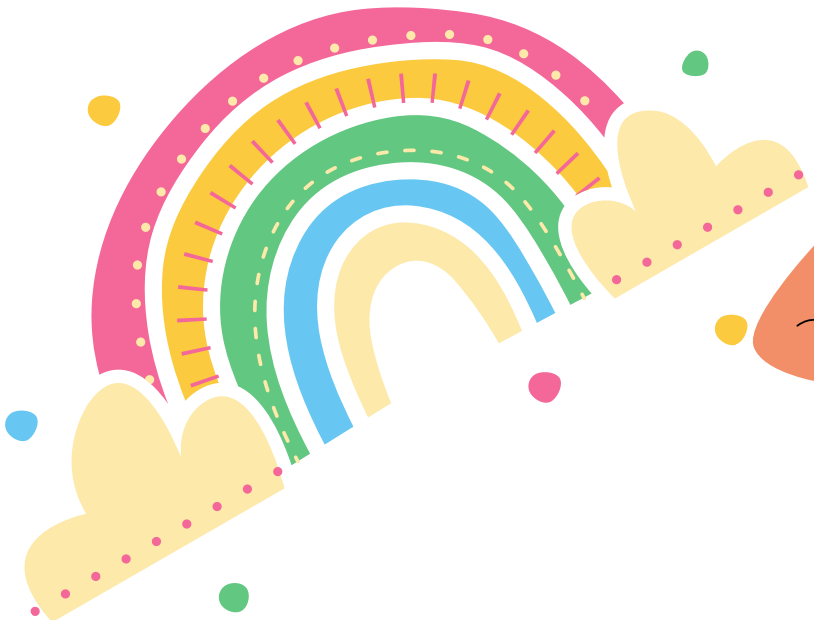
(Affiliated to RTU, Kota and Approved by AICTE, New Delhi)
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
COMPUTER SOCIETY OF INDIA
ESTD. 1965
सर्वे भवन्तु सुखिनः
Organizes
Two Days National Workshop
on
Exploring Blockchain Technology
22nd - 23rd Nov, 2021
BLOCK CHAIN
TECHNOLOGY
Resource Person: Mr. Rakshit Kothari
Asst. Professor, Department of CSE, GITS
Timing: 1:30 PM to 4:30 PM

outcome

- After attending this workshop, students would understand and expand their knowledge of how Blockchain and Bitcoin work and their implementation in organization and business.
- Students should be able to understand how Smart Contracts works.
- Apply the learning of solidity and decentralized apps on Ethereum.
- Students may also be allowed to participate in various initiatives inside an organisation.

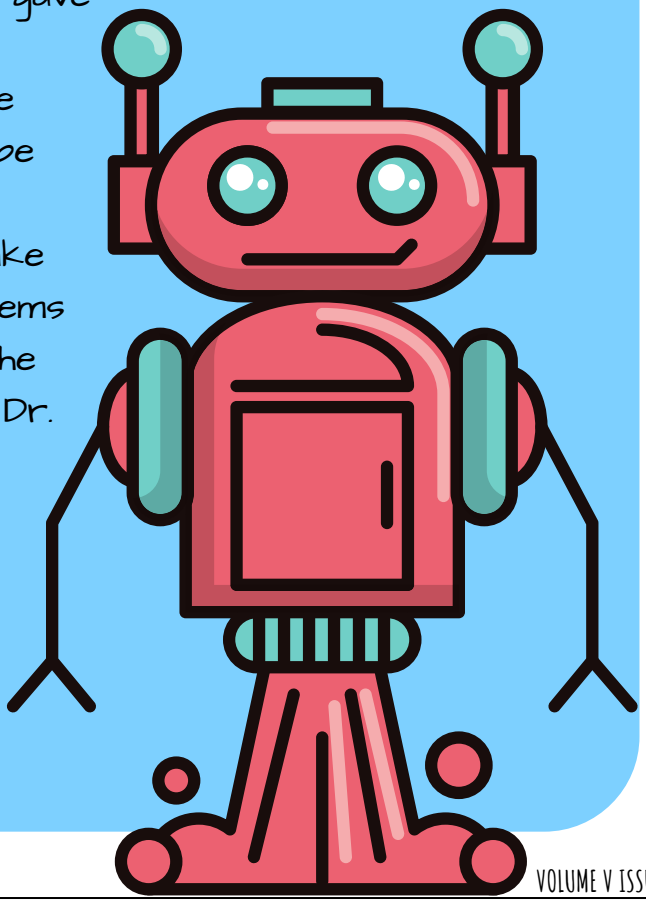
Student Club Events



Hack A Vishkar a hackathon

CSE student club conducted an event on Hack A Vishkar, a hackathon in an offline mode on 28th September 2021 (10:00 AM-02:00 PM) where 25 teams participated. This was conducted under the guidance of Ms. Ruchi Vyas, (Event Coordinator).
The event was conducted by student coordinators Harshita Jain, Amisha Soni, Amritesh Saini, and faculty coordinator Ms. Ruchi Vyas, (Asst. Prof.), Student Club CSE In-charge under supervision of Dr. Mayank Patel, (HOD CSE). Guests for the event were Dr. Vikas Mishra Dir GITS, Dr. Sudhakar Jindal,(Director IQAC, GITS), and Mr. B.L. Jangir (Finance Controller GITS.)

Dr. Sudhakar Jindal, Director (IQAC, GITS) gave a speech on encouraging students to participate in such activities further in the upcoming time, many technical events will be arranged and students should involve and participate in such events positively to make and introduce the innovation of real problems for the betterment of the country and the environment, the event was concluded by Dr. Mayank Patel, HOD(CSE).

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Workshop on Flutter

The Department of Computer Science & Engineering conducted One Day Workshop on Flutter in an Offline mode on 20th November 2021 in which approximately 25 students participated. This workshop was conducted under One resource person Mr. Harsh Soni (CSE).

Workshop Brief:

Overview:

The workshop provided an overview of Flutter technology and its application in real-world organizations. A hands-on workshop for top management of an organization was conducted on how Flutter, an open-source UI framework by Google for designing beautiful, natively compiled, multi-platform applications from a single codebase.

Prerequisites

Download from link below
windows:
https://storage.googleapis.com/flutter_infra_release/releases/stable/windows/flutter_windows_2.2.3-stable.zip
mac-os:
https://storage.googleapis.com/flutter_infra_release/releases/stable/macos/flutter_macos_2.2.3-stable.zip Software Needed on Each Student PC


Geetanjali Institute of Technical Studies
Darkness to Light
Department of Computer Science & Engineering
Presented by
CODECHEF
<GITS UDAIPUR>
Chapter
STUDENT CLUB
FLUTTER : HANDS ON WORKSHOP
Cross Platform App Development Workshop with Flutter
organized by GITS CSE Students Club
NOV 20, 2021
10 AM TO 4 PM
REGISTER YOURSELF BEFORE
NOV 19,2021 TILL 12 PM

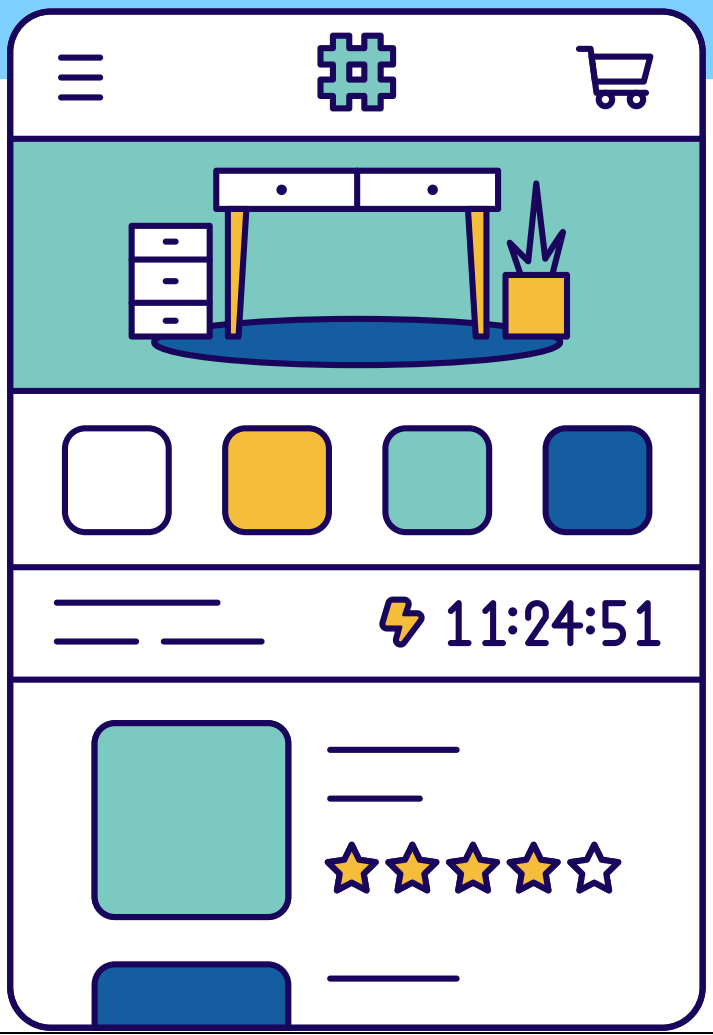
Objectives

The objectives of this workshop were to:

- To disseminate the knowledge of Flutter technology among students
- Better understand Flutter technology and its implications.
- Analyse and evaluate the current status of Flutter technology.

