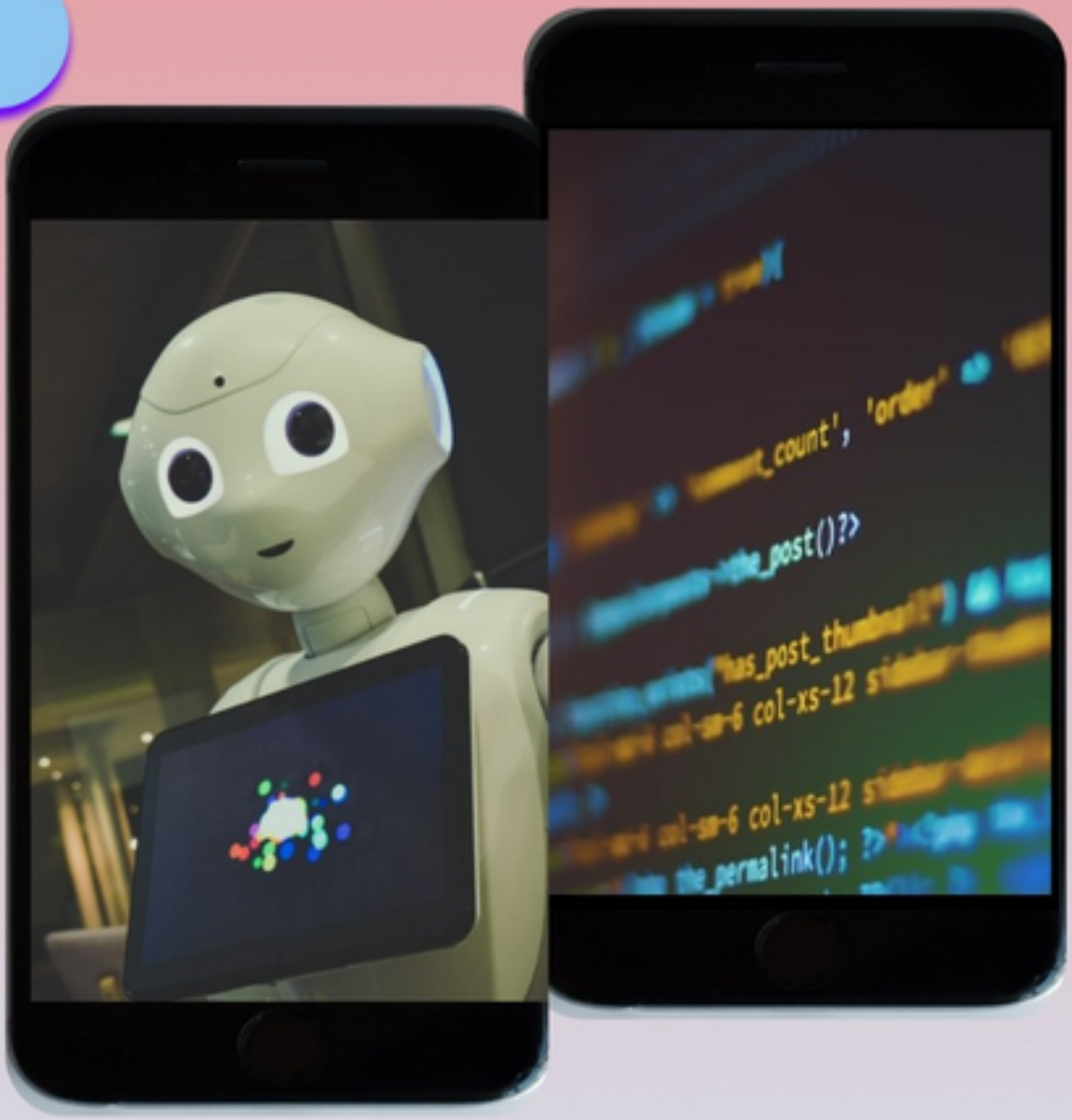
Mata Sundri College For Women

University of Delhi

TECHINSIGHT

2021-22

Volume II



DEPARTMENT OF COMPUTER SCIENCE

MATA SUNDRI JI

Mata Sundri Ji was the wife of Guru Gobind Singh Ji, the tenth guru of the Sikhs. Born on 23rd Dec 1667, she was married to the Guru in 1686. Hers was a remarkable personality that blended to a distinction, the diverse roles of a devoted wife, an ideal mother, and a confidant and far-sighted guide of the community. After the death of Guru Gobind Singh Ji, the Sikh masses found themselves in a state of disarray because of State terror, in addition to other hardships. In this difficult situation, it was Mata Sundri Ji who served as their guide, raised their morale, and virtually breathed new life into them through her wisdom, erudition, and spiritual power.

It was she who got the writings of Guru Gobind Singh collected and compiled as "Dasam Granth". She also persuaded devout Sikhs to prepare copies of holy hymns to be compiled in Adi Granth Sahib. Further, Mata Sundri Ji took care to ensure that the tradition of "langar" (free community kitchen) continued to flourish. Today, when moral values have declined, her lofty personality shines all the more by virtue of sheer contrast.

For about forty years Mataji stayed at the premises now occupied by Gurudwara Mata Sundri Ji. The institution of higher learning built adjacent to it is an apt tribute to her. Students from diverse religious backgrounds, faiths, castes and echelons of society have come together here and excelled in their chosen areas of interest, be it academics, sports, or extracurricular activities. As per the values promulgated by Mataji, equal opportunities and facilities are provided to all. The college imbibes her ideologies and it is an index of our homage to her memory, that this institution has been named after her. We bow our heads as a mark of respect before the greatness of her soul.

FROM PRINCIPAL'S DESK

Dear Young Friends
Heartiest Greetings!

My congratulations and best wishes to the Department of Computer Science, Mata Sundri College for Women, for coming up with its second volume of the E-Journal **"TechInsight 2021-22".**

It is indeed a creditable endeavour on the part of the faculty and students of the Computer Science Department. "TechInsight" provides the students a prestigious platform to express their views and ideas in an impressive and confident manner. This free expression of thoughts will go a long way to guide them, when they venture out. It will definitely hone their skills, thus equipping them with clarity and correctness of presentation.

I would like to thank the competent and diligent faculty members of the Computer Science Department, and all the sincere students, who have put in a lot of efforts to make it possible.

The enthusiastic keenness put in by the editorial team of **"TechInsight"** is really praiseworthy and my congratulations to all of them. Their hard work and dedication have brought forth a wonderful compilation of academic and extracurricular achievement of the department.

I wish all the members of the editorial board, success in all these future endeavours.

Prof. Harpreet Kaur
Principal
Mata Sundri College for Women

FROM TEACHER IN-CHARGE'S DESK

Dear All
Greetings!!

It is a matter of great pride and pleasure to share with you that Department of Computer Science, Mata Sundri College for Women, is coming up with its second volume of E-Journal **"TechInsight 2021-22".**
We all know that the world today is connected entirely with links and hyperlinks. All the required information is available just at a click of the fingertip. The advancements in the digital arena are progressing at a superfast speed. "TechInsight" endeavours to keep everyone abreast of these technological inventions and discoveries. Not just that, it has its quota of fun and laughter and a major dose of creativity.
It is a commendable effort on part of the faculty members of Department of Computer Science in bringing forth the E-Journal. I congratulate the editorial board and wish them the best.
Looking forward to many more issues of **"TechInsight"**.

Dr. Kiranjeet Sethi
Course Coordinator
Department of Computer Science

FROM EDITOR'S DESK

Dear Young Friends
Heartiest Greetings!

Computers are present in almost every facet of modern culture. With unparalleled potential, the current period is a good moment to enter the field of computers. Computing is the design, development, and manufacture of hardware and software systems based on extensive scientific study, culminating in a computer system that functions flawlessly. Computing innovations are improving people's lives all across the world.

In today's competitive business environment, the journey of organisations to become leaders in their respective sectors is a recurring and necessary effort. Because of the changing nature of the technology business, this hunt becomes even more intense. Because of the velocity at which advancements in computer technologies are occurring, it has become difficult for the IT community to be aware of and well-informed about all of these changes. This IT symposium will help to bridge that chasm. This second volume of Computer Science department journal, **TECHINSIGHT 2021-22**, will give visuals on the newest technology and kickstart a new thought process in the minds of aspiring IT workers.

I would like to express my gratitude to the authors and the talented and excellent editorial team for their invaluable contribution in compiling this year's **TECHINSIGHT.**

Dr. Megha Gupta
Assistant Professor
Department of Computer Science

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2021-22

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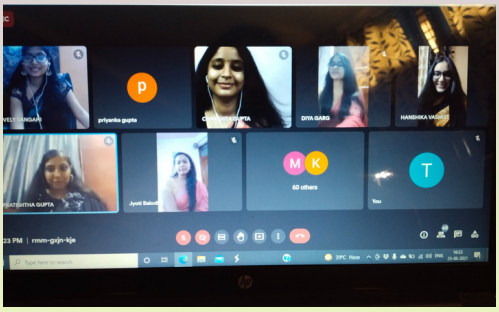
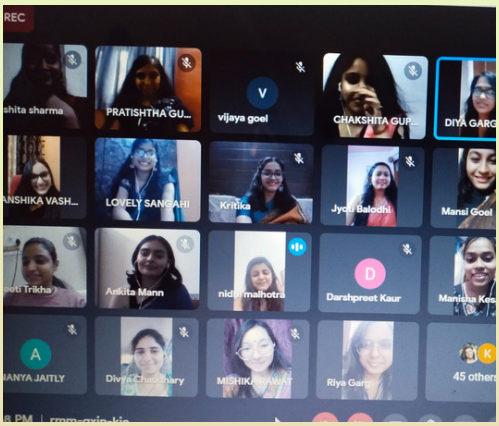
Events

2021-22

SAYONARA'21

June,2021





Farewell Ceremony aka SAYONARA 2021 for the Computer Science batch of 2018-2021 was organised on 25 June'21 from 16:00 IST(4:00 P.M) to 19:00 IST(7:00 P.M) on google meet. The ceremony began with the blessings of the course coordinator- DR. Kiranjeet Sethi followed by a shower of blessings from DR. Nidhi (Department Coordinator) and all other faculty members. Many fun games were organised to engage the seniors. Many students showcased their skills and talents. Titles that best suit were given to seniors. Also as a surprise, a lovely video was created that made them nostalgic and left them in awe at the same time. Holding back our tears we bid farewell to our 2nd loveliest batch.

TEACHERS DAY CELEBRATION

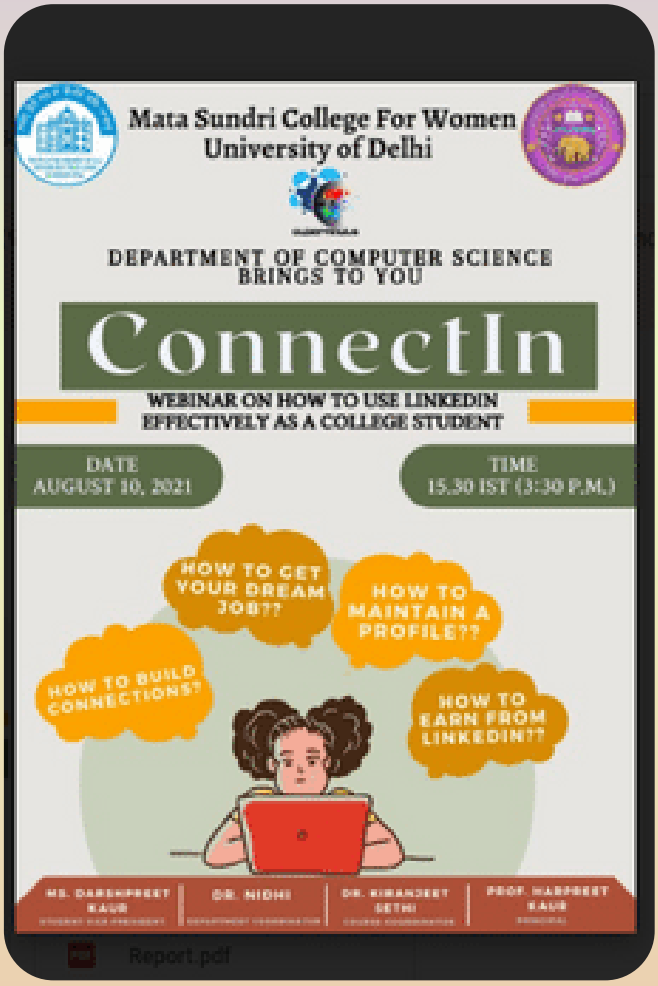
Developing a Career is a lifelong process and there are numerous factors that influence the same ranging from your interests, capabilities, values, and personality. Identifying these factors can be a rigid task hence the goal of Career Counselling is to not only help you with decision making but also to provide you with assets such as knowledge and skills.

