



BITS & BRIDGES

(TECHNICAL MAGAZINE)

Department of Computer Science & Engg.

Edition JULY 2022



Empowering Innovation



Ambalika Institute of Management & Technology

“Bits & Bridges”

(Technical Magazine by CSE)

Message from HoD-CSE



Dear Readers,

With growing Indian economy and government emphasis on e-governance, CSE is progressively visible in-service deliveries in all type of government services. Private companies are even more IT savvy using IT for strategic advantages, efficiency enhancement in addition to better customer services.

Availability of new and cheap technologies has encouraged all sectors to use IT in a big way. The need for qualified and competent IT professionals grows with the growth of the IT sector. Our CS program focuses on developing cutting edge computer professionals to effectively and efficiently fulfill the needs of the market. The course consists of theoretical base of software development and programming skills like C, C++, Java, NET, Cloud Computing, Networking and Software Engineering among others.

Prof. J.P.DIXIT

Message from Editorial Team

A thought that has been enduring in mind when it becomes real; is truly an interesting and exciting experience. This news letter was one such cherished work that had its roots in the persuasion. It would be a snapshot of the various activities and advancements for all associated with CSE Department, AIMT. Proper communication plays a vital role in department's development. This newsletter will serve to reinforce and allow increased awareness, improved interaction and integration among all of us. Usually we fail to appreciate the good deeds of many people and activities that happen around us as we are engaged in irrelevant talks and assumptions. It could all change if we just pause to think of what is our contribution to the society from which we have been gifted with this blessed life.



This newsletter will be a medium to provide proper Acknowledgement and respect all of these efforts and its results. This newsletter is intended to be published twice in a year. This Inaugural issue is a brief account of the important events held in May 2022 in the department. This is only a small step towards a long journey. This maiden issue of newsletter should inspire all of us for a new beginning enlighten with hope, confidence and faith in each other in the road ahead. Happy Reading!

Mr. Vipin Rawat -Editor In-Charge

Vision

To embrace students towards becoming computer professionals having problem solving skills, leadership qualities, foster research & innovative ideas inculcating moral values and social concerns

Mission

1. To provide state of art facilities for high quality academic practices.
2. To focus advancement of quality & impact of research for the betterment of society.
3. To nurture extra-curricular skills and ethical values in students to meet the challenges of building a strong nation

Program Educational Objectives (PEOs)

The Detailed Program Educational Objectives (PEOs) are as follows:-

PEO1:- All the graduates will become high class software professionals who could be absorbed in the software industry on the basis of sound academic and technical knowledge gained by them on account of adopting state of the art academic practices.

PEO2:- All the graduates will demonstrate their talent in research and development activities involving themselves in such researches which could alleviate the existing problem of the society.

PEO3:- All the graduates shall be committed for high moral and ethical standards in solving the societal problems by means of their exposure to various co-curricular and extra-curricular activities.

Program Outcomes (POs)

The graduates of this program will be able to:

PO 1 Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of **complex engineering problems**.

• **PO 2 Problem Analysis:** Identify, formulate, review research literature, and analyze **complex engineering problems** reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3 Design/development of solutions: Design solutions for **complex engineering problems** and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4 Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

• **PO 5 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to **complex engineering** activities with an understanding of the limitations.

• **PO 6 The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice .

PO 9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10 Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11 Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

The graduates of this program will be able to:

PSO1: Professional Skills: Attain the ability to design and develop hardware and software based systems, evaluate and recognize potential risks and provide creative solutions.

PSO2: Successful Career and Entrepreneurship: Gain knowledge in diverse areas of IT and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

PSO3: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Faculty Corner

Department of Computer Science & Engineering has known for its teaching learning process and Research. The faculty plays an important role in shaping the young minds of the students and future technocrats. Faculties of Computer Science & Engineering are very energetic, knowledgeable and intelligent. They actively participate in Faculty developments Programs& different. technical. activities.