Outcome:

After attending this workshop, students would understand and expand their knowledge of how Flutter works and its implementation while making applications.

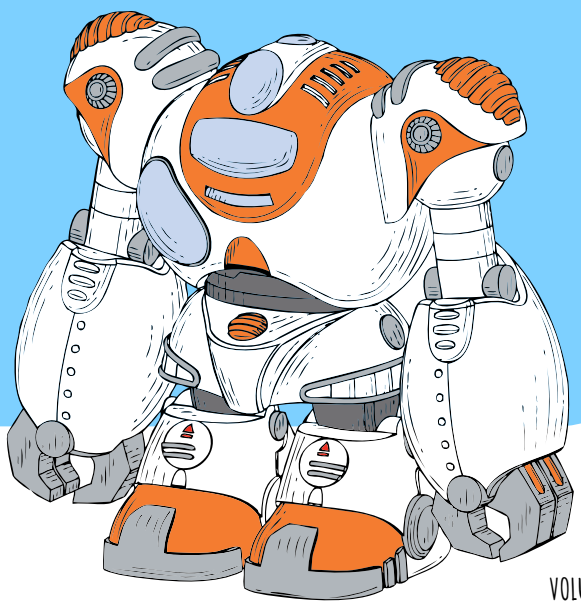


Engineer's Day Celebration

CSE student club conducted a program in an offline mode on the occasion of Engineer's Day on 15th September 2021 (02:00 PM-04:00 PM) where approximately 100 students participated. The event was organized by Harsh Soni and Yogitha Sharma under the supervision of Ms. Ruchi Vyas, (Event Coordinator).

Dr. Mayank Patel, HOD(CSE) inaugurated the event and delivered a talk about the importance of Engineer's Day. He also included various technologies around the globe and placement opportunities for students.

Proceeding with the event, an hour-long movie based on Reinforcement Learning named 'ALPHAGO' was presented. Further, a technical quiz competition took place where 3 teams of 2 members participated under the team name Tech coders, Tech Greeks, Tech Masters where Tech Coder won the quiz whose members were Krishanu and Ritika. The winners received an online certificate for the same.



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"Science can amuse and fascinate us all, but it is engineering that changes the world." —Isaac Asimov

Engineer's Day Celebration!

GITS Student Club presents

QUIZ COMPETITION

DATE : *15 SEPTEMBER 2021*

TIME : *2:00 PM TO 3:00 PM*

PLACE : *CSE SEMINAR HALL*

ELIGIBILITY : *CSE STUDENTS*

CLICK HERE TO REGISTER !
https://forms.gle/ycnrUJtrVmkGApWd6

For Any Queries, Contact:
SHEETAL SHARMA
9461955145
(Coordinator, CSE Student Club)


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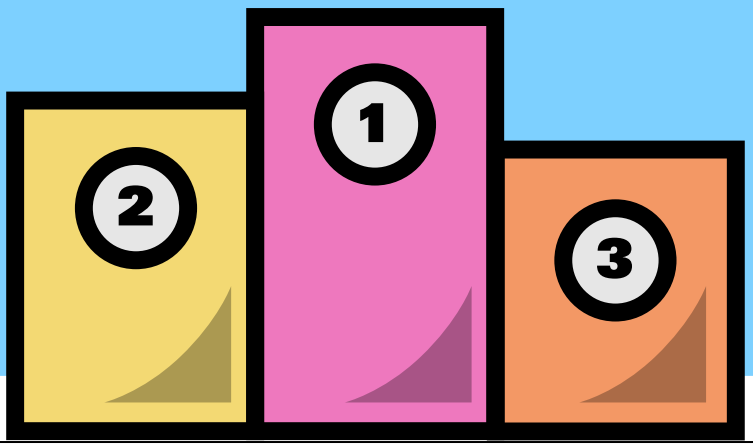
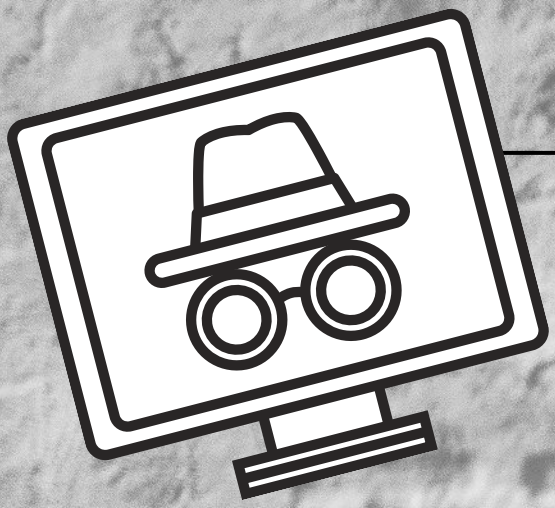
Blind Coding

Student Club Members conducted a Blind Coding activity in an Offline mode on 9th October 2021, where approximately 25 students willingly participated. In this activity, students were assigned programs in c language, and they had to write the code and execute it successfully while switching off the desktop.After two rigorous rounds, winners were announced and were awarded cash prizes and certificates at the first, second, and third positions based on their performance.

Winners of the Event:

Pankaj Talesra II Yr CSE (I Position)
Akshali Jain II Yr CSE (II Position)
Murtuza II Yr CSE (III Position)