Keeping this idea in mind, CYBERNAUTS, the Tech Society of Department of Computer Science, Mata Sundri College for Women organised a webinar on Career Counselling "HOW TO PREPARE FOR CAMPUS PLACEMENT AND HIGHER STUDIES", guided over by the supremely talented Alumni of our department. The webinar conversed majorly with an aim of virtual interchange of experiences shared by our seniors trip to crack interviews, future opportunities in IT sectors. The session was conducted on Saturday, 17th July 2021 from 4:00 PM IST over Google Meet. The webinar saw active participation of around 70+ students. The session was conducted under the able guidance of Prof. (Dr.) Harpreet Kaur (Principal), Dr. Kiranjeet Sethi(Course Coordinator), Dr. Nidhi (Department Coordinator), and Team Cybernauts.

The session commenced with the welcome speech by Ms. Darshpreet Kaur. The webinar saw a brilliant lineup of speakers from Mishika Rawat, Chakshita Gupta, Kritika Dey, Sakshi Sharma, Sakshi Rajput, Kavita, Diya Garg, Jyoti Balodhi, Esha Bisht, Pratishtha, Radhika Gupta to Paridhi Shah. All the speakers were very well introduced by Ms.Ranveer. The speakers talked about their respective interviews for placement in Deloitte and Wipro, Off-Campus placements, pursuing Msc. in CS, MCA, MTech, UX/UI Designing, Startup Culture, Freelancing for Animation and Automation and Govt. Jobs. The webinar was highly interactive with many interesting questions raised by the participants which also depicted their active participation in the session. The speakers handled all the queries meticulously and the session was finally concluded witha vote of thanks by Ms. Pragati at around 7:30pm.

CONNECTIN

August, 2021



LinkedIn. is the world's largest professional network where you can showcase your skills, expertise, education, experience, etc. In short, it acts as your digital CV. Identifying these. factors can be a rigid. task hence it is important to connect with others and boost your career.

Keeping this idea in mind, CYBERNAUTS, the Tech Society of Department of Computer Science, Mata Sundri College for Women organised a webinar "CONNECTIN - HOW TO USE LINKEDIN EFFECTIVELY AS A COLLEGE STUDENT", guided over by the supremely talented students of our department. The webinar conversed majorly with an aim of optimising your LinkedIn account, connecting with the right people and increasing your skills. The session was conducted on Tuesday, 10th August 2021 from 3:30 PM IST over Zoom. 200+ students from various colleges registered for the webinar.

The session was conducted under the able guidance of Prof. (Dr.) Harpreet Kaur(Principal), Dr. Kiranjeet Sethi (Course Coordinator), Dr. Nidhi (Department Coordinator), and Team Cybernauts. The session commenced with a welcome speech by Ms. Pragati Rawat. The speaker, Ms. Ranveer Kaur, talked about the opportunities the platform offers, increasing searchability (SEO), how to reach out to others, and understanding the LinkedIn algorithm. The session covered various important questions related to LinkedIn. The speaker enlightened the attendees about how to create a LinkedIn profile and how to optimize it to bag their dream job or popularize their business ventures and make real connections with people across the globe having the same interests and goals. Attendees were also explained about what to post and how to communicate with professionals and moreover how to differentiate and deal with spam messages. The webinar was highly interactive with many interesting questions raised by the participants, depicting their active participation in the session. The speaker handled all the queries meticulously and the session was finally concluded with a vote of thanks by Ms. Astha Kuhikar.

August, 2021

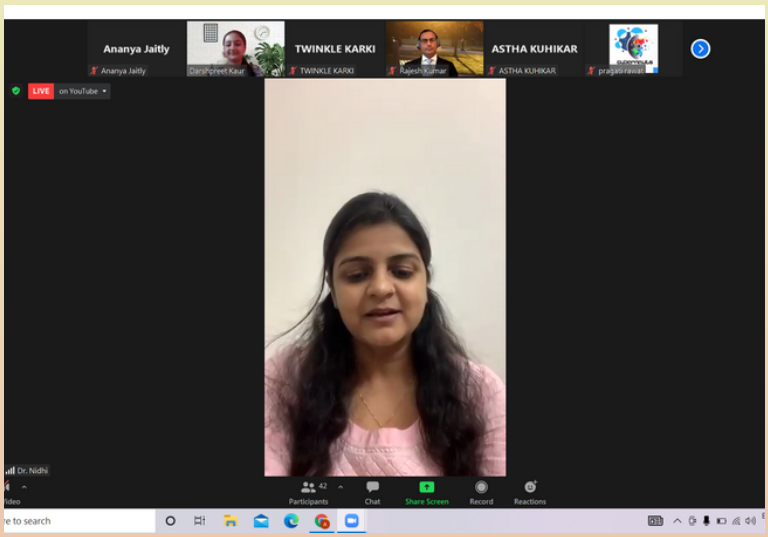
RESEARCH TALK- BEHAVIROL BIOMETRICS

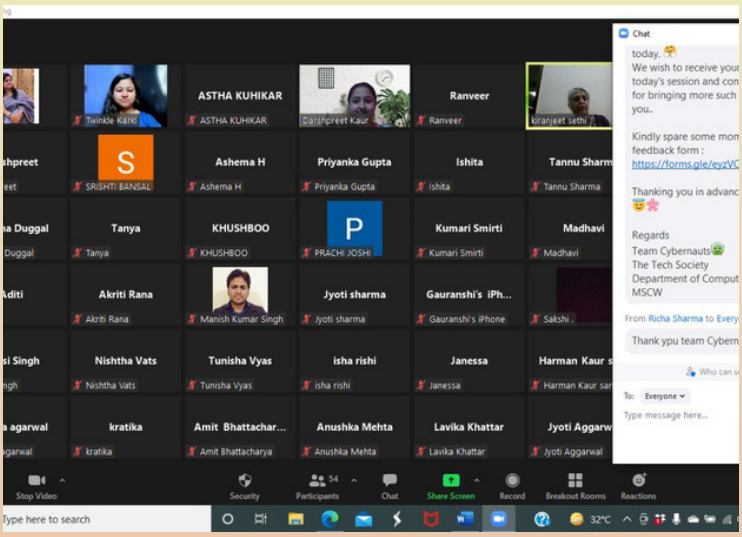
With new advances in biometric technology taking place each year, biometrics is one of the most exciting areas in STEM -- offering diverse working environments, flexible lifestyles, and countless opportunities for innovation. Keeping this in mind Team Cybernauts, the Tech Society of Department of Computer Science, Mata Sundri College for Women organized an interactive Research Talk on the topic Behavioral Biometrics: Towards a Securer, Smarter and Healthier World by Dr. Rajesh Kumar.

The session was scheduled for 26 August 2021 at 5 pm on Zoom. The program commenced with a welcome speech by Ms. Darshpreet Kaur (Student Vice President, Cybernauts) followed by a speaker introduction by Dr. Nidhi (Program Convenor). The registration for the program was 110+ but the session was attended by 80 participants and was conducted under the able guidance of Prof. (Dr.) Harpreet Kaur (Principal), Dr. Kiranjeet Sethi (Course Coordinator), Dr. Nidhi (Convener and Department Coordinator), and Team Cybernauts. The speaker covered all the important domains from what behavioral biometrics is and how students can start their journey in this field. He started off by explaining behavioral biometrics, its different types like kinesthetics (body movements), vocal patterns, and device-based gestures were discussed along with real-life examples. Further, he explained how biometrics provide better-than-password security to online accounts or personal hardware (like phones, tablets, or PCs). The talk discussed the growing demand for securing online access via mobile devices and computers. Biometric forms of authentication are less vulnerable to fraud and hacking because of their secure, convenient protection and by identifying individuals with a much higher accuracy rate compared to passwords. Furthermore, biometrics can not be shared, forgotten, or transferred, whereas passwords can. Biometric security has a critical role to play

in helping consumers and IT admins manage passwords, guard against wrongful access to sensitive devices, and reduce fraud and identity theft. Hence, it is now being used by law enforcement agencies and experts to fight cybercrimes. Once the user enrolls in the biometric system, there's only a digital representation of the biometric sample that gets stored as a template. A biometric algorithm selects the distinctive characteristics of each fingerprint, encrypts this data, and saves it as a template. The original image can not be reconstructed or copied in any way because it is a one-way algorithm ensuring the user's fingerprints will not get used for anything other than identification purposes. The speaker also negotiated that the biometrics systems are not perfect yet. For one, it's time-consuming to capture the user's biometric information and confirm their identity. It is also costly to do so. One issue that has surfaced is that the fingerprint scanners don't always recognize your prints if your hands have been sweating. Another problem is background noise interfering with voice recognition.

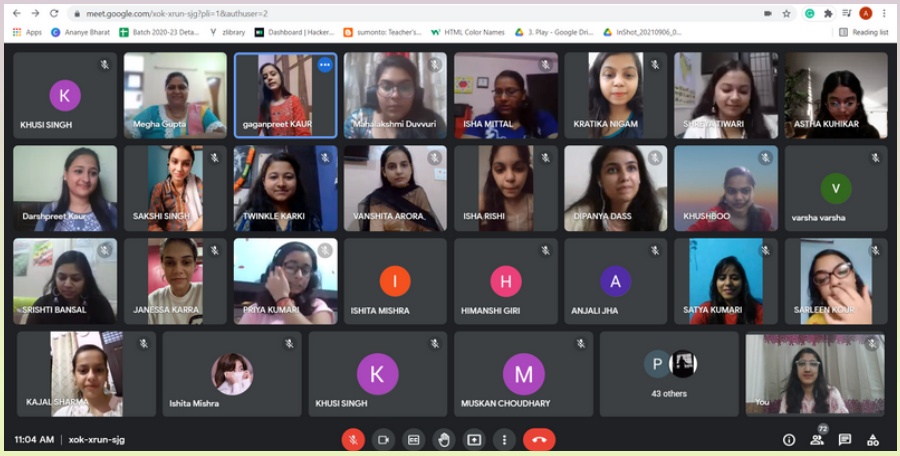
In addition to it, he shared interesting videos and graphics to support his points. He concluded the session by explaining how students can take this up as a career option and what their first step should be. The session turned out to be very interactive as a lot of questions were asked by the audience. The speaker handled all the queries patiently. The session was finally concluded with a vote of thanks by Ms. Twinkle Karki . The overwhelming feedback provided by the participants marked the success of the session.