Brain Fingerprint

Brain fingerprinting is based on finding that the brain generates a unique brain wave pattern when a person encounters a familiar stimulus Use of functional magnetic resonance imaging in lie detection derives from studies suggesting that persons asked to lay show different patterns of brain activity than they do when being truthful.



Brain Fingerprinting is designed to determine whether an individual recognizes specific information related to an event or activity by measuring electrical brain wave responses to words, phrases, or pictures presented on a computer screen.

The technique can be applied only in situations where investigators have a sufficient amount of specific information about an event or activity that would be known only to the perpetrator and investigator.

Internet of Things

The Internet of Things (IOT) describes a kind of network which interconnects various devices with the help of internet. IOT assists to transmit data with among devices, tracing and monitoring devices and other things. IOT make objects 'smart' by allowing them to transmit data and automating of tasks, without lack of any physical interference.



A health tracking wearable device is an example of simple effortless IOT in our life. A smart city with sensors covering all its regions using diverse tangible gadgets and objects all over the community and connected with the help of internet.



Dr. Yusuf Parvej
Professor



Ms. Vaishali Singh
Assistant Professor



Mr. Shivam Srivastava
Assistant Professor

Screenless Display

Screenless display is an interactive projection technology developed to solve the problems related to the device miniaturization of the modern communication technologies. The lack of space on screen based displays provides an opportunity for the development of screenless displays.

As the name indicates screenless display has no screen and it can be defined as a display used to transmit any data such as pictures or videos without the help of screens.



Mr. Satish Kr. Singh
Assistant Professor

Apache Hadoop

Apache Hadoop is an open source framework that is used to efficiently store and process large datasets ranging in size from gigabytes to petabytes of data. Instead of using one large computer to store and process the data, Hadoop allows clustering multiple computers to analyze massive datasets in parallel more quickly.

Hadoop Distributed File System (HDFS) – A distributed file system that runs on standard or low-end hardware. HDFS provides better data throughput than traditional file systems, in addition to high fault tolerance and native support of large datasets.



Ms. Apoorva Dwivedi
Assistant Professor

Bitcoin's Blockchain Technology

Cryptocurrencies are part of a blockchain and the network required to power it. A blockchain is a distributed ledger, a shared database that stores data.

Data within the blockchain is secured by encryption methods. When a transaction takes place on the blockchain, information from the previous block is copied to a new block with the new data, encrypted, and the transaction is verified by validators called miners—in the network.





Ms Neha Sankhwar
Assistant Professor

Flexible Display

The most common flexible display is flexible OLED technology. There are also other flexible display technologies, such as flexible EPD and flexible electro chromic displays. A flexible display is fundamentally the same thing as any other display, the difference being that it is built on a flexible substrate. This substrate could be plastic, paper, metal, or flexible glass. Flexible displays are typically very light, thin, and almost shatter-proof. Sometimes curved, bendable, and foldable displays are discussed, which are, in principle, the same as flexible displays.

As of right now, the single biggest applications for flexible displays is the Smartphone. The value-added functionality can be debated, but from a purely aesthetic point of view, a flexible display has some quite impressive features.



Several smartphone vendors, e.g. Samsung, LG, Huawei, Sony, Xiaomi, and Oppo, are currently offering phones with flexible displays that are wrapped around the edges of the devices. These displays certainly look beautiful, and this appearance cannot be achieved with a rigid display.



Ms. Divya
Assistant Professor

Google Glass

Google Glass is a wearable, voice- and motion-controlled Android device that resembles a pair of eyeglasses and displays information directly in the user's field of vision. Google Glass offers an augmented reality experience by using visual, audio and location-based inputs to provide relevant information. For example, upon entering an airport, a user could automatically receive flight status information.

When the first version was launched in 2013, consumers immediately voiced their concern of the glasses being an invasion of privacy. Google Glass represented inescapable recording in everyday life.