GITS CSE STUDENT CLUB
PRESENTS
1/2
BLIND ⟨CODING⟩
CHALLENGE
EVENT DATE- 9 OCT, SATURDAY
EVENT TIME-
2.00-4.00 PM
WIN EXCITING
PRIZES..
STUDENT CLUB
CSE
@GITSCSESTUDENTCLUB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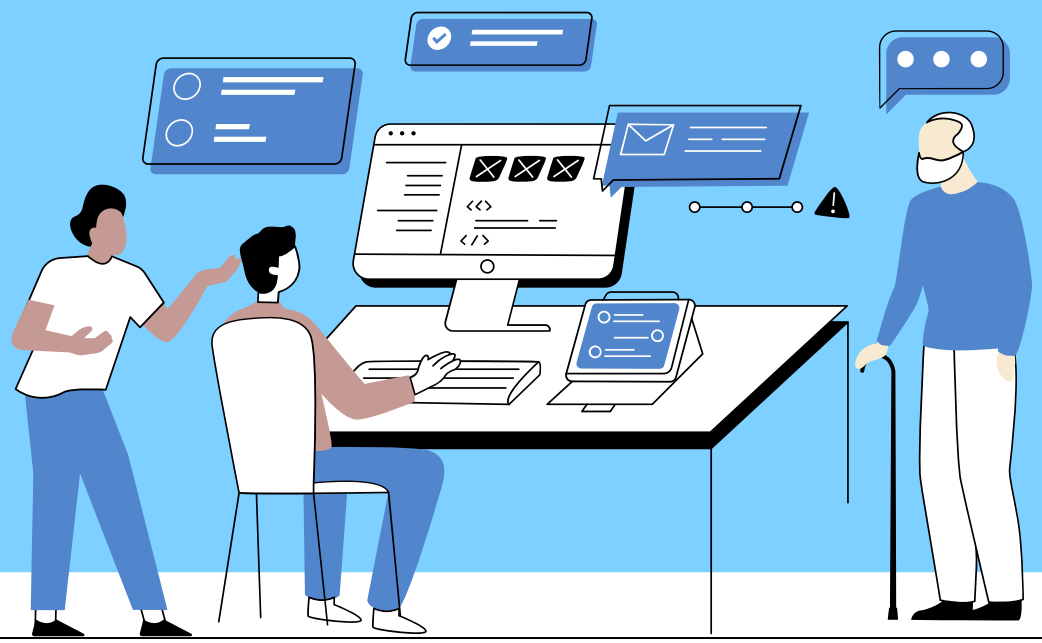
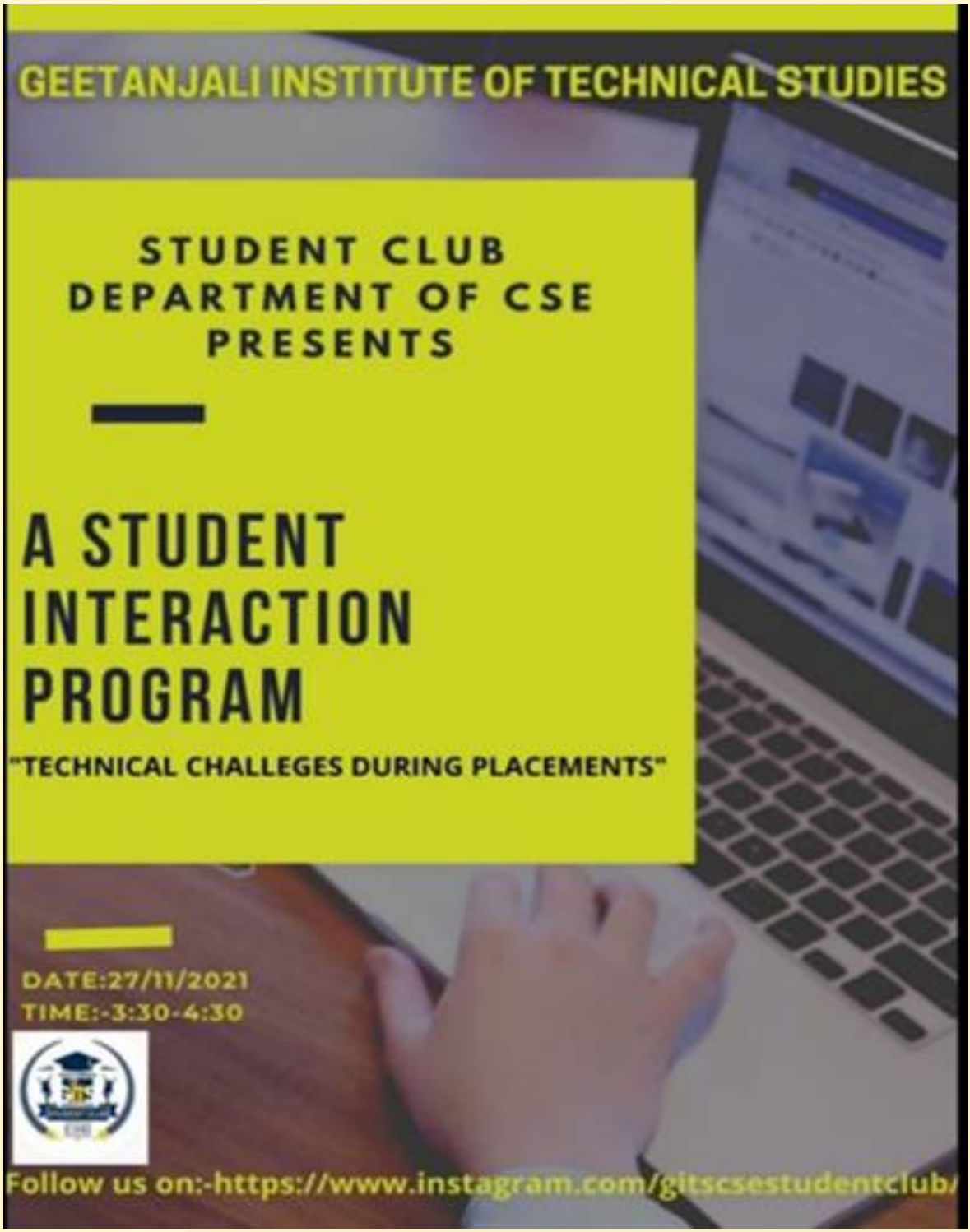
GPS Map Camera

Interaction Program on Technical Challenges in Placements

Student Club Members conducted a Student Interaction program on Technical Challenges in Placements in an offline mode on 27th November 2021, where approximately 50 students attended the session. In this event, a talk on how to clear placements by Ritik Nainawati and Krishnapal Singh Deora (VII Sem CSE Students), two members of the students club, already placed in four renowned companies.

They briefed the importance of various coding platforms, types of questions asked in placements, which subjects are more important to concentrate on. The session was very interactive, and students asked queries on various aspects of placements.




GEETANJALI INSTITUTE OF TECHNICAL STUDIES
STUDENT CLUB
DEPARTMENT OF CSE
PRESENTS
A STUDENT INTERACTION PROGRAM
"TECHNICAL CHALLEGES DURING PLACEMENTS"
DATE:27/11/2021
TIME:-3:30-4:30
Follow us on:-https://www.instagram.com/gitscsestudentclub/

Code Chef Events

Code Chef Induction Program

On 23 November 2021 Induction program was organized on CodeChef program at CSE seminar hall, around 80 students attended the program.The Program was organized with an intent to make the students of our college aware about competitive programming and how to get started with the same on CodeChef Platform.

It was also organized to make the Chapter Core members known to the college peers so that students can reach out to us in case of any problems. The students participated enthusiastically and almost all of them were eager to be a community member of our GITS Chapter.

The event was concluded with the address by Dr. Mayank Patel Sir (H.O.D, Department of Computer Science Engineering). He motivated students to participate in further events on a regular basis so that more students get a chance to learn and also be a part of the CodeChef Community.

Faculties in Event:

1. Dr. Mayank Patel
2. Mr. Bhupendra Kumar Teli

Core Members in Event:

1. Harsh Soni - 3 rd year (CSE)
2. Parth Sharma- 3 rd year (CSE)
3. Suraj Patel - 3 rd year (CSE)
4. Sheetal Sharma - 3 rd year (CSE) Students

Outcomes:

Through this event, students gained knowledge of competitive programming and put on the same on the CodeChef Platform. The students got motivated to involve themselves in the events and be a part of the CodeChef Community. We also received quite good feedback.

Code Chef Coding Contest

CodeChef conducted a coding contest on 20 December 2021. This event was titled "CodeChef Chapter". This contest was conducted virtually using the CodeChef platform. There were around 23 participants in this event. This coding contest was organized to inform the students of Computer Science and Engineering on programming and logic building. The event was organized by the CodeChef GITS Chapter and Codechef.

Faculties in Event:

- Dr. Mayank Patel
- Mr. Bhupendra Kumar Teli

Students in Event:

- Harsh Soni - 3 year
- Sheetal Sharma - 3 year
- Parth Sharma - 3 year
- Suraj Dangi - 3 year Students

Winners:

- Krishanu Mishra- 2 year
- Mohit Prajapat - 2 year
- Inder Lal Kumhar - 2 year Students

Outcomes:

After this event, the students got familiar with the concept of competitive programming questions. They learned different types of data structures and algorithms.