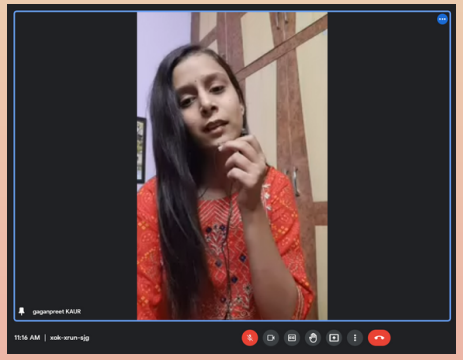


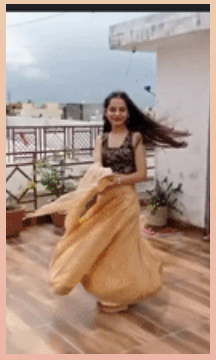
TEACHER'S DAY CELEBRATION

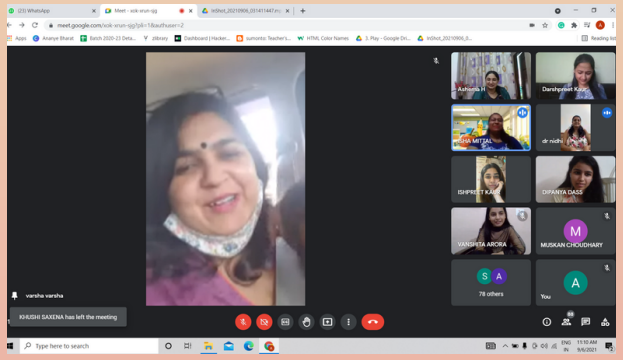
September, 2021

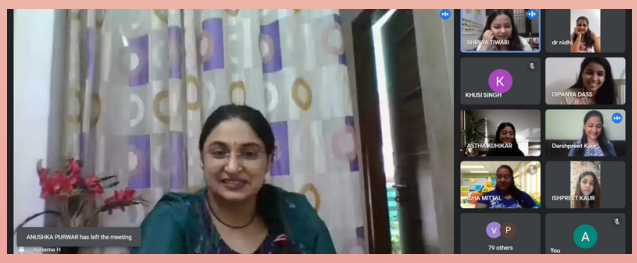


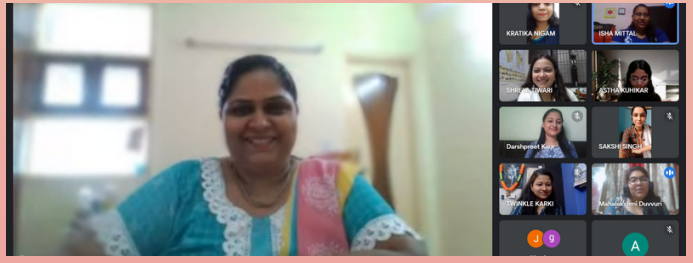
Department of Computer Science on 5th September 2021 celebrated Teachers day to make the day memorable. The celebration began with the prayer to seek blessings of god and then followed by various events. Students engaged with teachers through dancing and singing. Many games were organized for teachers to make the event more interesting and also results of games were announced to maintain that funny competitiveness between teachers. Students also performed a funny skit that every student and teacher could relate to. Last but not least students were addressed by their mentors. Seeing teachers happy, smiling, and laughing with students was really heartfelt and on this note, the event ended with a vote of thanks.







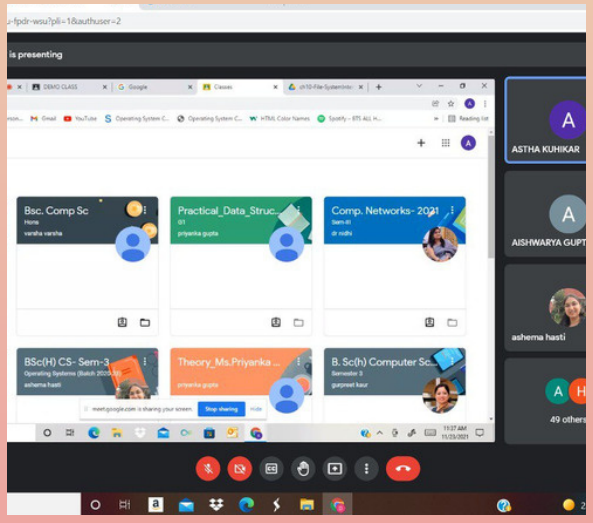


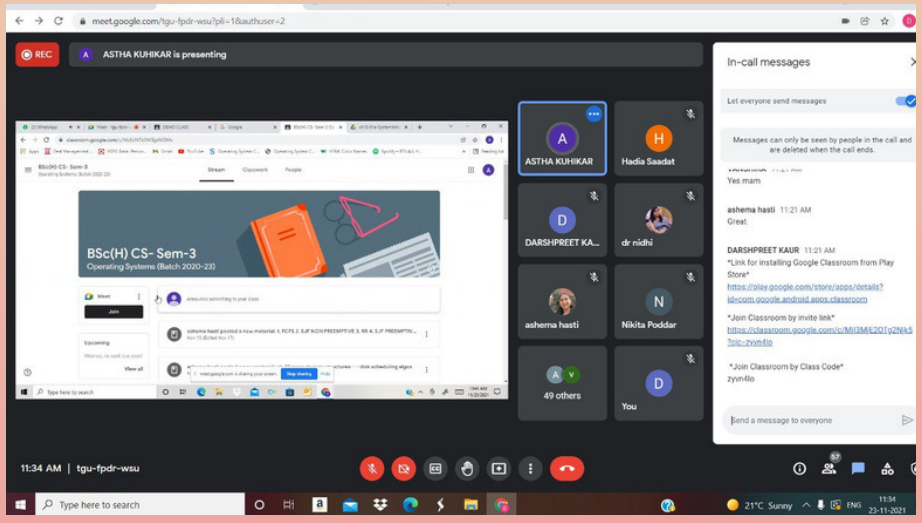


GETTING STARTED WITH G-CLASSROOM

On 23rd, November 2021 Computer Department organized a Peer Mentorship Program on how to use google classroom and google meet for freshers. Miss Darshpreet Kaur delivered a welcoming speech to 47 participants.

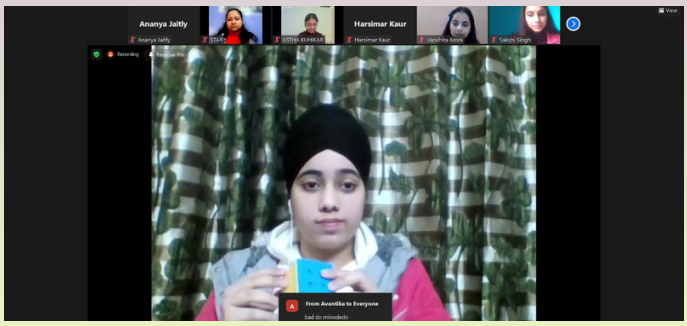
Further Ms. Astha Kuhikar explained everything about pc interface of google classroom. She explained how to join the classroom and access notes, tests,. or assignments. Moreover, she taught me how to post public and private comments and manage notifications and customized settings. Afterward, Ms. Ananya Jaitly explained everything about the mobile interface of google classroom and google meet. She initially explained the installation of google meet and google classroom from the play store and taught how to join meeting in google meet and how to join and use the classroom from the mobile interface. Then there was a brief interaction with the freshers to make them more comfortable in the environment. At last Ms. Pragati Rawat ended the session with a thank you speech.