At first, Google attempted to rebrand the glasses as a tool for professionals such as surgeons or factory workers. However, concern remained and Google ceased all work on the Glass project in 2015.



Mr. Vipin Rawat
Assistant Professor

Bionic Eye

Bionic eye, electrical prosthesis surgically implanted into a human eye in order to allow for the transduction of light (the change of light from the environment into impulses the brain can process) in people who have sustained severe damage to the retina.

The retina is a light-sensitive tissue layer found within the inner eye that transforms images obtained from the outside world into neural impulses, which are then passed along the optic nerve to the thalamus and ultimately to the primary visual cortex (the visual processing centre).

While the retina is damaged by those diseases, there must be some retinal ganglion cells that remain intact in order for the bionic eye to function as intended.

Affected individuals must have been able to see at some point in their lives in order to create the nerve connections in the brain for the device to function. Extensive damage to the optic nerve or visual cortex also renders bionic eye implantation useless.



Mr. Neeraj Singh
Assistant Professor

5 Pen PC Technology

5 Pen PC Technology is basically a computer in the form of a pen. This computer is designed using five different pens, each having its own functionality that's why it is called 5 Pen PC Technology. NEC, which is a Japanese technology company, developed this pen in the year 2012. This technology consists of various features like it has a mobile phone, camera, projector and a central processing unit (CPU). This device takes input as handwriting and converts it into digital notes with different features. This device uses wireless-fidelity (Wi-Fi) to communicate with each other and to different devices over the internet. It can also be connected to mobile phones easily with Wi-Fi.

The scientist's name was **Toru Ichihashi**, who developed this technology.



Our Placed Students



Jyotish Bhaskar
2018-2022



Vishal Bajpai
2018-2022



Sarthak Dixit
2018-2022



Anuj Vishwakarma
2018-2022



Anamika Kumari
2018-2022



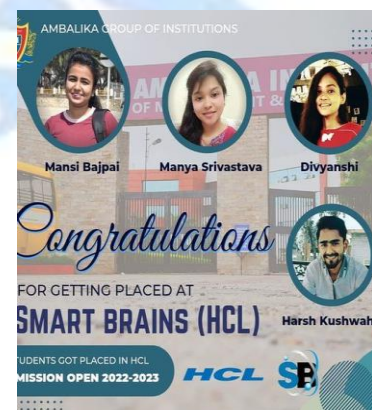
Yash Trivedi
2018-2022



Punit Kumar Verma
2018-2022



Bhawana Tulsiani
2018-2022



**Mansi Bajpai, Manya Sri,
Divyanshi, Harsh**
2018-2022

Company Profile

Google



The American search engine firm Google, officially known as Google LLC and formerly known as Google Inc. (1998-2017), was founded in 1998 by Sergey Brin and Larry Page and is a division of parent company Alphabet Inc. Google is in charge of more than 70% of all global online search queries, making it central to the experience of the majority of Internet users. One of the most well-known brands in the entire world. The company's main office is in Mountain View, California.

Although Google started out as an internet search engine, it now provides over 50 Internet products and services, ranging from email and online document production to mobile phone and tablet computer software. Google's 2012 purchase of Motorola Mobility also allowed it to sell mobile phone hardware. Google has partnered with a number of companies, such as NASA and AOL. It also has a charitable arm called Google.org. Google was originally called Googol. The name is a combination of the number 1 and 100 zeros. This was chosen to indicate that Google was going to be a large-scale search engine.

Since Google is one of the top companies in the industry, the selection process is quite rigorous because they need to recruit the best talent for their business. Over the last few years, the selection process has included Aptitude & Technical test, group discussion round and finally the interview round.

Google's original goal was to create a powerful search engine that uses algorithms to sort through massive amounts of content to provide accurate results for every search query.

Google made money from its search engine through Google Adwords. Google Adwords is an online platform that allows Google to monetize its search engine capabilities by selling ads.

Google has since launched many other products and services such as YouTube, Google Maps, Google Apps, and Google Cloud.