Alumni Interaction

Alumni Interaction

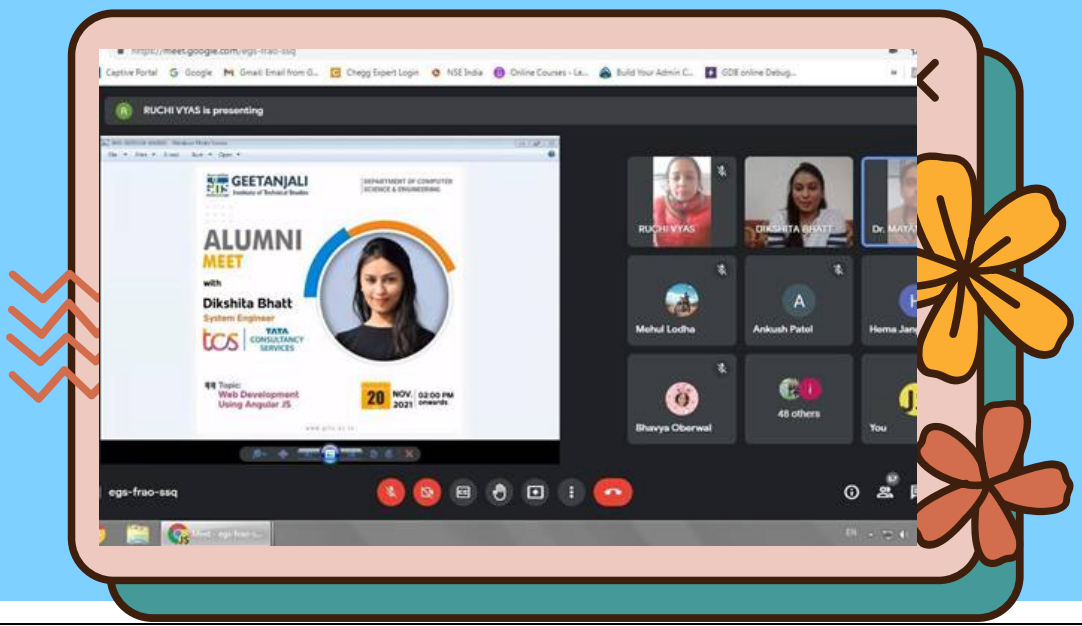
Department of Computer Science And Engineering commemorated an online alumni interaction session on 20th November 2021 from 02:00 PM to 4:00 PM for BTech (CSE) IIyr students. The session started with the inaugural session where Ms.Ruchi Vyas, (Assosciate Professor, CSE event Coordinator) welcomed the treasured alumni Ms. Dikshita Bhatt(2015-19 Batch) and the students and, carried out with a welcome speech by Dr. Mayank Patel, Head Of Department(CSE) . In the expression, he directed the students to what extent it is essential to participate in webinars and have a healthy interaction with alumni.

Ms. Dikshita Bhatt introduced herself to the attendants of the session. With a rosy outlook, she took over the session intending to carve the minds of her juniors for a successful career. She shared her journey from student to System Engineer at Tata Consultancy Services.


GEETANJALI
Institute of Technical Studies
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
ALUMNI
MEET
with
Dikshita Bhatt
System Engineer
tcs
TATA
CONSULTANCY
SERVICES
Topic:
Web Development
Using Angular JS
20
NOV.
2021
02:00 PM
onwards
www.gits.ac.in

She discussed the skills required to be hearable and sound in the current corporate world. The skill set comprised of commands on a specific programming language, knowledge of the latest technologies, communication skills, etc.
She insisted the ways to improve coding skills for instance a practicing daily, using various online platforms such as CodeChef, HackerRank, etc. and, participating in various coding contests. She also guided the increasing demand for JAVA and python in the IT sector. Further, she discussed the recruitment process conventionally followed for the various job profiles.

She also assisted her juniors to be thorough with their curriculum and also to actively participate in various technical and non-technical events organized by their department. She concluded her interaction with a very positive note, keep practicing and improving your skills to breeze through in their field.
Ms. Ruchi Vyas, Assistant Professor, CSE event coordinator summarized the outcomes of the online alumni interaction program and gave the vote of thanks to our keynote alumni. All participants appreciated the department for organizing such types of webinars. She gave the certificate of appreciation to Ms. Dikshita Bhatt for dissipating her valuable knowledge with the students. The program ended with taking the virtual group photo.



Certificate of Appreciation:-

तमसो मा ज्योतिर्गमय

Darkness to Light

GEETANJALI
INSTITUTE OF TECHNICAL STUDIES

CERTIFICATE OF APPRECIATION

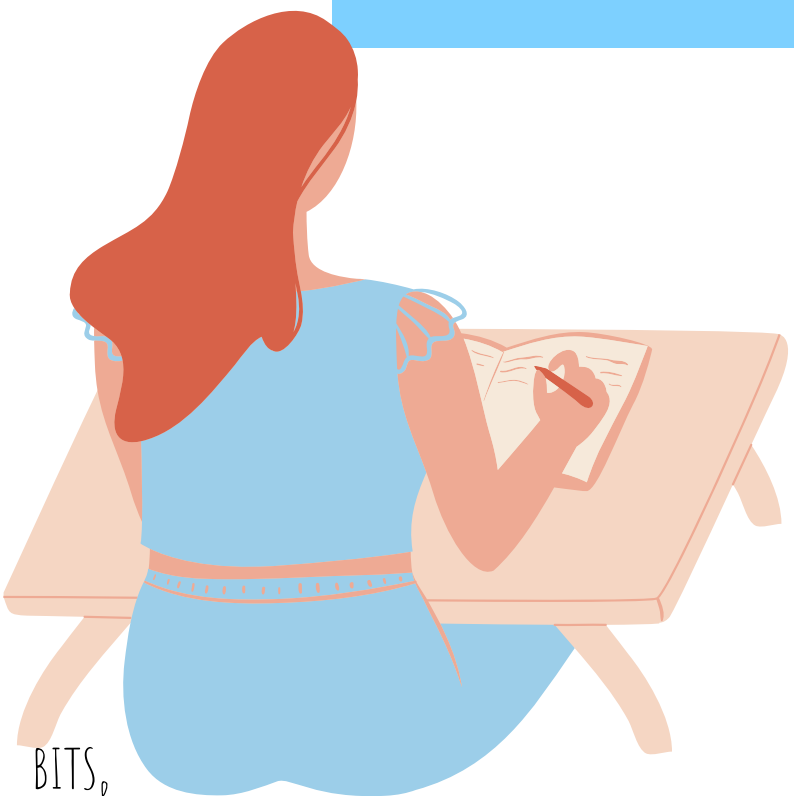
Presented To

Ms. Dikshita Bhatt

For your contribution in
Guiding and sharing your experience with the students of the CSE - Department through the online alumni interaction program which was held on 20th November, 2021.
Organized by
Department of Computer Science and Engineering

DR. MAYANK PATEL
HoD, Department of CSE,
GITS, Udaipur

NPTEL Achievements

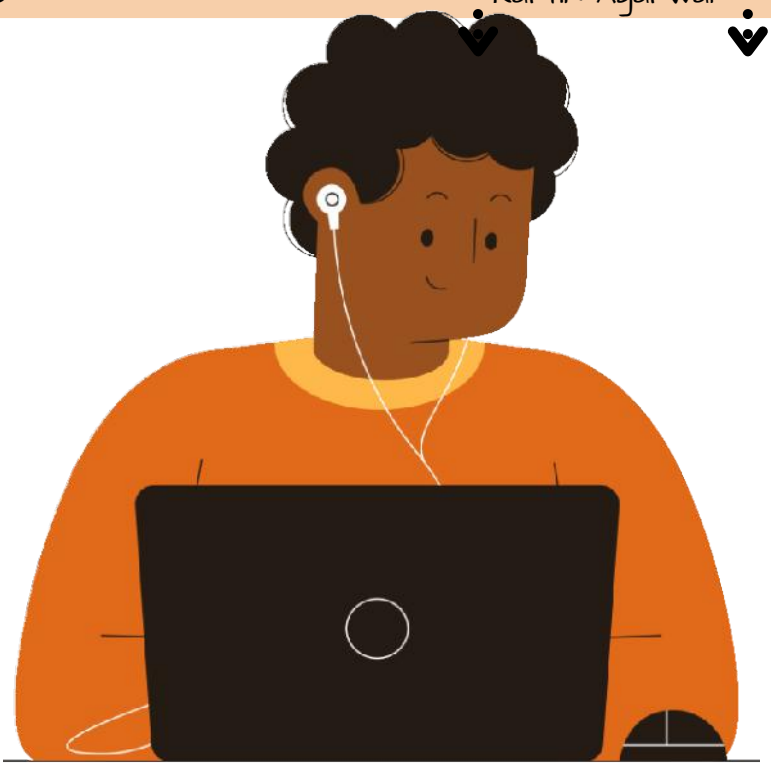


NPTEL ACHIEVERS

The Department of Computer Science and Engineering is committed to provide industry - oriented learning to our students by encouraging them to use NPTEL and our students have shown outstanding performance in NPTEL courses -