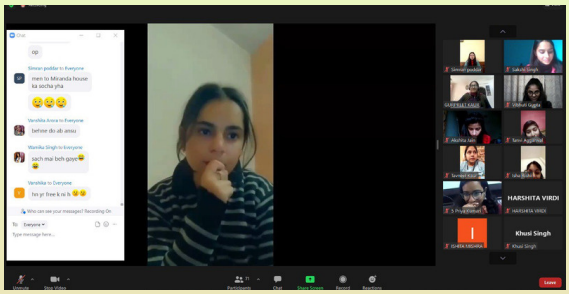


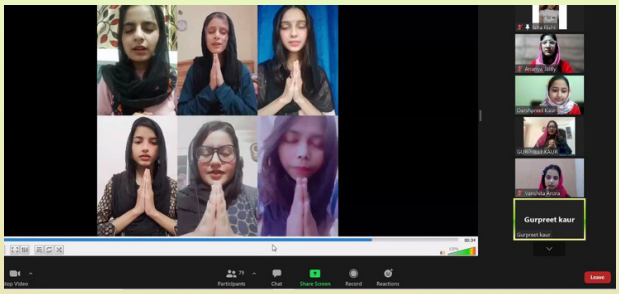


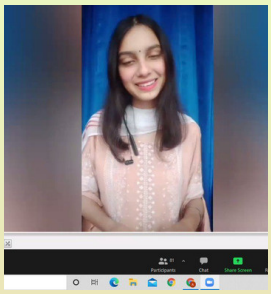
FIESTA'21

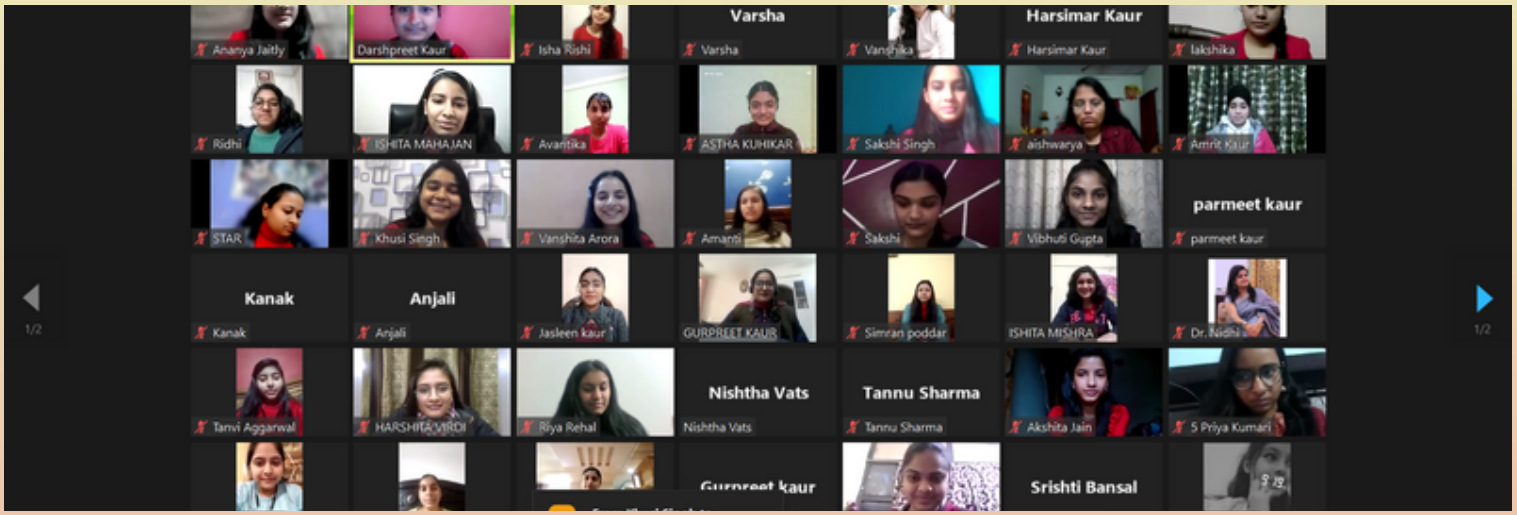
Janauary, 2022





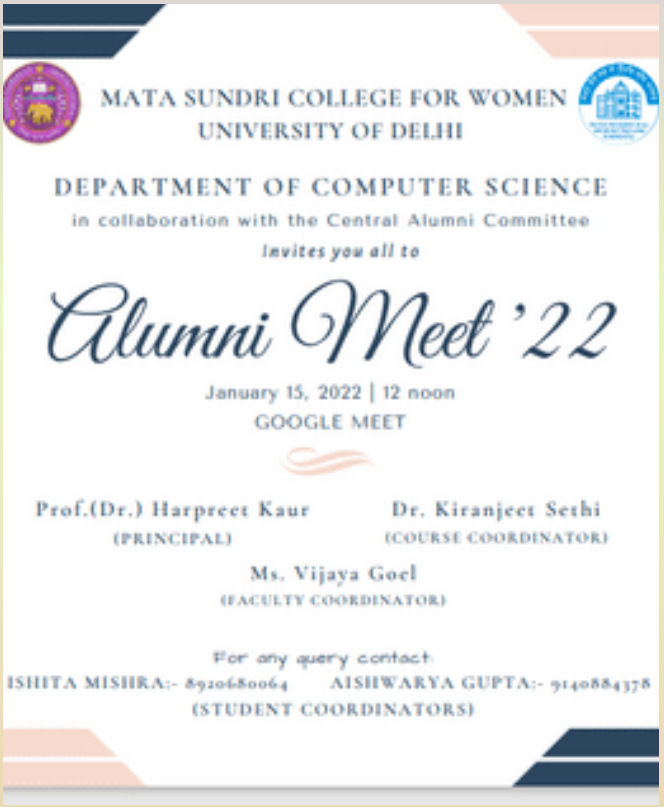






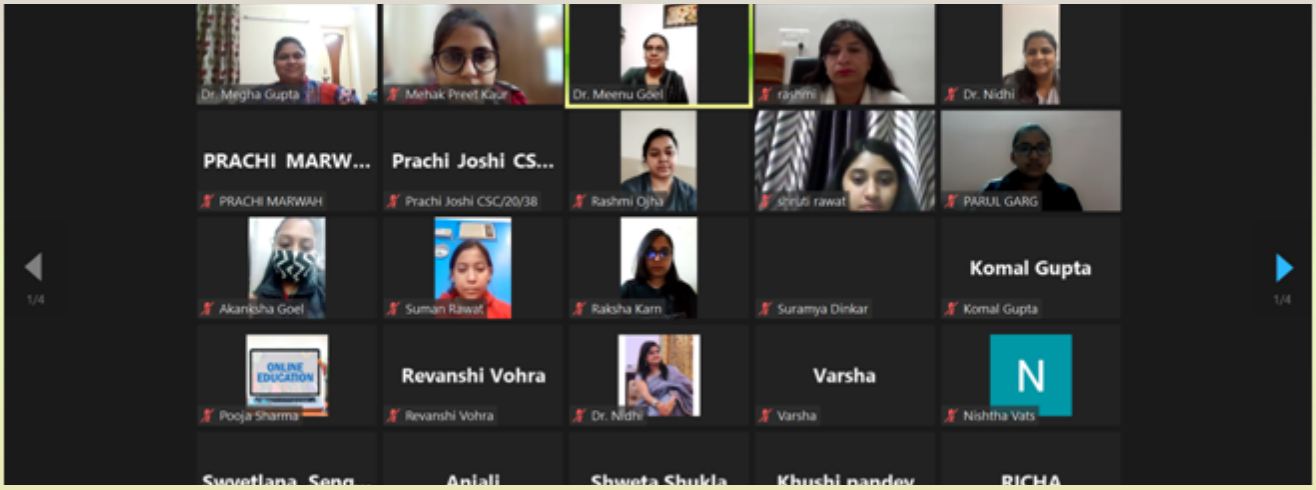
Freshers aka fIESTA'21 for the Computer Science Batch of 2021-2024 was organized on January 13, 2022, on zoom meeting. The Ceremony began by remembering the almighty and then welcoming freshers to the Computer science family. Students from all three years showcased their different talents. Dance, song, skit, and various games and contests were held to make the event more engaging. The attention seeker event was the Miss Freshers contest whose first-round included short videos in which second-year also participated to make it more engaging to freshers. the selected candidate of the first year from the first round appeared for the second round which included a talent showcase. To maintain the suspense, results were announced at the last. Students who Participated were given titles and one of them was awarded the miss freshers tag. The event ended with a heartfelt vote of thanks.

ALUMNI MEET



The Alumni Meet was conducted on 15th January 2022. It began at noon. There were around 70+ participants joined including faculty, alumni, student coordinators, current third year, second year, and first year students. The session started with a prayer by Ganagpreet, followed by Kiranjeet ma'am's speech addressing the fellow students. Then Vijaya ma'am and Ashema ma'am shared the mike to welcome and congratulate the audience. Pooja Jaggi ma'am from Central Alumni Committee also showered us with her blessings . Here the real fun begins with the beginning of the singing performance by some of our amazing singers from the first and second year. Followed by a fun Bollywood quiz. Some of the alumni shared with us their experiences of their college time and inspired us for our coming years. After that, the stage was on fire because of the dancer of college. Now it was time for Quiz 2 about guessing the logos, taglines, and advertisements which have surely bought back the nostalgia. Again we have requested some of the alumni to share a few words with us. Also impressed by us Kavita di sang a song for us. This was followed by another quiz – Never Have I Ever where everyone has shared their stories of 'I Have'. The perfect ending of the event was the jam session where everyone surely have broken a leg and also Preeti di had made our hearts skip for a moment with her voice. Before ending we thanked everyone present there for sparing their time for us. The session was finally concluded with a vote of thanks by Ms. Ishita at around 2:10 p.m.

RESEARCH MATRIX



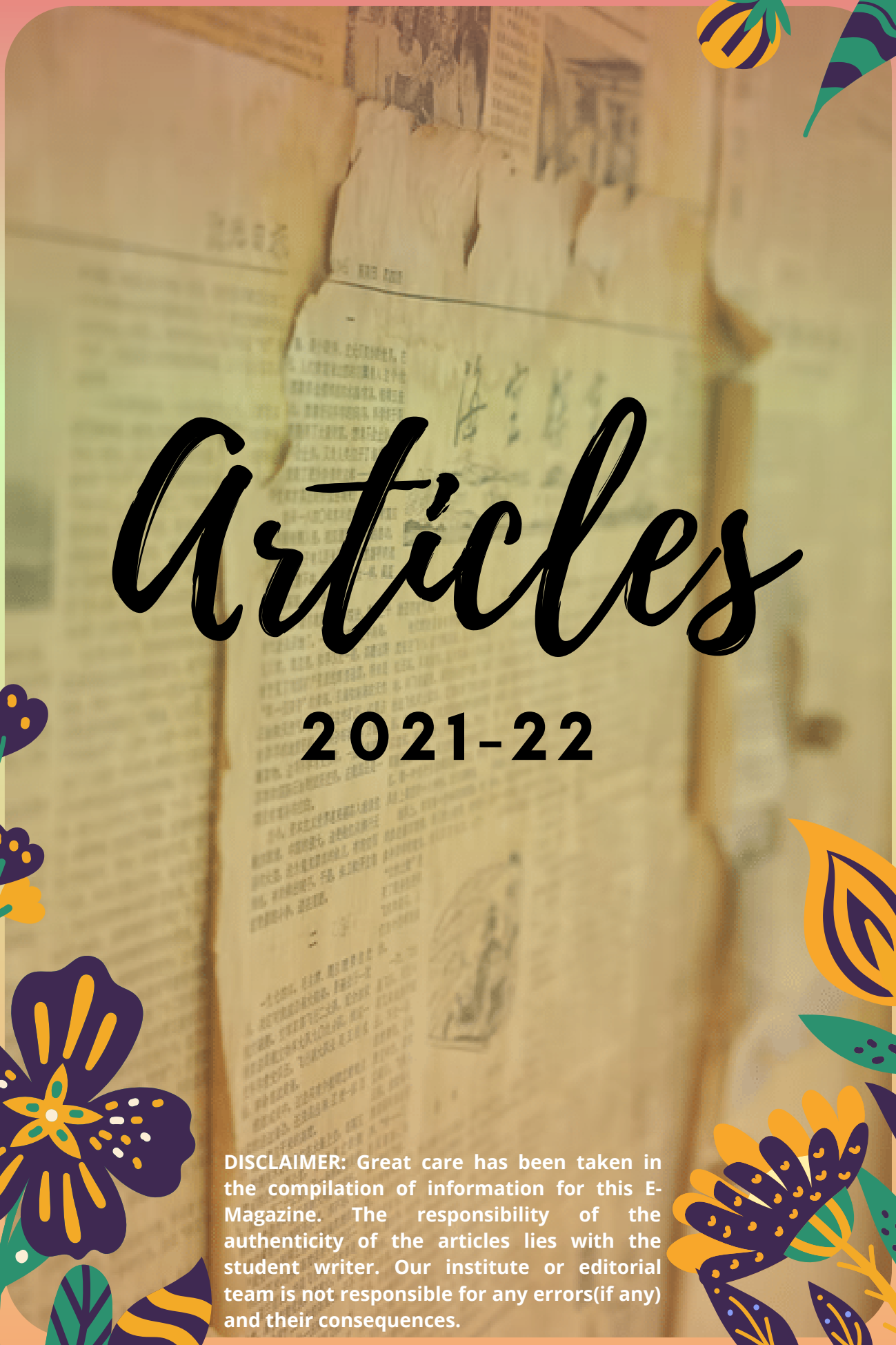
With an objective to acquaint the students with research and it's various aspects, The Departments of Computer Science, Mathematics and Statistics in collaboration with the Library Progression Committee organized an online Research Seminar- '+RESEARCH MATRIX'. It was held on February 17th, 2022 at 4 pm with more than 100 participants. The event was successfully conducted under the guidance and support of our honorable Principal ma'am- Prof. (Dr.) Harpreet Kaur and all the teachers present.The enormous response was well recognised through the registration of around 300+ students from various departments including Mathematics, Statistics, Computer Science and Psychology. The programme started by Dr. Nidhi enlightening the rules to be followed throughout the meeting and later she welcomed Ms. Mandeep Walia. She welcomed all the speakers, audience and expressed her gratitude for the Principal, Prof. (Dr.) Harpreet Kaur and Library Progression Committee for organizing a seminar on a theme relevant to student's needs. Further, Opening remarks and introduction of the programme was given by Ms. Sonia Aneja and Dr. Harleen Kaur on behalf of Library Progression Committee and Research Board respectively. The session was followed by oral presentations on the topic: Fundamental of research methodology, Effective research paper writing and Digital Tool used for research: Latex.

SPEAKERS :

Dr. Rashmi Verma (Dept. of Mathematics)

Dr. Komal Goel (Dept. of Statistics)

Dr. Megha Gupta (Dept. of Computer Science)



Articles

2021-22

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Virtual Reality

BY: SATYA (2ND YEAR)

Vitual reality (VR) is a simulated experience that can be similar to or completely different from the real world. Applications of virtual reality include entertainment (particularly video games), education (such as medical or military training) and business (such as virtual meetings). Virtual reality typically incorporates auditory and video feedback, but may also allow other types of sensory and force feedback through haptic technology.

One method by which virtual reality can be realized is simulation-based virtual reality. With avatar image-based virtual reality, people can join the virtual environment in the form of real video as well as an avatar. In projector-based virtual reality, modeling of the real environment plays a vital role in various virtual reality applications, such as robot navigation, construction modeling, and airplane simulation. Image-based virtual reality systems have been gaining popularity in computer

graphics and computer vision communities.

Desktop-based virtual reality involves displaying a 3D virtual world on a regular desktop display without use of any specialized VR positional tracking equipment. Augmented reality (AR) is a type of virtual reality technology that blends what the user sees in their real surroundings with digital content generated by computer software. The additional software-generated images with the virtual scene typically enhance how the real surroundings look in some way.

Virtual reality is most commonly used in entertainment applications such as video games, 3D cinema, and social virtual worlds.

5G Network: Boon or Bane

BY: LAVIKA(2ND YEAR)

The Fifth Generation of mobile networking is the descendant of the world's wireless standards succeeding 1G, 2G, 3G, and 4G networks. 5G is the advent of all the previous mobile networks based on CDMA. It establishes a secure connection for the users. It promises more than faster and secure networks, from high-speed mobile networks to smart cities, 5G is a life-changing technology. It has been designed to enable next-generation user experiences such as virtual reality appliances, telemedicine, remote surveillance, e-cars, including strengthening e-health. These potential applications of 5G are achieved by producing electromagnetic radiations which uses high frequencies around 300-600 GHz, making it faster and more efficient.

At these higher frequencies, 5G will use a greater number of base stations and beam forming antennas, which send data directly to devices, thus increasing mandatory exposure. The widespread adoption of 5G applications will result in a significant rise in total, long-term RF-EMF exposure. Electromagnetic fields above a certain level can trigger biological effects that have been discussed below.

- These frequencies cause tissue heating and also different kind of illness that are caused without heating ("non-thermal effect"), according to WHO. Heating occurs when your skin absorbs electromagnetic energy which causes slight rise in body temperature.
- Low-level exposure to the fields, according to WHO and other agencies, raises the chance of negative consequences such as abortion and low birth weight. Occasional reports of association between health problems and EMFs have not been regarded by the scientists.