One of Google's strengths is that they can release a prototype or a beta version of their product and keep improving it with each release.

Tech Mahindra



Tech Mahindra is an Indian multinational information technology services and consulting company. Part of the Mahindra Group, the company is headquartered in Pune and has its registered office in Mumbai. Tech Mahindra is a US\$6.0 billion company with over 158,000 employees across 90 countries. The company was ranked #5 in India's IT firms and overall #47 on Fortune India 500 list for 2019.

On 25 June 2013, Tech Mahindra announced the completion of a merger with Mahindra Satyam. Tech Mahindra is one of the top Big Tech (India) companies. Tech Mahindra has 1,262 active clients as of June 2022.

Mahindra & Mahindra started a joint venture with British Telecom in 1986 as a technology outsourcing firm. British Telecom initially had around a 30 percent stake in Tech Mahindra. In December 2010, British Telecom sold 5.5 percent of its stake in Tech Mahindra to Mahindra & Mahindra for Rs. 451 crore. In August 2012, British Telecom sold 14.1 percent of its stake to institutional investors for about Rs. 1,395 crore. In December 2012, British Telecom sold its remaining 9.1 per cent (11.6 million shares) shareholding to institutional investors for a total gross cash proceeds of Rs. 1,011.4 crores. This sale marked the exit of British Telecom from Tech Mahindra.

In March 2021, Tech Mahindra partnered with US-based business intelligence analytics company ThoughtSpot. In April 2021, Tech Mahindra acquired US-based DigitalOnUs, a hybrid cloud and DevOps services provider for \$120 million. In June 2021, Tech Mahindra also acquired US-based (New Jersey) Brainscale Inc., a cloud consulting and cloud transformation service provider for \$30 million, and Colorado-based Eventus Solutions Group for \$44 million. Overall, spending around \$230 million to buy 5 companies in the year 2022.itself.

Tata Consultancy Services



TATA Consultancy Services Limited (TCS) is an Indian multinational information technology (IT) services and consulting company with its headquarters in Mumbai, Maharashtra. It is a part of the Tata Group and operates in 150 locations across 46 countries. In July 2022, it was reported that TCS had over 600,000 employees worldwide. TCS is the second largest Indian company by market capitalization and is among the most valuable IT service brands worldwide, and is the top Big Tech (India) company. In 2015, TCS was ranked 64th overall in the Forbes "World's Most Innovative Companies" ranking, making it one of the highest-ranked IT services companies and a top Indian company. As of June 2023, it is the world's 2nd

largest IT employer.

As of 2018, it is ranked eleventh on the Fortune India 500 list. In September 2021, TCS recorded a market capitalization of US\$200 billion, making it the first Indian IT tech company to do so. In December 2022, the market cap was Rs. 11,71,481.89 crore. In 2016–2017, parent company Tata Sons owned 72.05% of TCS and more than 70% of Tata Sons' dividends were generated by TCS.

In May 2021, alongside consortium partner Neurotechnology, TCS was selected by the Unique Identification Authority of India (UIDAI) to provide biometric technology for the Aadhaar digital ID program. The Aadhaar program has been described by the World Bank Chief Economist Paul Romer as the "most sophisticated ID programme in the world" owing to the existing database of over 1.3 billion citizens.

AIMT Events

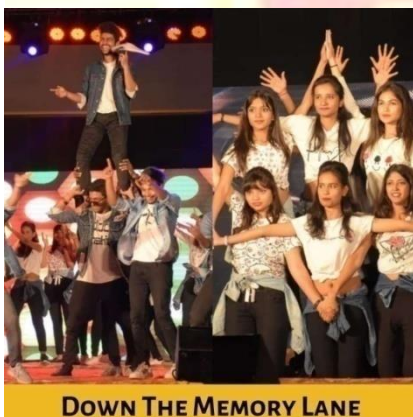
Codewar

Launching of Codewar Community under the edges of AIMT Student Chapter

- An open community where whole CSE Department is there of every year from juniors to seniors. With one aim is to help other students in coding, development by sharing resources, doing webinars, conducting events, live discussion & mentorship from Officials.
- Our Ultimate goal is to build an open system where whole CSE department is a member of this community.