S.no	Course Name	NameCollege	Roll no	Certificate Type
1	Database Management System-Online	Devanshi Minda	19EGICS021	Elite
2	Database Management System-Online	Harshal Jain	19EGICS034	Elite
3	Database Management System-Online	Pratik Kanthaliya	19EGISC087	completed
4	Database Management System-Online	Hemant Sharma	19EGICS037	completed
5	Programming, Data Structures And Algorithms Using Python-Online	Devanshi Minda	19EGICS021	Elite+Silver
6	Database Management System-Online	Manya Kashyap	19EGICS063	completed
7	Programming, Data Structures And Algorithms Using Python-Online	Harshal Jain	19EGICS034	Elite+Silver
8	Database Management System-Online	Sheetal Sharma	19EGICS102	Elite
9	Programming in C++-Online	Pranjul Nainawatee	19EGICS085	Elite
10	Programming in Java - online	Farhan Khan	19EGICS027	Elite+Silver
11	Human resource development - online	Anisha Shaktawat	19EGICS010	No Certificate
12	Cloud computing - online	Bhowmick vyas	18EGICS021	Elite
13	Programming in Java - online	Hemant Sharma	19EGICS037	Elite+Silver
14	Problem solving through Programming In C	Krishna Ahari	19EGICS054	Elite
15	Cloud computing - online	Divya Soni	18EGICS027	Elite
16	Cloud computing - online	Aakanksha Samota	18EGICS001	completed
17	Programming in Java - online	Lucky lohar	19EGICS59	Elite+Silver
18	Cloud computing - online	Lovisha Jain	18EGICS052	Elite
19	Programming in Java - online	Pranjul Nainawatee	19EGICS85	Elite+Silver

20	Human resource development - online	Kartik Agarwal	8EGICS043	completed
21	Soft skills - online	Himani Mehta	19EGICS038	Elite
22	Developing Soft Skills and Personality - online	Khushi Lodha	19EGICS052	Elite
23	Developing Soft Skills and Personality - online	Anisha Shaktawat	19EGICS010	completed
24	Software Engineering - online	Bhowmick vyas	8EGICS021	completed
25	Software Engineering - online	Divya Soni	18EGICS027	completed
26	Operating System Fundamentals - online	Aakanksha Samota	18EGICS001	completed
27	Entrepreneurship - online	Kartik Agarwal	18EGICS043	Elite
28	Software Engineering - online	Lakshyaraj Singh Dalawat	18EGICS050	completed
29	Soft skills - online	Sheetal Sharma	19EGICS102	Elite+Silver
30	Software Engineering - online	Lovisha Jain	18EGICS052	Elite
31	Soft skills- online	Kartik Agarwal	18EGICS043	completed



Faculty Achievements

Faculty Achievements

There are many sources of knowledge for us, but the only source which provides prosperity and enlightenment by which anyone can be benefited is a "teacher".
The faculty of the computer science department, GEETANJALI INSTITUTE OF TECHNICAL STUDIES make every single effort for the growth of the student educationally, mentally, and intellectually.
Many attend faculty development programs (FDP) and few published their research papesr.

S. No.	NAME OF THE FACULTY	TITLE OF EVENT	TYPE OF EVENT	DATE OF EVENT	ORGANIZED BY	DURATION
1.	Dr. Mayank Patel	Patent Search for engineers and lawyers. Discussion on Data Science Tools and NEP Policies for Engineers Data Sciences Thrust Areas	FDP FDP	Aug.-oct. 2021 13/12/21-17/12/21	NPTEL ATAL	5 Days
2.	Mr Rakshit Kothari	Deep Learning	FDP	13/12/21 - 17/12/21	ATAL Academy at Indian Institute of Information Technology (IIIT), Vadodara	5 Days
3.	Ms Ruchi Vyas	Data Science Artificial Intelligence	FDP FDP	20/9/2021-24/9/2021 15/11/21-19/11/21	AICTE Training and Learning (ATAL) Academy AICTE Training and Learning	5 Days 5 Days
4.	Mr. Ritesh Jain	Data Science	FDP	20/9/2021-24/9/2021	AICTE Training and Learning	5 Days
5.	Mr. Jitendra Sharma	Data Scinece	FDP	20/9/2021-24/9/2021	(ATAL) Academy AICTE Training and Learning.	5 Days 6 Days
6.	Ms Charu Kavadia.	MEAN Stack Technologies Data Science Overview of Speech Processing	FDP FDP FDP	21/9/2021-25/9/2021 04/10/21-08/10/21 20/12/21-24/12/21	(ATAL) Academy AICTE Training and Learning (ATAL) Academy. ATAL Academy at Devi Ahilya University,Indore. ATAL Academy at Indian Institute of Technology, Dharwad	5 Days 5 Days
7.	Mr Bhupendra Kumar	AR/VR and its Applications	FDP	04/10/2021-08/10/2021	AICTE Training and Learning (ATAL) Academy	5 Days

Placements

PLACEMENTS

GITS is a well-renowned name in the field of Technical Education and Management studies and directly contributes towards the comprehensive education Scenario of the country. We GITS strongly believe in creating future Technocrats and worthy citizens. The training and Placement cell works 24*7 for ensuring employment for all the students across various industries and helping them in getting the most suitable job.

The training and placement cell of Department of Computer Science and Engineering centrally handles campus placement of the students. And the students of Geetanjali Institute of Technical Studies have continued to make us proud by placement in many renowned companies.

Details of CSE students placed are as follows -

S.NO.	RTU ROLL NO.	STUDENT NAME	DATE	COMPANY NAME	PROFILE	PACKAGE
1	18EGICS013	ANUBHUTI JHA	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.72 - 4.20 LPA
2	18EGICS046	KRISHNAPAL SINGH DEORA	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.72 - 4.20 LPA
3	18EGICS052	LOVISHA JAIN	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.72 - 4.20 LPA
4	18EGICS075	PURVI AGRAWAL	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.72 - 4.20 LPA
5	18EGICS080	RITIK NANAWATI	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.24 - 3.60 LPA
6	18EGICS094	TANMAY MATHUR	7/30/2021	TATVASOFT	SOFTWARE DEVELOPER	3.72 - 4.20 LPA
7	18EGICS013	ANUBHUTI JHA	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
8	18EGICS024	DALPAT I	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
9	18EGICS038	JAYA SISODIYA	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
10	18EGICS046	KRISHNAPAL SINGH DEORA	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
11	18EGICS080	RITIK NANAWATI	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
12	18EGICS090	SHUBHAM SONI	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
13	18EGICS096	TUSHAR KUMAR PRAJAPATI	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
14	18EGICS101	VEER BHADRA SINGH SOLANKI	8/14/2021	LUCENT INNOVATION	SOFTWARE DEVELOPER	3.50 LPA
15	18EGICS012	ANSH KUMAR SONI	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
16	18EGICS013	ANUBHUTI JHA	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
17	18EGICS024	DALPAT I	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
18	18EGICS028	GARIMA SONI	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
19	18EGICS029	GYANENDRA KUMAR	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
20	18EGICS046	KRISHNAPAL SINGH DEORA	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA

21	18EGICS052	LOVISHA JAIN	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
22	18EGICS080	RITIK NANAWATI	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
23	18EGICS090	SHUBHAM SONI	9/7/2021	IN TIME TEC	JUNIOR SOFTWARE ENGINEER	5.50 LPA
24	18EGICS006	AMAN THAKUR	9/23/2021	METACUBE	SOFTWARE DEVELOPER	5.20 LPA
25	18EGICS014	ARYAN DADHEECH	9/23/2021	METACUBE	QUALITY ANALYST	4.50 LPA
26	18EGICS038	JAYA SISODIYA	9/23/2021	METACUBE	SOFTWARE DEVELOPER	5.20 LPA
27	18EGICS096	TUSHAR KUMAR PRAJAPATI	9/23/2021	METACUBE	SOFTWARE DEVELOPER	5.20 LPA
28	18EGICS034	HIMANSHI PALIWAL	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
29	18EGICS038	JAYA SISODIYA	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
30	18EGICS075	PURVI AGRAWAL	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
31	18EGICS082	RIYA AGARWAL	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
32	18EGICS104	VIPLOV JIWNANI	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
33	18EGICS106	YASH RAJ SINGH CHOUHAN	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
34	19EGICS204	RATAN SINGH	9/28/2021	LA NET	SOFTWARE ENGINEER	4.00 LPA
35	18EGICS034	HIMANSHI PALIWAL	9/29/2021	SYNORIQ	SOFTWARE ENGINEER	4.50 LPA
36	18EGICS106	YASH RAJ SINGH CHOUHAN	9/29/2021	SYNORIQ	SOFTWARE ENGINEER	4.50 LPA
37	18EGICS011	ANJALI VYAS	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
38	18EGICS016	AYUSH YADAV	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
39	18EGICS017	AYUSHMAAN PATEL	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
40	18EGICS027	DIVYA SONI	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
41	18EGICS075	PURVI AGRAWAL	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
42	18EGICS082	RIYA AGARWAL	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
43	18EGICS092	SOURAV PALIWAL	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
44	18EGICS098	UMESH JOSHI	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
45	18EGICS104	VIPLOV JIWNANI	10/19/2021	V2SOLUTIONS	ASSOCIATE SOFTWARE ENGINEER	4.30 LPA
46	18EGICS020	BHAVYA SONI	10/29/2021	GATEWAY GROUP	SOFTWARE ENGINEER	4.18 - 4.60 LPA

47	18EGICS034	HIMANSHI PALIWAL	10/29/2021	GATEWAY GROUP	SOFTWARE ENGINEER	4.18 - 4.60 LPA
48	18EGICS082	RIYA AGARWAL	10/29/2021	GATEWAY GROUP	SOFTWARE ENGINEER	4.18 - 4.60 LPA
49	18EGICS006	AMAN THAKUR	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
50	18EGICS024	DALPAT I	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
51	18EGICS027	DIVYA SONI	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
52	18EGICS031	HARSHITA JAIN	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
53	18EGICS052	LOVISHA JAIN	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
54	18EGICS075	PURVI AGRAWAL	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
55	18EGICS094	TANMAY MATHUR	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
56	18EGICS101	VEER BHADRA SINGH SOLANKI	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
57	18EGICS104	VIPLOV JIWNANI	ONLINE	TCS	ASSISTANT SYSTEM ENGINEER	3.36 LPA
58	18EGICS013	ANUBHUTI JHA	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
59	18EGICS021	BHOWMICK VYAS	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
60	18EGICS024	DALPAT I	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
61	18EGICS031	HARSHITA JAIN	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
62	18EGICS046	KRISHNAPAL SINGH DEORA	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
63	18EGICS052	LOVISHA JAIN	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
64	18EGICS075	PURVI AGRAWAL	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
65	18EGICS082	RIYA AGARWAL	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
66	18EGICS089	SHUBHAM MATHUR	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
67	18EGICS095	TANMAY PALIWAL	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
68	18EGICS101	VEER BHADRA SINGH SOLANKI	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
69	18EGICS104	VIPLOV JIWNANI	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
70	18EGICS106	YASH RAJ SINGH CHOUHAN	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
71	18EGICS109	YASH SONI	ONLINE	WIPRO	PROJECT ENGINEER	3.50 LPA
72	18EGICS021	BHOWMICK VYAS	ONLINE	SECURE METERS	GRADUATE TRAINEE ENGINEER	5.00 LPA

Academic Toppers

Academic Toppers

Here at GITS we believe in providing our students with quality teaching, and our students reciprocate with us by their wonderful academic achievements. With their hard work and dedication, students of CSE department have made us proud by excelling in academics.

VIII Semester CSE toppers

GAURI SHRIMALI
17EGICS030
1

SAURABH SRIVASTAVA
17EGICS105
2

CHINMAY JAIN
17EGICS019

3

CHETNA KHATRI
17EGICS018

4

RHYTHM BHIWANI
17EGICS090

5

Students of CSE Batch 2017-2021 with Honours

Zenab Wagla Wala
17EGICS124
84.32%
1

Gauri Shrimali
17EGICS030
81.55%
2

Geetika Agarwal
17EGICS031
81.18%
3

Himani Jain
17EGICS038
79.76%
4

Surbhi Jain
17EGICS114
79.15%
5

Saurabh Shrivastava
17EGICS105
79.13%

6

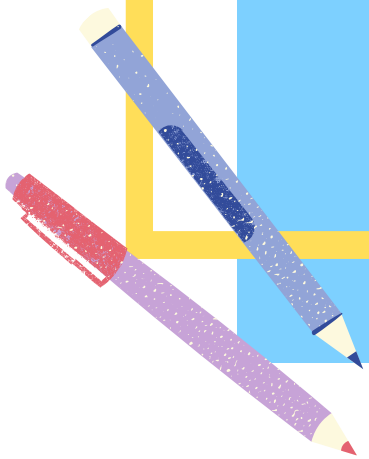
Daksh Raj Singh Solanki
17EGICS021
76.86%

7

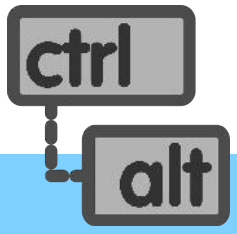
Honey Mathur
17EGICS045
74.88%

8

Student Articles



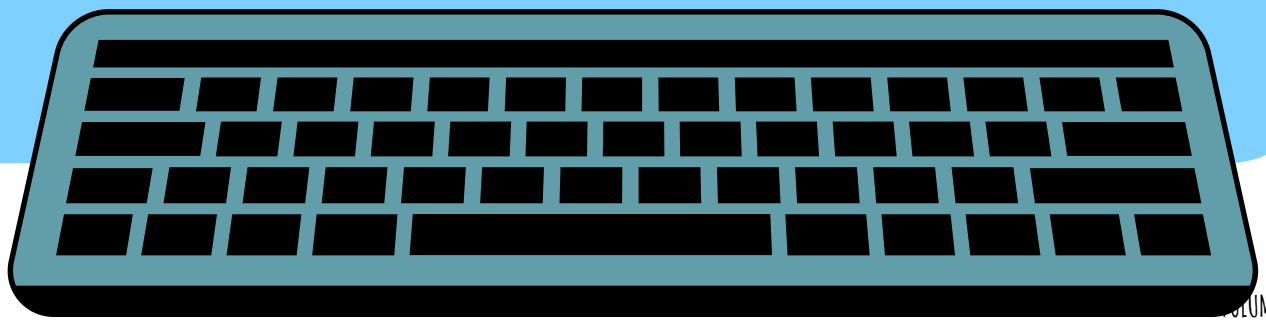
From keyboards to neural linking – The UI Journey



With the establishment of Neuralink in 2016, we have come very close to accurately and efficiently accessing the brain and reading information from it. What was once the stuff of science-fiction novels now lies within our grasp. Elon Musk, the founder of said company has claimed that once perfected, this technology could be used to cure brain diseases and even "enhance" human beings (as I said, straight out of a science-fiction novel).

But as the title suggests, the purpose of this article is to understand the role of this new technology within the scope of user interface. User interface, as we all know, is how a user interacts with a system, whether by clicking or typing, and speaking as well. Whenever an action performed by the user makes the system perform a function, UI is at play.

Let us first do a recap of how we got here. In the beginning, when computers did not resemble the ones we use today by any stretch of the imagination, they were operated by switchboards. The switchboards were essentially (as the name suggests) switches that were used to control the system. However, once operating systems came into picture, interacting with the system became much easier. Combining the power of the OS with input devices, controlling the system became a piece of cake. But this was hardly the end of this story, in fact the story was just beginning.



The next chapter of our UI story takes us to a convention in 2007, when Steve Jobs unveiled the Iphone-1 and the world was forever changed. While not responsible for inventing the touch screen, Steve Jobs and his team combined the touch screen with the other features of the phone in such a way that it changed the face of UI forever and gave birth to the smartphone business which is now worth billions. The Iphone-1 could be used to perform tasks which were previously thought it was impossible for a handheld device to perform. It was an internet browser, a multimedia player, and a GPS. In our UI story, this was the next step as it allowed the user to interact with their device in a way which was never done before. The markets are now flooded with new types of smartphones with an array of different features.