- The latest cellular technology uses millimeter waves that are in most cases absorbed inside a few millimeters of human skin pores and cornea.
- Studies on EMFs have shown negative effects of these radiations which include the risk of developing cancer on exposure to RF-EMF via cell phones.

However, some studies have conflicting evidence. Opinions and research outcomes on 5G diverge across the community, government and organization. Therefore, more studies are needed to determine if 5G have been potentially associated with any of the health.

Ambient Technology

BY: LAKSHIKA SHEORAN(1ST YEAR)

The ability of technology to make decisions and act on our behalf taking into consideration our preferences based on the data available to it from all the connected sensors and systems surrounding the user can be defined as Ambient Intelligence. Ambient intelligence represents the future vision of intelligent computing where input and output devices will not be required; instead, sensors and processors will be embedded into everyday devices and the environment will adapt to the user's needs and desires seamlessly.

The concept of ambient intelligence was first developed by Eli Zelkha and his colleagues in the late 1990s. They initially aimed to create devices that would work with humans to make the latter's everyday life easier. The devices would use data and intelligence carefully collected and stored in connected devices, such as those powered by the Internet of Things (IoT).

With many industries contributing to the growth of the field, research on ambient intelligence expanded. The concept led to the production of a host of devices and technologies that aim to make the human environment highly adaptive and flexible. Ambient intelligence is intelligent. It has huge potential for improving the quality of living, comfort, and safety of people. AmI homes with human-centric technologies will make daily chores very easy. This will play a significant role in providing quality care for the elderly, particularly as the population ages. Even outside our homes, AmI will find applications in several domains including retail, healthcare, manufacturing, smart cities, and more.

Among the typical applications of nascent ambient intelligence are assistants like Alexa, Echo, and Google Home.

These devices feature multimodal interfaces, which can be activated via text messaging, voice, or touch.

Augmented Reality v/s Virtual Reality

BY: SHREYA GUPTA(2ND YEAR)

Augmented reality is an enhanced version of the real physical world that is achieved through the use of digital visual elements, sound, or others via technology. It is a growing trend among companies involved in mobile computing and business applications in particular. We all encounter Augmented Reality every day without even being aware of it. As time goes by, it is becoming common. In our everyday lives like during the process of buying home we use AR. Due to its use in the medical industry, the life of patients has become safer. It helps in early and efficient diagnosis of diseases.

Also, Augmented Reality can be used in Defence, Gaming, Advertisement, Healthcare, Pharma-ceuticals, etc. AR is both interactive and registered in 3D as well as combines real and virtual objects.

Some basic characteristics of Augmented Reality-

- Combination of the real and virtual world.
- Real-time interaction.
- Accurate 3D registration of real and virtual objects.

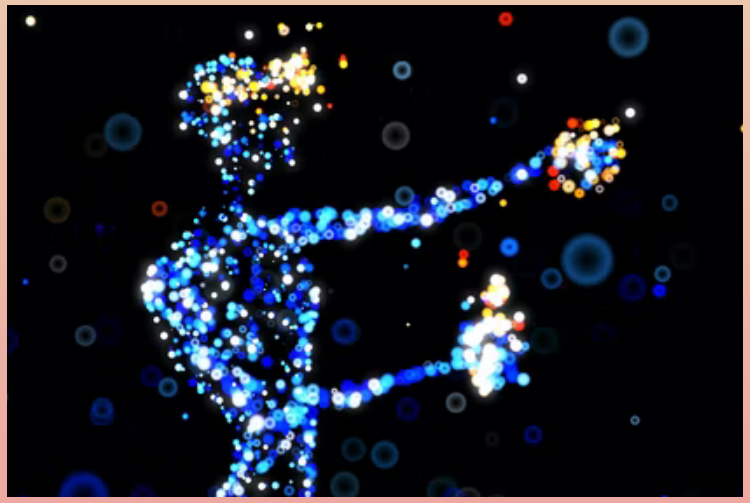
Overlay AR provides multiple views of a target object with the option to display additional relevant information about that object.

WORKING OF AR

There are some main components that perform the whole process, which are:

- Hardware - The core components of any AR-based tool are the processor, sensors, input devices, and mainly the display. The display can include smartphones, handheld devices, or smart glasses. The input can be cameras or webcams.
- Software- The overlapping of digital projection over a real-life object is possible by leveraging using 3D software.
- Remote server- to store or render data cloud servers are needed.

Based on these three components the AR works .We even have seen there use in scanning QR codes or for finding GPS .



Some drawbacks of augmented Reality:

- It is expensive to develop the AR technology based projects and to maintain it.
- Lack of privacy is a concern in AR based applications.
- In AR, people are missing out on important moments.

Virtual reality is a simulated experience that can be similar to or completely different from the real world. The goal of VR is to provide human beings with a virtual environment where we can interact with a computer just as we do in the real world, that is, by talking with a virtual human in a spoken language, by writing a letter, or by drawing a picture. Virtual reality's growing market presents an opportunity and an alternative channel for digital marketing.It is also seen as a new platform for e-commerce.

Some applications of VR are :

- In Healthcare VR is used also for entertainment purposes VR is widely used.
- Education and military purposes things are now somehow mostly dependent on these modern technologies.

- One of the biggest such VR problems includes isolation. A user can enjoy the virtual world so much, they forget about the real world. This can also lead to problems with social interaction caused by isolation.
- Lack of trust is also seen in there.

Both Augmented reality(AR) and Virtual Reality(VR) are used widely in our modern world which are quite useful for us. Although there are some drawbacks but the advantages outweighs the disadvantages and makes them effective.

Artificial Intelligence

BY: DEEPANSHI(1ST YEAR)

Artificial Intelligence refers to the intelligence of machines. This is in contrast to the natural intelligence of humans and animals. With Artificial Intelligence, machines perform functions such as learning, planning, reasoning and problem-solving. Most noteworthy, Artificial Intelligence is the simulation of human intelligence by machines. It is probably the fastest-growing development in the World of technology and innovation.

Types of AI

First of all, the categorization of Artificial Intelligence is into four types. Arend Hintze came up with this categorization. The categories are as follows:

Type 1: Reactive machines

These machines can react to situations. A famous example can be Deep Blue, the IBM chess program. Most noteworthy, the chess program won against Garry Kasparov, the popular chess legend. Furthermore, such machines lack memory.

Type 2: Limited memory

These AI systems are capable of using past experiences to inform future ones. A good example can be self-driving cars. Such cars have decision-making systems. The car makes actions like changing lanes. Most noteworthy, these actions come from observations. There is no permanent storage of these observations.

Type 3: Theory of mind

This refers to understanding others. Above all, this means to understand that others have their beliefs, intentions, desires, and opinions. However, this type of AI does not exist yet.

Type 4: Self-awareness

This is the highest and most sophisticated level of Artificial Intelligence. Such systems have a sense of self. Furthermore, they have awareness, consciousness, and emotions. Obviously, such type of technology does not yet exist. This technology would certainly be a revolution.

Applications of Artificial Intelligence

AI has significant use in healthcare. Companies are trying to develop technologies for quick diagnosis. Artificial Intelligence would efficiently operate on patients without human supervision. Such technological surgeries are already taking place. Another excellent healthcare technology is IBM Watson.

Artificial Intelligence in business would significantly save time and effort. There is an application of robotic automation to human business tasks. Furthermore, Machine learning algorithms help in better serving customers. Chatbots provide immediate response and service to customers.To sum it up, Artificial Intelligence looks all set to be the future of the World. Experts believe AI would certainly become a part and parcel of human life soon. AI would completely change the way we view our World.

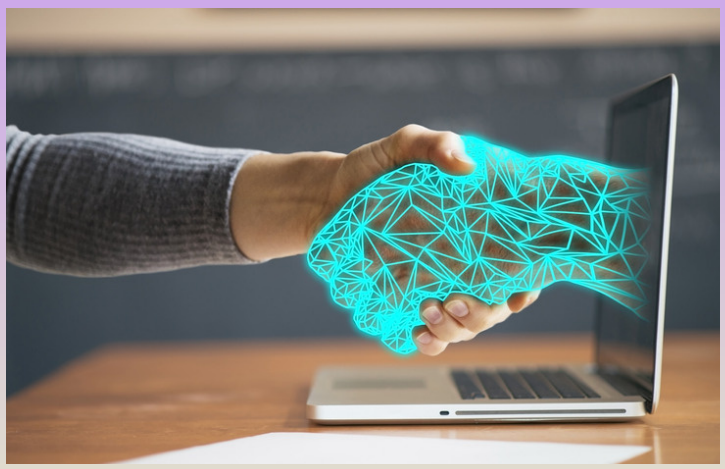
Internet Of Things (IoT)

BY: YASHASVI(1ST YEAR)

Technology is playing a major role in our lives. People at present mostly depend upon the internet and computer to perform their maximum tasks. Not only it has changed our lifestyle but also made it comfortable. Internet of things is also an aspect of the internet Internet of things simply means the network of devices that are able to share and receive data and information with other devices via using the internet.The things or objects in the IoTs above are well equipped with sensors, software, and machine learning techniques. The use of such objects reduces human interference in doing any of the work. The advent of IoT has totally changed the life of human beings by reducing their workload and time.

The advancing technology day by day is giving rise to different smart objects thereby improving the standard of living of human beings.These devices are architecture that is a combination of several technologies. The technologies that are embedded in IoT are different types of sensors that these devices can sense whatever is happening in the environment, internet connection, several computing devices that collect, analyze, and send data more easily,artificial intelligence that develop connectivity with other devices in the IoT network in a smarter way,etc.The developments of a range of technologies have enhanced the lifestyle of human beings. Digitalization is taking place in India and the world at a very

fast pace. Thus in order to be in the pace with the digital world, the network of smart devices is very essential.It is a technology that helps in establishing a good interaction between the different devices among themselves and also with human beings. Moreover, the emergence of devices embedded with sensors and advanced technologies reduces the workload of human beings. It helps in finishing different tasks in less time along with developing coordination with the activities taking place in the surroundings. There are several benefits with the emergence of this technology but there are also some drawbacks associated with it there are many devices connected with each other in IoT and thus sharing of different information takes place. The probability of hacking some important information increases in such processes. Also every smart device does not have compatibility for connecting with other devices as there is no international standard of IoT.



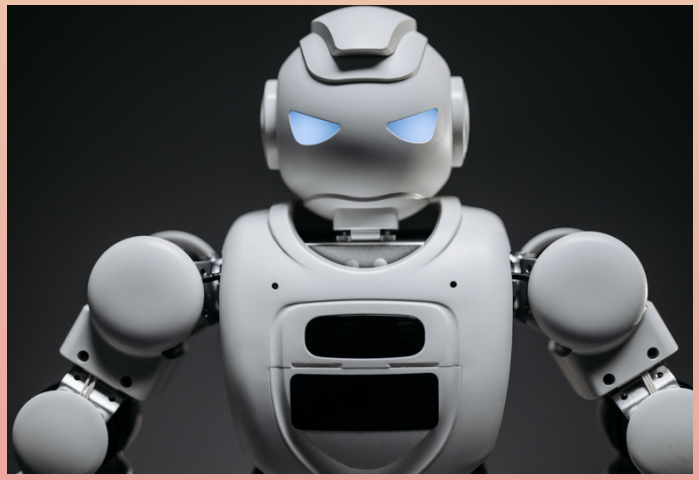
But there are more advantages of IoT the devices help in establishing interaction between the devices connected with each other through the internet.Also the collected data can be analyzed and further brought into action or shared with other devices in very less time. This reduces the effort and time taken in doing the same work by people manually.There are different types of new innovations taking place in different regions of the world every now and then. It has gained surplus attention of the world and is now being used in different sectors. The Internet of things has widened the aspect of internet. These smart devices influence our life in our travel, shopping, lifestyle, health, daily works, etc.