Date: 08th MAY 2022



AIMT Fest Zonal

- "Acting is a way to express ourselves" - Not everyone can portray and live different roles. The richness and depth of celebrations express a culture accurately.

Digital Marketing Workshop

- This workshop will give you the fundamentals of digital marketing, empowering you to create coherent market plans and carry out successful campaigns.



Mr. Prakhar Srivastava
Digital Marketing Head

Events

Seminar by CSI

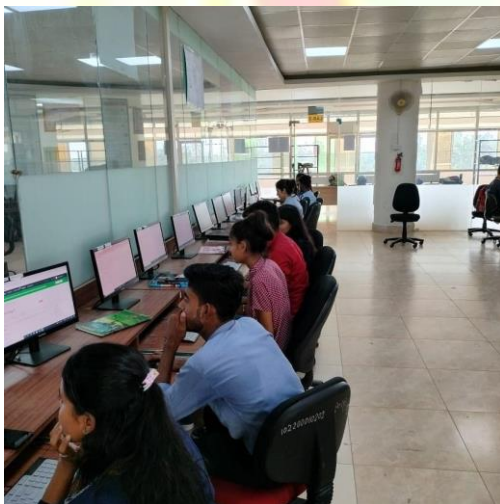


Mr. Shyam Kumar Garg
Secretary, CSI Lucknow



CSE Department

Webinar on "Developing Coding Skills"



Ambalika Competitive Programming Club (CSE)

HELPING BRAINZ PRESENTS

14th CYBER SECURITY & CYBER CRIME Awareness Session

CHIEF GUEST



LT CDR TEJINDER KAUR BHULLAR
(Retd.)
HR and Operations Management Professional

GUEST SPEAKER



PROF. (DR.). M. CHANDRA SEKHAR
CEO, MacLead
Experienced Information Security and Project Management Professional

SPEAKER



YEDHU KRISHNA MENON
Third Party Risk Management and Cyber Security Professional



12 FEB 2022

11:00AM TO 01:15 PM
on zoom

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www.helpingbrainz.org

E-VENUE: Ambalika Institute of Professional Studies, Lucknow, UP
EVENT URL: www.helpingbrainz.org/event/ambalikacyber

Webinar on Big Data Analytics



The poster is for a webinar titled "BIG DATA ANALYTICS". It is organized by the "DEPARTMENT OF COMPUTER SCIENCE ENGINEERING" at "AMBALIKA INSTITUTE OF PROFESSIONAL STUDIES". The speaker is "SATISH KUMAR SINGH (ASSISTANT PROFESSOR)", whose portrait is shown in a circular frame. The event is a "LIVE WEBINAR" scheduled for "04 FEB 2022" starting at "11.00 AM ONWARDS". A small logo is visible in the bottom left corner of the poster.

AMBALIKA INSTITUTE OF PROFESSIONAL STUDIES

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

INVITES YOU TO A

WEBINAR ON

BIG DATA ANALYTICS

11.00 AM ONWARDS

LIVE WEBINAR

04 FEB 2022

SATISH KUMAR SINGH (ASSISTANT PROFESSOR)

The often challenging process of analyzing large amounts of data to find information that might assist businesses in making wise decisions about their operations, such as hidden patterns, correlations, market trends, and customer preferences, is known as big data analytics.

Organizations can analyze data sets and gain new insights using data analytics technology and processes. Basic inquiries regarding business performance and operations are addressed by business intelligence (BI) queries.

Advanced analytics, which includes aspects like predictive models, statistical algorithms, and what-if analysis powered by analytics systems, is a subset of big data analytics.



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