So, this brings us back to the present. In order to understand the role of neural linking in UI development, I thought it was necessary to understand it's history. Every step in this journey was a result of human endeavor and ingenuity. Every step revolutionized the way UI works. And none of these innovations were in vain either. Operating systems, although much more evolved and refined are still being used in conjunction with input devices like keyboards and touch screens. But there is a facet of this story that up to this point was left in the dark on purpose. And this hidden facet ties in directly with neural linking. We must now discuss Brain-Computer interfacing.

Brain computer interfacing is a topic seldom discussed when talking about user interfaces. Usually, such conversations remain confined to the topics surrounding operating systems and input devices. But Brain computer interfacing is very much a real thing and has been around for quite some time. The idea of controlling and passing information to a system via the brain directly has been around forever. It has occupied the minds of many scientists and authors. Research around this idea began around 1970 and the term itself appeared in 1973. The idea is to connect the brain to an external device by connecting the brain to electrodes. Then information from the brain can then be read and understood by the machine. The applications of this interface are mostly medical in nature and if explored, could make for a lengthy essay themselves. The reason why this was brought up is because this is the piece of puzzle which will connect us to the last segment of this story.

And so we have reached the last segment. After discussing all these technologies we can finally discuss Neural linking itself. Well first of all, how is neural linking different from the available Brain-computer interface technologies? Well, to begin with, it is not a different technology altogether but rather the next step. BCIs do connect the brain to a system, but it requires the usage of wires. It is cumbersome. Whereas, the solution proposed by Neuralink , if applied successfully, will be a lot more efficient. The proposed solution is to implant a chip, or as called by Elon Musk, a "neural lace" via surgery or by implanting it to an artery. This chip will then wirelessly send signals to an external device which will convert them into binary. This binary code can then easily be understood by a machine and thus it can read the information the code contains.

So how successful has Neuralink been in achieving this goal? This technology, unlike the ones discussed above, is still being developed and thus the applications are still shrouded in mystery. The aim of this project, according to the company itself, is to cure brain diseases and in the long run, "enhance human beings". In April this year, the company demonstrated a monkey playing the game "pong" via the implant in its brain. Clearly there has been significant progress. Will this technology rise up to be the next chapter in the UI story? Or will this technology fail to find it's footing against the more traditional ones? Only time will tell. Whether or not the human race will be able to accept the idea of implanted chips in their brains is also a question worth asking.

- Garvin Sharma
B.Tech 1 st Year CSE

Facebook Meta, Revolutionizing the way of life in the foreseen future.

Mark Zukerberg, CEO of facebook introduced "META" at Connect 2021 which was held on October 28,2021. Also changing the name of the company from facebook to meta ,which binds together all their apps and technologies under the new company name, with a focus to bring the "Metaverse" to life and help people connect, find communities and grow businesses.

Understanding what Metaverse is, It is a concept of making a hybrid of today's online social experience dragged into a virtual three dimensional world, Like the concept in a Hollywood movie "Ready Player One" directed by Steven Spielberg. Metaverse is a new technology based on virtual reality and social networking. In this virtual metaverse one is supposed to create an avatar of themselves and control it via still underdevelopment motion capture technology being developed by Meta. In this virtual verse you can act and talk like you do in the real world and attend business meetings from different parts of the World but still could make contact, Go on a virtual date with your long distance partner, visit the moon for holiday. It all can be made possible with Meta, In meta only limitation would be creativity and ideas of developers and artists, if you can imagine it in meta it can be possible.

This new exciting idea but as we know the old reputation of facebook for data privacy it kind of get scary thinking about spending a day in front of their motion capture devices, and whatever we talk in the metaverse all the business meetings there is no iron clad trust that they are not going to be recorded and monitored by our faithful team of meta and Mr Zukerberg himself.

Virtual worlds existed long before Facebook ramped up investment in VR and augmented reality after its purchase of headset maker Oculus in 2014. And the world of virtual reality already has a harassment problem. In 2007, Belgian police were looking into whether an avatar allegedly raped another character in Second Life, a virtual world developed by Linden Lab, according to The Washington Post. It is a problem here in this world and I would love see how META will give an solution to this problem in the society, also Virtual World will also give rise to a new form of social and cyber bullying and with a central system idea of metaverse it would be hard for someone to get rid of bullying unlike just leaving a game the bullies might still find the person in some other platform.

TAs we say a coin has two sides there are many good and new opportunities with the new "Metaverse" and "meta" and also some social risks. But all we can do now is speculate about the new upcoming technology. I myself is lowkey excited for this new change in the world like many others, and wish meta verse becomes reality soon.

- Vinay Kumar
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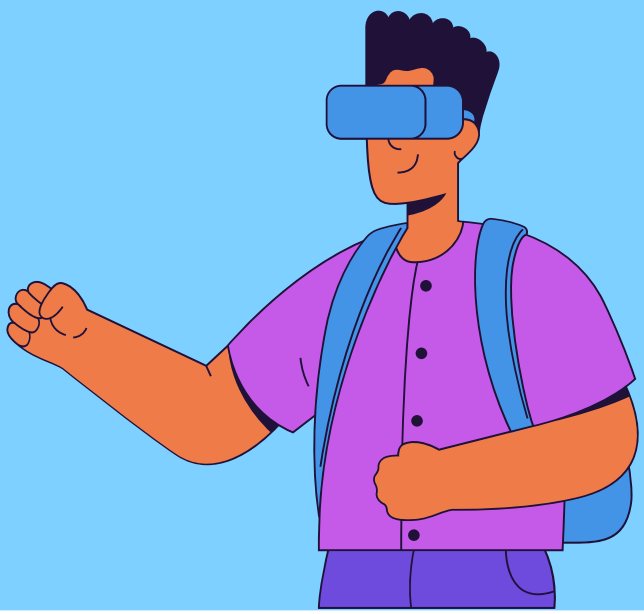
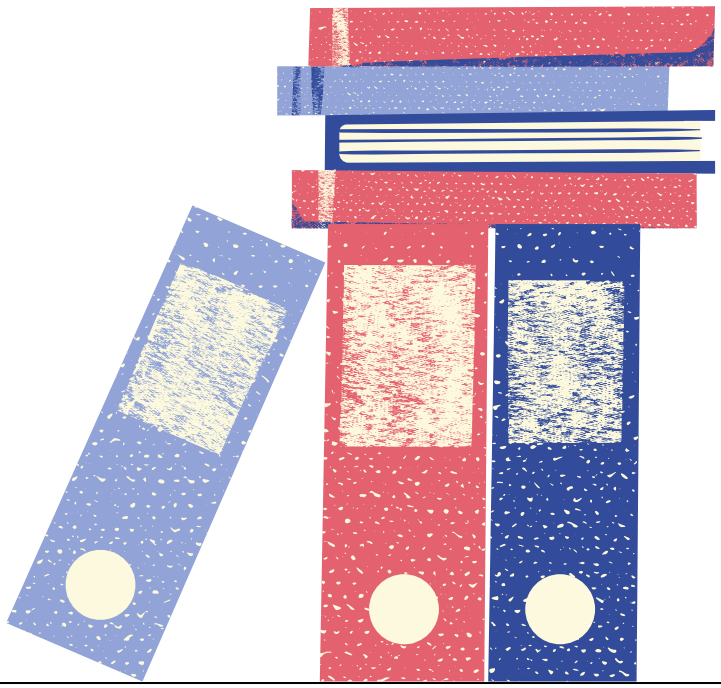


Alumni articles



Data Science and its Importance

Data Science is the study of data retrieval and data analysis to discover information and correspondences hidden in an unprocessed data, often known as raw data. It is the study of extracting useful information from data by combining programming abilities with mathematical and statistical expertise. Data Science consists of applying machine learning algorithms to numerical, textual data, images, audio, video, and content. The algorithms perform specific tasks involving data extraction, cleansing, and processing, resulting in data translated into real value for each business.

Why use Data Science?

Data science is critical for businesses undergoing digital transformation because it enables them to target products and services at specific customers, track patterns, and respond to the demands. Data Scientists have developed applications for leading worldwide companies such as Netflix, Amazon, and Spotify. Artificial intelligence enables the creation of recommendation engines that suggest what to buy, listen to, and watch based on the particular user's preferences. Due to the machine learning process, these algorithms can also determine which suggestions did not pique the user's attention, allowing further refinement of the offers, increasing conversions, and maximizing ROI.