If We Were A Robot

BY: VANSHITA(2NDYEAR)

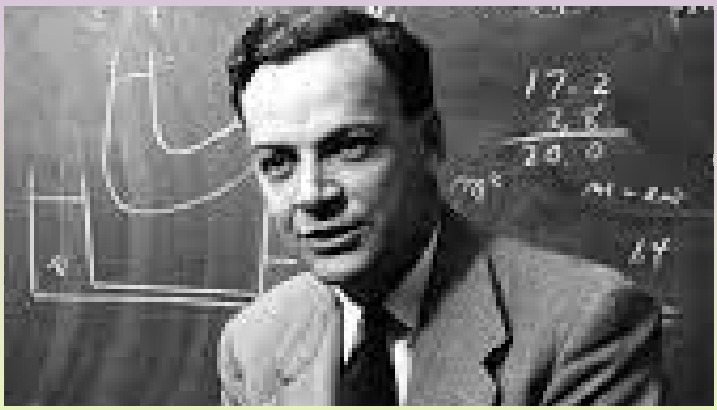
We all know how fascinating robots are. Their appearance , calculations, behavior, and much more things makes us get attracted to them. We always want to know how their life actually is. But have we ever thought , What if we were robots ? how our lives would be? Our lives as robots would be so related to our lives as humans, we could talk, walk, trot, kick, stay standing and could do many more basic activities like washing dishes , cleaning etc. Talking a little deep into this , we know that robot is a machine programmed by computer or indirectly by humans and if we were them we would also be designed or let's say controlled by the humans or computers. We'll just become a toy for the other with no emotions doing what we are told to do. The instructions giver to us will decide what we have to do and what not.

We as a human are lucky to be human as we have ability to feel and express because this is what makes our lives livable and sensible. Robots seems to be interesting , impressive and easy going and they are but the only thing is that their life is actually not a life because they only follow the commands given without thinking.



Quantum Computing

BY: AISHWARYA(1STYEAR)



Quantum computing emerged as a branch of physics in the early 1900s to explain nature on the scale of atoms and led to advances such as transistors, lasers, and magnetic resonance imaging. The idea to merge quantum mechanics and information theory arose in the 1970' but garnered little attention until 1982 when physicist RICHARD FEYNMAN gave a talk in which he reasoned that computing based on classical logic could not tractably process calculations describing quantum phenomena. Computing based on quantum phenomena configured to stimulate other quantum phenomena, however, would not be subject to the same bottlenecks.

Although this application eventually became the field of quantum simulation, it didn't spark much research activity at the time. In 1994, however, interest in quantum computing rose dramatically when mathematician PETER SHOR developed a quantum algorithm, which could find the prime factors of large numbers efficiently. Here, "efficiently" means in a time of practical relevance, which is beyond the capability of state-of-the-art classical algorithms. The security of nearly every online transaction today relies on an RSA cryptosystem that hinges on the intractability of the factoring problem to classical algorithms.Quantum computing and classical computers both try to solve our problems, but the way they manipulate data to get answers is fundamentally different. Quantum computers are unique by introducing two principles of quantum mechanics crucial for their operation, superposition and entanglement.

Superposition is the counterintuitive ability of the quantum object, like an electron, to simultaneously exist in multiple “states”. Understanding superposition makes it possible to understand the basic component of information in quantum computing, the qubit. Entanglement is the phenomenon in which quantum entities are created and manipulated such that none of them can be described without referencing the others. A measurement on one member of an entangled pair will immediately determine measurements on its partner, making it appear as if information can travel faster than the speed of light. This apparent action at a distance was so disturbing that even Einstein dubbed it ‘spooky’. The promise of developing a quantum computer sophisticated enough to execute Shor's algorithm for large numbers has been a primary motivator for advancing the field of quantum computation.To develop a broader view of quantum computers, however, it is important to understand that they will likely deliver tremendous speed-ups for only specific types of problems.

Researchers are working to both understand which problems are suited for quantum speed-ups and develop algorithms to demonstrate them. Multiple additional applications for qubit systems that are not related to computing or simulation also exist and are active areas of research, but they are beyond the scope of this overview. Two of the most prominent areas are (1) quantum sensing and metrology, which leverage the extreme sensitivity of qubits to the environment to realize sensing beyond the classical shot noise limit, and (2) quantum networks and communications, which may lead to revolutionary ways to share information. Building quantum computers is incredibly difficult.

Many candidate qubit systems exist on the scale of single atoms, and the physicists, engineers, and materials scientists who are trying to execute quantum operations on these systems constantly deal with two competing requirements. First, qubits need to be protected from the environment because it can destroy the delicate quantum states needed for computation. The longer a qubit survives in its desired state the longer its “coherence time.” Second, however, for algorithm execution qubits need to be entangled, shuffled around physical architectures, and controllable on demand. The better these operations can be carried out the higher their “fidelity.”Quantum computers have the potential to revolutionize computation by making certain types of classically intractable problems solvable. While no quantum computer is yet sophisticated enough to carry out calculations that a classical computer can't, great progress is under way. A few large companies and small start-ups now have functioning non-error-corrected quantum computers composed of several tens of qubits, and some of these are even accessible to the public through the cloud.Additionally, quantum simulators are making strides in fields varying from molecular energetics to many-body physics. As small systems come online a field focused on near-term applications of quantum computers is starting to burgeon. This progress may make it possible to actualize some of the benefits and insights of quantum computation long before the quest for a large-scale, error-corrected quantum computer is complete.

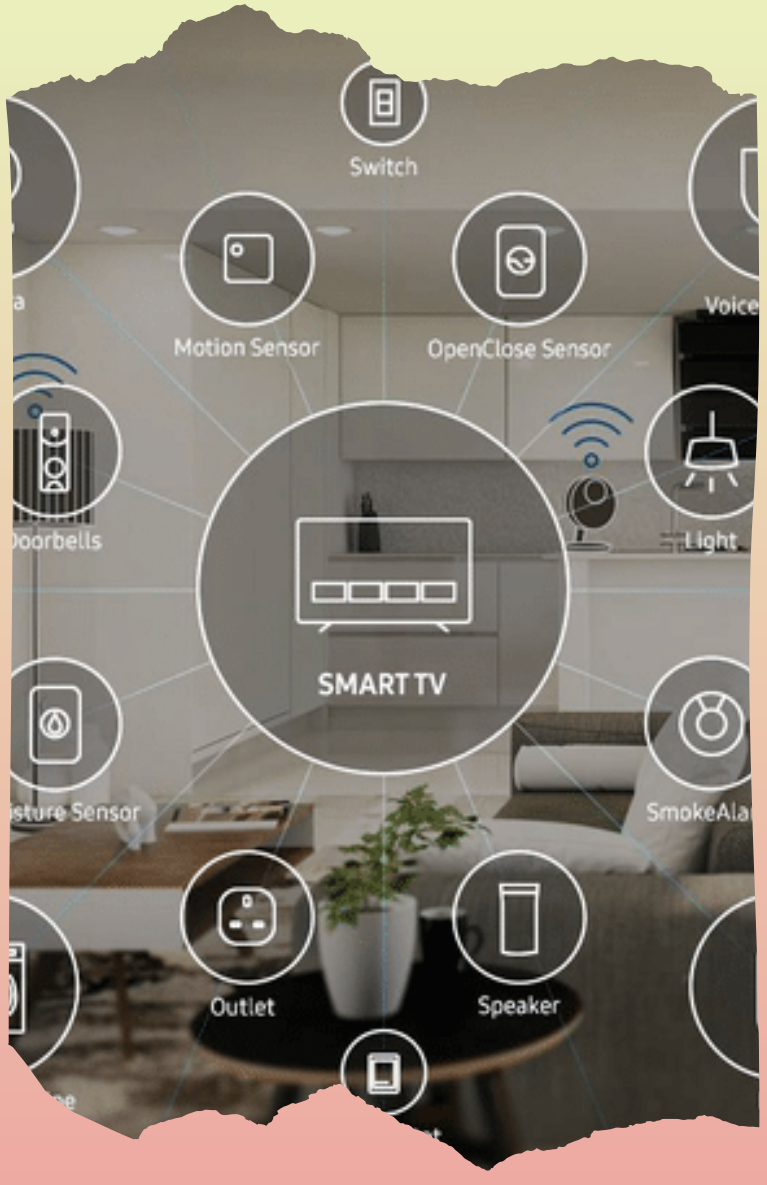
Mobile Connected with Smart Objects

BY: AISHWARYA(1STYEAR)

Advancements in the cloud-based software, and low power sensors have made mobile connected smart objects one of the fastest growing market. It is expected that majority of the households in future to include smart objects which includes toys, consumer appliances, sports equipment, lights, fans, medicinal gadgets which can be controlled remotely by smartphone or tablet. Smart objects are used to send and receive data which enhance the interaction between humans as well as with other smart objects by a well-defined internet interfaces. Smartphones connected with these smart objects with a mobile application platform act as remote control for displaying and analyzing information and also interface with the social networks to monitor the things. An increase in high-speed network connections and global demand for smartphones and tablets are the key market drivers for mobile connected smart objects. Innovation in technology in the field of wireless technologies like Wi-Fi, WI-Max, GPRS, and Bluetooth is expected to drive the mobile connected smart objects market. The Mobile connected smart objects market is also majorly driven by the increased awareness and the trend among the manufacturers as well as the consumers regarding the benefits of using mobile connected smart devices. Mobile connected smart objects market is segmented into type of connectivity, vertical and region.On the basis of type of connectivity mobile connected smart objects market is be segmented into direct connectivity and indirect connectivity where direct connected device are like

machine to machine connectivity and indirect connectivity device include like objects with electronic IDs and wearable's & gadgets etc. The Mobile connected smart objects market is be segmented into vertical such as media and entertainment sector, healthcare sector, transportation, manufacturing sector, retail sector, IT & Telecom sector, energy & utilities.

On basis of region Mobile connected smart objects market is segmented into North America, Latin America, Western Europe, Eastern Europe, Middle East and Africa (MEA), Asia Pacific Excluding Japan (APEJ) and Japan.The use of smart phones with Internet access, along with strong security concerns – such as authenticity, privacy, confidentiality, integrity, data origin authentication, entity authentication and non-repudiation – turn this whole context into a decentralized and mobile healthcare system..



Cyber Bulling

BY: TUBA FATMA SAYED(1STYEAR)

Imagine a scenario wherein your post gets brutally trolled on the internet. Maybe it's a political stance, a simple photo of yours, a silly question, etc, etc. People can troll anything these days. Even if you aren't on the internet, do you think you are safe from cyber-bullying? Well, think again because you aren't. For all, you know that you might be being captured in some stranger's camera intentionally or unintentionally and somehow you end up becoming a meme a few hours later. Your acquaintances send you the memes floating around and insecurities start kicking in and you can't leave your house for a few days because you can't see someone in the eye without being embarrassed. To add flame to this chaos, internet .celebrities start reviewing the meme that has your face plastered in it and the next thing you know is that you can see your mockery being laughed at on morning shows on Live TV.You didn't post anything on the internet and yet you have become a victim of cyber-bullying. The internet has become an integral part of our lives. We can't just shut our laptops and phones and distance ourselves from this negativity. It very well creeps into our lives beyond the internet. Welcome to the era of cyberbullying.Cyberbullying is bullying that takes place over digital devices.It can be negative,harmful or false posts / reposts about an individual.ccording to a survey conducted by dosomething.org , 37% of teens around the world have experienced cyberbullying.

In shocking findings , the reports suggest that more girls tend to be victims and at the same time perpetrators of cyber-bullying than boys . Instagram is the social media site that has maximum cases of cyber-bullying being reported with 42% of them also including harassment cases. But why do so many people engage in cyberbullying?Cyberbullying is more appealing for some people as they can do so anonymously without worrying much about the repercussions. Some people engage in cyberbullying out of peer pressure so that they too can fit in the box. It has become a cool trend to 'roast'(make fun of) somebody. Many famous internet celebrities do that ! So why not the general public. Healthy funny exchanges are one thing but constant verbal onslaught of one person is another. In fact some people justify cyberbullying as calling them means of coping mechanisms . But would it be so funny when they become the next victim of this trail of cyberbullying?

Photos are morphed, personal texts are spread around, rumors are inflamed and the cycle goes on. It' so normalized that people are considered 'snowflakes' if they can't handle these uncalled for malicious comments being thrown at them.

Cyberbullying has catastrophic effects on the victims. They are thrown into an emotional void of humiliation,isolation,powerlessness, anxiety and depression. Physical effects include sleep disturbances,dietaryissues,etc.A lot of victims are underage children which can have deep psychological effects for them in the long term. The cyberbullies are in fact shaping

the internet into a rigid box wherein there is not much place for differences ; you have to fit in or be brutally trolled. This would breed a generation with insecurities about themselves and erasure of many identities. It has become a silent social catastrophe that is not discussed much because everyone is doing it and you just need to grow up,am I right(that's what bullies say at least)?

The major solution to cyberbullying is awareness. People need to be sensitized and made aware that there is a human on the other side of the screen with real,actual emotions. You simply cannot make fun of somebody so recklessly and move ahead in your life. Naming and shaming of cyberbullies should be done on internet forums and mods of various forums should actively make sure that their forums are safe-space for everyone.Influencers should too be held accountable for their commentary against certain individuals as their audience can very well collectively cyberbully that person.

A global phenomena should be invoked to make the internet a more wholesome place as this is what it was made for initially.Online harassment and cyber stalking should be promptly reported to state security. The cyber laws should be reinforced stringently as well. It is okay to laugh here and there but that laughter should not come at the cost of some person's mental health. What we won't want for ourselves should not be done to others by us too.

Internet Security

BY: GARUNA(1STYEAR)

The Internet, sometimes called simply "the Net," is a worldwide system of computer networks -- a network of networks in which users at any one computer can, if they have permission, get information from any computer to other computer. Today, the Internet is a public, cooperative and self-sustaining facility accessible to hundreds of millions of people worldwide.

Large amounts of information, both public and private, are collected across the Internet, opening users up to the risk of data breaches and other security threats. Hackers and crackers can break into networks and systems and steal information such as login information or bank and credit card account records.internet has opened a new world for many people around the world.

Many opportunities are available here. It is a manifestation of never-ending innovation and creativity. It knows no boundary but brings huge economic chances for people in every country. Internet allows people to improve the quality of their life. It opens access to the previously inaccessible things. With almost three Millions of users, internet has been emerging as one of the most important tools of communication.

ABOUT INTERNER SECURITY

Internet security consists of a range of security tactics for protecting activities and transactions conducted online over the internet. These tactics are meant to safeguard users from threats such as hacking into computer systems, email addresses, or websites; malicious software that can infect and inherently damage systems; and identity theft by hackers who steal personal data such as bank account information and credit card numbers. Internet security is a specific aspect of broader concepts such as cybersecurity and computer security, being focused on the specific threats and vulnerabilities of online access and use of the internet.

Internet Security is the most important aspect of information technology. It has been years since computer has been invented and to keep the information Confidential we have to safeguard this information.

Types of internet security threats:

- Malware: Short for "malicious software," malware comes in several forms, including computer viruses, worms, Trojans, and dishonest spyware.
- Computer worm: A computer worm is a software program that copies itself from one computer to the next. It does not require human interaction to create these copies and can spread rapidly and in great volume.
- Spam: Spam refers to unwanted messages in your email inbox. In some cases, spam can simply include junk mail that advertises goods or services you aren't interested in. These are usually considered harmless.
- Phishing: Phishing scams are created by cybercriminals attempting to solicit private or sensitive information. They can pose as your bank or web service and lure you into clicking

links verify details like account information or passwords.

- Botnet: A botnet is a network of private computers that have been compromised. Infected with malicious software, these computers are controlled by a single user and are often prompted to engage in nefarious activities, such as sending spam messages or denial-of-service (DoS) attacks.

Ways to Prevent Cyber Attacks

- keep your software and systems fully up to date
- Antivirus software products, which protect devices from attacks by detecting and eliminating viruses.
- Install a Firewall.
- In the event of a disaster (often a cyber attack) you must have your data backed up to avoid serious downtime, loss of
- It's essential to control who has access to your computers. Having a perimeter security system installed is a very good Securing your wifi networks and hiding them is one of the safest things you can do for you systems. With developing more Having the same password setup for everything can be dangerous. Once a hacker figures out your password, they now have access to everything in your system and any application you use.

Robotics

BY: ANKITA BHANGALIA(1STYEAR)

Robotics is an interdisciplinary branch of Computer Science and Engineering. Robotics involves designs,construction, operation and use of 'ROBOTS'. The goal of Robotics is to design machines that can help and assist humans. Robotics integrates fields of Mechanical Engineering,ElectricalEngineering,InformationEngineering,Mecha-tronics,Elect-onics,Bioengineeri-ng, Computer Engineering, Control Engineering, Software Engineering, Mathematics, etc.

Robotics develops machines that can substitute for human and replicates human actions. Robots can be used in many situations for many purposes, but today many are used in dangerous environments (including inspections of radioactive materials, bomb detection and deactivation), manufacturing processes or where human can't survive (e.g. in space, underwater, in high heat and clean up and containment of hazardous materials and radiation).Robots can take any form but some are made to resemble humans in appearance. Robots are widely used in such as industries as automobile manufactures to perform simple repetitive tasks, and in industries where work must be performed in environments hazardous to humans.

Many aspects of ROBOTICS involve Artificial Intelligence. The earliest robots as we know them were created in the early 1950s by George C. Devil, an inventor from Louisville, Kentucky. He invented and patented a reprogrammable manipulator called "UNTIMATE", from "UNIVERSAL AUTOMATION".

ADVANTAGES

1. In many situations' robots can increase productivity, efficiency, quality and consistency of products.
2. ROBOTS can work in environments which are unsafe for humans in the nuclear or chemical industries.
3. ROBOTS don't have the same environmental requirements that humans do – such as lighting, air conditioning or noise protection.
4. ROBOTS have some sensors /accurators which are more capable than humans due to which there are no mistakes and never-ending work.

That all helps to save time at every turn.

5. ROBOTS can keep working 24/7/365 if you want them to do so.

DISADVANTAGES

1. One of the biggest concerns surrounding the introduction of Robotic automation is the impact of jobs. It increases the unemployment rate and humans may not be needed at all.
2. The use of ROBOTS can create economic problems. They break down and may not work for days, weeks,months. ROBOTS come out dated and then become scrap metal and there are problems with the disposal of the parts and this also increases the operation cost of the companies. It also needs to spend a lot of time to invent a new ROBOT.

TeleHealth

BY: HARPREET KAUR(1STYEAR) &
RIDHI JAIN(2ND YEAR)

TELEHEALTH is a term used with telemedicine, has been defined as the use of medical information that is exchanged from one site to another through electronic communication to improve a patient's health. The purpose of this article is to present policy-relevant trends in telehealth adoption, to describe the state of the telehealth evidence base, and to assist physicians, other health care professionals, and researchers in identifying key priorities for telehealth research. Such research is necessary to fully realize the promise of telehealth to address socially desirable goals such as the quadruple aim in health care: improving the patient experience of care, improving the health of populations, reducing the per capita cost of health care, and improving the experience of providing care.

Telehealth technologies, tools, and services are becoming an important component of the health care system.The Department of Health and Human Services estimates that more than 60% of all health care institutions and 40 to 50% of all hospitals in the United States currently use some form of telehealth. Late in 2016, Kaiser Permanente of Northern California reported that its virtual (e-mail, telephone, and video) communications exceeded in-person visits. Other health systems, such as Geisinger Health System, Intermountain Healthcare, Partners HealthCare, the University of Virginia Health System, and the Veterans Health Administration, report using telehealth interventions for purposes such as filling gaps in care that result from provider

shortages and providing access to services after normal clinic hours, reducing patient and family travel burdens, facilitating services such as appointment scheduling and refilling prescriptions, and responding to business challenges and consumer expectations.

Private insurers increasingly provide reimbursement for telehealth, as evidenced by the prediction of the National Business Group on Health that virtually all large employers will cover telehealth services for their employees by 2020. In 31 states and the District of Columbia, parity laws require commercial health insurers to provide equal coverage for telehealth and in-person services.

Medicaid has no restrictions for state coverage of telehealth services. Currently, all states cover teleradiology, 49 cover telemental health, and 36 cover various home-based telehealth services. Medicare has been more restrictive, reimbursing only when the beneficiary is in a rural originating site. However, reimbursement is expanding under the Medicare Access and CHIP (Children's Health Insurance Program) Reauthorization Act of 2015 (MACRA) and is included in the new bundled-payment formulas for cardiac care and joint replacement as well as in the Next Generation Accountable Care Organization payment model. In addition, the 21st Century Cures Act requires the federal government to study the effect of telehealth on Medicare beneficiaries.

Orwellian Privacy Enroachment

BY: TUBA FATMA SYED(1STYEAR)

What if a stranger comes up to you and tells you your name, your age, your address, your qualifications, your health history, your shopping cart list, your search history, your opinions about controversial topics, your addiction, your opinions about your friends,etc. You would freak out,right? Even if you have nothing to hide, hearing about yourself so descriptively from a stranger is surely going to freak you out.And what if that stranger starts screaming this information out to everybody? This is going to be a nightmare ,right? And yet we are on the cusp of something like this happening. Welcome to this essay on privacy.

Remember that stranger we just talked about? Well,that person exists in the form of corporations. Those coincidental ads that you found about pretty dresses on a web browser about which you were discussing with your friend on WhatsApp is no happenstance at all. It is all part of intensive data encroachment by corporations and their collaborative efforts to share your data from all your apps amongst themselves. Those pop-up permissions that are longer than the description of the apps gave them the right to do so.Not only do these apps collect your search history but also emails,contacts, location history, chat history, photos, recordings , calls,etc. Remember those jokes about secret agents being assigned to your online activities? Well, they were real after all and instead of one agent you have multiple people tracking your online activity.

But all this has become so normalized that we don't even care at this point. But how did we come to this point where we were okay to this gross privacy compromise? Apart from constant pressure by corporations on governments to make privacy and data laws more liberal, an effort to change the perspective of the general public on privacy has been made too! After all, who would have bought the idea that it was okay for strangers to have your photos and your educational qualifications! But here, we are. Corporations roped in celebrities to popularize the idea of deliberate sharing of private details on the internet by the people themself. For years before the internet, celebrities long had influence over the masses. And corporations cashed in on this. Celebrities started sharing their pictures publicly and soon a lot of private accounts turned public, as a result ,in conquest of validation. This influence coupled with exploiting psychological aspects and insecurities of people paved the way to normalize oversharing culture.

Soon sharing of images to strangers changed to sharing of videos ,then to ideologies, then to addresses, then to qualifications , then to actual meet-ups This was done slowly but it succeeded. If you share your images to people online, why would you care if companies got hold of it? If you share your silly thoughts online ,why would you care if companies got hold of it? This perception of diminished privacy was popularized so that you didn't question the encroachment of your private life by companies. And companies cash in on this by sharing your data to other companies so that they can push targeted ads to you for selling their products and services to increase their consumer pool.

Android & It's Version

BY: JANVI(1STYEAR)

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google.Most Android devices ship with additional proprietary software pre-installed, most notably Google Mobile Services (GMS) which includes core apps such as Google Chrome, the digital distribution platform Google Play, and associated Google Play Services development platform .Software packages on Android, which use the APK format,are generally distributed through proprietary application stores like Google Play Store, Amazon Appstore , Samsung Galaxy Store, Huawei AppGallery, Cafe Bazaar, and GetJar, or open source platforms like Aptoide or F-Droid.Android has been the best-selling OS worldwide on smartphones since 2011 and on tablets since 2013. As of May 2021, it has over three billion monthly active users, the largest installed base of any operating system, and as of January 2021, the Google Play Store features over 3 million apps. Android 12, released on October 4, 2021, is the latest version.