The Data Science process

The primary purpose of data science is to give forecasts and trends.

1) Predictive causal analysis

If the goal of the data analysis is to anticipate whether or not a specific event will occur in the future, the predictive causal analysis must be used. Consider the case of a bank that wants to forecast the possibility of a customer repaying a loan in the future. In this scenario, the model that can predict if future payments will be received correctly based on the customer's payment history will be used.

2) Prescription analysis

This model can anticipate, advise, and carry out a set of predetermined actions. Self-driving cars are the best example: the data collected by the vehicles are used to improve the software that operates the car without the need for human interaction. The model will make judgments on its own, determining when to turn, which course to take, when to slow down, and when to break abruptly.

ADVANTAGES OF DATA SCIENCE

In businesses, data science is becoming increasingly crucial. According to one report, the global Data Science market will reach $115 billion by 2023. The following are a few of the advantages mentioned:

- In the healthcare industry, To ensure their patients' well-being and make critical decisions, physicians utilize Data Science to analyze data from wearable trackers. Hospital management can also use data science to reduce wait times and improve service.
- Data science is extensively used in the banking industries and finance industries for fraud detection and tailored financial advice.
- Data Science facilitates firms to leverage social media content to obtain real-time media content usage patterns. This enables the firms to create target audience-specific content, measure content performance, and recommend on-demand content.

CONCLUSIONS

Data Science is revolutionizing in many industries. The key is to know your business and evaluate their behavior by establishing data linkages that can lead to market trends and orientations predictions. We are currently at an early stage that allows us to receive results. Still, as IoT, Data Science develops, sensors and other data gathering tools will become possible advancements that are currently just imaginable.

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Faculty Articles

Outsourcing of Data using Elliptic Curve Cryptography

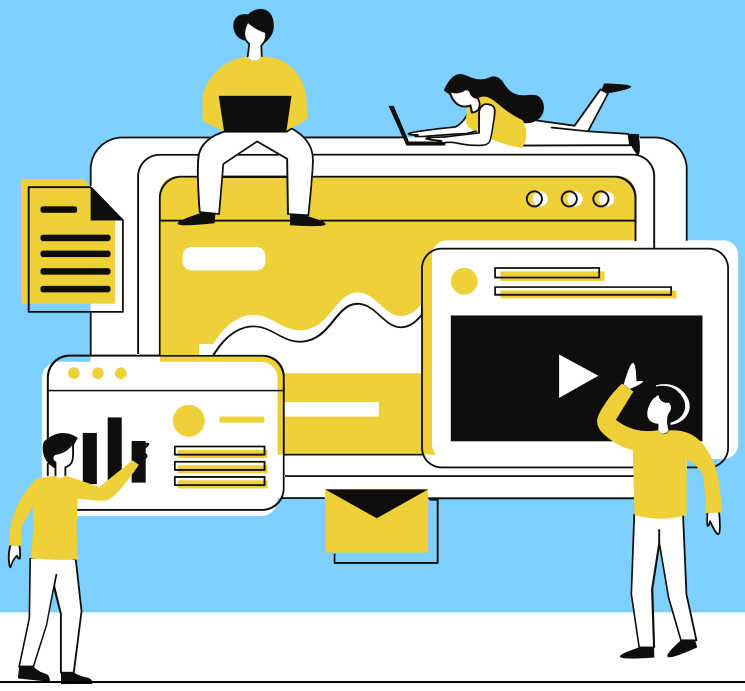
In the present day scenario, distributed computing and data outsourcing have become a primary model for achieving many important functionalities for big institutions and organizations. The ubiquity of these systems has brought to light some serious concerns that need immediate attention. Among these properly delegating the access rights that supports revocation functionality and making the whole system efficient and scalable are the most important and complicated to solve. This model, where access right delegation and revocation is required, perfectly fits into many real-time situations like Virtual Organisations, data outsourcing systems, implantable medical devices etc. These above-mentioned fields are very common and within the reach of common man, and this is the reason that proves the worthiness of this research field. The data outsourcing and other similar systems are within the reach of common man and are so popular hence there is no perfect scheme that provides an expressive, efficient and scalable solution.

Some of the most challenging issues in data outsourcing system, where data confidentiality is of utmost importance, are the enforcement of authorization policies and the support of policy updates. Since a common approach for protecting the outsourced data consists in encrypting the data themselves, a promising approach for solving these issues is based on the combination of access control with cryptography. Cryptographic methods play a keen role in achieving the acute security requirements along with providing access control mechanisms that are both flexible and fine-grained. In current data outsourcing systems we require flexible and fine-grained access control mechanism. In most scenarios, it is intrinsically required to delegate access services on the basis of user attributes where each user may possess multiple attributes defining his/her role or designation. Elliptic Curve Cryptography is a relatively recent concept that is based on algebraic structure of elliptic curves over finite fields. It is a tool by which Public-Key encryption can be realised.

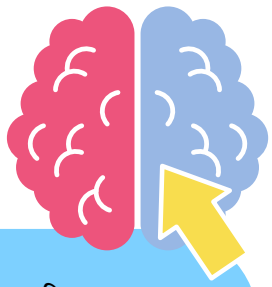
A major advantage of ECC over other counterparts is that ECC requires smaller keys to provide equivalent security. This is a major thing that makes ECC a better choice for constructing cryptographic protocols. The ECC has many advantages compared with RSA (Rivest-Shamir-Adleman) and Diffie-Hellman algorithm. One the major advantage of ECC over RSA and Diffie-Hellman is based on key size.

ECC provides shorter key size compared with RSA. In the case of data outsourcing and other similar systems, it is required to give the functionality of delegating access of the confidential data to the data owner. This means that the data owner should be given the capabilities to decide the access structure. The access structure varies from one protocol to other. This idea is in itself not new, but the problem of applying it in an outsourced architecture introduces several challenges. Revocation functionality can be realized in many different ways. In some cases, we just want a user to be fully revoked from the system. This is called system-level user revocation which uses ECC.

Mr.Rakshit Kothari,
Assistant Professor, CSE



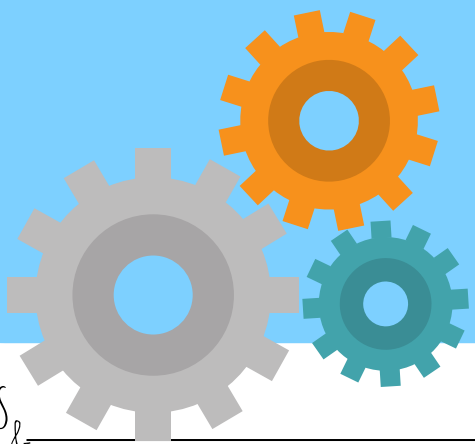
Reinforcement Learning in Games



Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning could be categorized into 3 approaches Supervised, Unsupervised and reinforcement learning.

Reinforcement learning is one of the subsets of machine learning. An agent learns from the feedback of the try-and-error in order to predict their next step. The agent does these three things: - take action, change state/remain in the same state and get feedback and by doing these actions, he learns and explores the environment. The agent learns that what actions lead to positive feedback or rewards and what actions lead to negative feedback penalty. As a positive reward, the agent gets a positive point, and as a penalty, it gets a negative point. No training data is required for RL algorithm as it learns from itself.

The challenge to win a game is that the player needs to come up with a good strategy. In order to produce good strategy, player need to play the game multiple time which are time, energy and money consuming. Reinforcement learning agent runs the simulation of the game and produce improved results after each iteration. Then human can imitate the agent performance in order to improve their chance of winning the game. There are various reinforcement learning algorithms they are basically classified on the basis on off policy or on policy some of the algorithms used in games are Q Learning, SARSA,Monte carlo,Markov Decision Process etc. There are many other applications of reinforcement learning such as robotics, finance sector, Inventory management.



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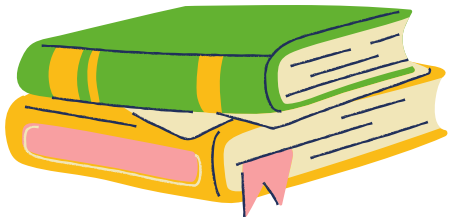

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