Name	Internal codename	Version number(s)	Initial stable release date	Supported (security fixes)	Latest security patch[15] (service life)	Latest Google Play Services version[16] (release date)	API level	References
Android 1.0	N/A	1.0	September 23, 2008	No	N/A	N/A	1	[2][17]
Android 1.1	Petit Four	1.1	February 9, 2009	No			2	[2][17][18]
Android Cupcake	Cupcake	1.5	April 27, 2009	No			3	[17][19]
Android Donut	Donut	1.6	September 15, 2009	No			4	[17][20]
Android Eclair	Eclair	2.0	October 27, 2009	No			5	[17][21][22]
		2.0.1	December 3, 2009	No			6	
		2.1	January 11, 2010	No			7	[23]
Android Froyo	Froyo	2.2 – 2.2.3	May 20, 2010	No		3.2.25 (October 2014)	8	[17][24]
Android Gingerbread	Gingerbread	2.3 – 2.3.2	December 6, 2010	No			9	[17][25]
		2.3.3 – 2.3.7	February 9, 2011	No			10	
Android Honeycomb	Honeycomb	3.0	February 22, 2011	No		10.0.84 (November 2016)	11	[17][26]
		3.1	May 10, 2011	No			12	
		3.2 – 3.2.6	July 15, 2011	No			13	
Android Ice Cream Sandwich	Ice Cream Sandwich	4.0 – 4.0.2	October 18, 2011	No		14.8.49 (February 2019)	14	[17][27]
		4.0.3 – 4.0.4	December 16, 2011	No			15	
Android Jelly Bean	Jelly Bean	4.1 – 4.1.2	July 9, 2012	No		21.33.56 (September 2021)	16	[17][28]
		4.2 – 4.2.2	November 13, 2012	No			17	
		4.3 – 4.3.1	July 24, 2013	No			18	
Android KitKat	Key Lime Pie	4.4 – 4.4.4	October 31, 2013	No	October 2017 (48 months)	22.06.15 (March 2022)	19	[17][29]
		4.4W – 4.4W.2	June 25, 2014	No	?		20	
Android Lollipop	Lemon Meringue Pie	5.0 – 5.0.2	November 4, 2014	No	November 2017 (36 months)		21	[17][30][31]
		5.1 – 5.1.1	March 2, 2015	No	March 2018 (36 months)		22	[32]
Android Marshmallow	Macadamia Nut Cookie	6.0 – 6.0.1	October 2, 2015	No	August 2018 (34 months)		23	[17][33][34]
Android Nougat	New York Cheesecake	7.0	August 22, 2016	No	August 2019 (36 months)		24	[17][35][36][37][38]
		7.1 – 7.1.2	October 4, 2016	No	October 2019 (36 months)		25	
Android Oreo	Oatmeal Cookie	8.0	August 21, 2017	No	January 2021 (41 months)		26	[17][39][40]
		8.1	December 5, 2017	No	October 2021 (46 months)		27	[17][41]
Android Pie	Pistachio Ice Cream	9	August 6, 2018	No	January 2022 (41 months)		28	[17][42][43]
Android 10	Quince Tart	10	September 3, 2019	Yes	March 2022 (30+ months)		29	[17][44][45][46]
Android 11	Red Velvet Cake	11	September 8, 2020	Yes			30	[17][47]
Android 12	Snow Cone	12	October 4, 2021	Yes			31	[17][48][49]
Android 12L	Snow Cone v2		March 7, 2022	Yes			32	[50][51][52][53]
Android 13	Tiramisu	13	Q3 2022	Presupported	N/A		33	[54]

Watch OS 8

BY: SAKSHI SINGH(1STYEAR)

WatchOS 8 is the newest version of the watchOS operating system that runs on the Apple Watch. It was previewed at WWDC in June, and was released to the public on September 20, 2021.

The WatchOS 8 update introduces new features to help users stay healthy, active, and connected to friends and family, with most of the new additions serving as extensions of changes added in iOS 15.

Apple has launch many features in this version which are as follows:-

- There are several improvements to Wallet, including Ultra Wideband support for digital car keys, and new digital keys for unlocking doors at home, the office, and hotel rooms.
- The Home app has been overhauled to make it easier to get to HomeKit accessories and scenes as needed, with status updates for thermostats, light bulbs, and other accessories. HomeKit devices can be controlled by room, and those with HomeKit-enabled cameras can now see who is at the door right on the wrist. For Intercom users, there's a quick tap feature for getting in touch with everyone in the home.
- Apple has added two new workout types with Tai Chi and Pilates, which can be selected when choosing a Workout on the Apple Watch. For Apple Fitness+ users, there's Picture in Picture support, filter options, and options to stop and resume an in-progress workout on any device.
- The Breathe app is now the Mindfulness app and it has been enhanced with a new Breathe experience and a Reflect session for mindful intention. Reflect gives users a thoughtful notion to consider that invites a positive frame of mind. .

The Breathe and Reflect experiences offer new animations and a series of tips on meditation.

- When sleeping, the Apple Watch now measures respiratory rate (the number of breaths per minute) in addition to time asleep, heart rate, and blood oxygen. Respiratory data can be viewed in the Health app and is a metric that can be used to track overall wellness.
- There's a new Portrait Watch Face that pulls portrait photos from the iPhone and uses the depth data to overlay the time with the faces of your favorite people, and the Photos app has been redesigned with new ways to view and navigate collections. Memories and Featured Photos sync to Apple Watch and can be shared right from the wrist.

- Apple added a dedicated Find Items app for locating your lost devices, and the Music app has been redesigned to let users share songs, albums, and playlists. The Apple Watch weather app supports Severe Weather notifications, next hour precipitation alerts, and updated complications.
- The Focus feature added to iOS 15 also syncs to the Apple Watch so you can reduce distraction and be in the moment to focus on the task at hand. Apple also suggests Focus modes, so if you're working out, you'll be prompted to choose the Focus for fitness option.
- Apple has added an AssistiveTouch feature that uses the built-in sensors in the Apple Watch to detect hand gestures for control purposes.

As these features will not only make our life more comfortable but smarter too so we will look forward to new upcoming features of watch as apple is constantly working on bringing new things to us.

MacBook Pro

BY: AVANTIKA LAKSHMI(1STYEAR)

Co-founded by Steve Jobs and Steve Wozniak in 1977, Apple has managed to make a name in the tech world. It has been breaking numerous records since then. Which leads to the question what makes Apple so special? There are a lot of reasons for it and here are few of them. Apple gets the new applications first than the rest. Since Apple has a large market share and is known for its versatile yet fast operating system, developers prefer to launch their apps and high-end games first on iOS and then on traditional Androids. Secondly, it was the first mass-market computer to use a graphical user interface, an innovation that is the way that pretty much everyone interacts with a computer today.

The MacBook Pro is a line of Macintosh notebook computers introduced in January 2006 by Apple Inc. It is the higher-end model of the MacBook family, sitting above the consumer-focused MacBook Air, and is currently sold with 13-inch, 14inch, and 16-inch screens. Its operating system is macOS. There have been several major designs for the MacBook Pro, all using aluminium. The first was largely a carry-over from the PowerBook G4, but used the Intel Core processors instead of PowerPC G4 chips. A 15-inch model was released in January 2006, followed by a 17-inch model in April 2006, both of which received several updates and Core 2 Duo processors later in the year.The second unibody model has a more tapered design and a casing made from a single block of aluminium. It debuted in October 2008 as the 15-inch MacBook Pro and the 13-inch aluminium

unibody MacBook.
At WWDC 2012, a new line of MacBook Pros were introduced with Retina displays. Thunderbolt replaced the previous FireWire ports and power was supplied by a new Mag Safe 2 connector.
In 2016, the Touch Bar was introduced.
In November 2019, a new 16-inch size replaced the 15-inch version which incorporated the Magic Keyboard.
In May 2020, the 13-inch model incorporated the Magic Keyboard.
In November 2020, a new 13-inch model was based on the Apple M1 was introduced.
In October 2021, new 14-inch and 16-inch models were introduced. Featuring up to 8TB of storage, and new Apple M1 Pro and M1 Max chips.Now the question arises why choose macbook pro over pcs?
Microsoft makes the software. Dell, or Sony, or HP, or seemingly a million other manufacturers, make the Windows PC. Then you have third-party drivers and whatever else for all the peripherals. When you have a problem, everyone points a finger at everyone else.
With the Mac, the issue rests more often just with Apple. Of course, any customer of PowerMax who has ever had a question or problem can attest to the friendly expertise we also provide to help sort it all out for them as well. Apple makes upgrading its OS simple, Microsoft still keeps it complicated
Apple smoothly transitions its customers to its latest OS for free. Windows can't even use a consistent naming scheme: the versions include: 7, 8, XP, Vista, CE, NT, 98, 2000. The best we can say about that is that their scattered approach to naming matches their scattered approach to their OS. You can run Windows on a Mac anyway, so why not get the best of both worlds?

Apple allows Windows to be installed via its own Boot Camp, or you can use a third-party virtualization program, such as Parallels, VMWare Fusion or VirtualBox. So why not both save money in the long run and have access to virtually any desktop software you want? One of the most attractive and relevant upsides of purchasing a Mac is its operating system, the macOS. The macOS is less vulnerable to viruses and malware.

Since Apple is a software developer and device manufacturer, they optimize its operating systems to work harmoniously with its hardware components.With fewer security risks and attacks, simple interface, and better software-hardware operations, macOS cultivates a smoother experience for users. The MacBook Pro with LED-backlit Retina display possesses one of the most stunning screens in the market. It's one of Apple's key selling propositions, which also makes it distinct among its competition. The Retina display pertains to the high resolution and pixel density of the screen.

BitCoin

BY: GAURVI SHARMA(1STYEAR)

Investing in bitcoin is becoming range of this age. Many people today are addicted to this alternative currency. Bitcoin is the new currency created in 2009 which is now used to book hotels in expedia, shop for furniture on overstock, buy xbox game and on buying nitro on discord. Bitcoin is known as a type of cryptocurrency because it uses cryptography to keep it secure. So a big question is can it really increase productivity or is it simply a thing to waste your pritious time There in physical bitcoin ,it is just a public ladger that everyone has transparent access to. Bitcoin is decentralized digital currency. It offers the promise of lower transaction fees than traditional online payment mechanisms do. All bitcoin transactions are verified by a massive amount by computing power via a process known as “minning”. Bitcoin is not issued or backed by any bankers or government, nor is an individual bitcoin valuable as a commodity. Despite it not being legal tender in most part of world , bitcoin is very popular and has triggered the launch of hundreds of other cryptocurrencies, it is abbreviated as BTC when traded. Though each bitcoin transaction is recorded in a public log, names of buyers and sellers are never revealed , while that keeps bitcoin users transaction private , it also lets the buy or sell anything without easily tracking it back to them .Bitcoin is expected to maintain its value in future, while other may depreciate. Due to this attribute 44% of investors have invested in bitcoin.

It is necessary to look at bitcoin laws in specific countries. with lots of pros bitcoin has equal number of cons. As I have mentioned that in bitcoin transaction is private, that's why it has become the currency of choice for people buying online drugs or other illicit activities. Also bitcoin requires a private key to access the currency tokens that are stored in a digital wallet.If you lose your key or if your computer hardware fails, you will lose your tokens, which are not recovered in any way. Transaction through bitcoin are irreversible and final so nothing can be done if it is sent to the wrong recipient. In crux , I just want to say that investing in bitcoin is risky but also potentially extremely profitable.

Bitcoin is a good investment if you want to gain a good exposure to digital currency. Don't break the laws of using bitcoin. While quick gains are a big attraction to crypto for many invested investors , there is also potential for fast and extreme declines in values

CryptoCurrency

BY: NAVYAA MENON(1STYEAR) &
SHREYA GUPTA(2ND YEAR)

Cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. They enable secure online payments without the use of third-party intermediaries. "Crypto" refers to the various encryption algorithms and cryptographic techniques that safeguard these entries, such as elliptical curve encryption, public-private key pairs, and hashing functions. Although cryptocurrencies are considered a form of money, the Internal Revenue Service (IRS) treats them as a financial asset or property.

Any investor can purchase cryptocurrency from popular crypto exchanges such as Coinbase, apps such as Cash App, or through brokers.

Types of cryptocurrencies

Bitcoin is the most popular and valuable cryptocurrency. An anonymous person called Satoshi Nakamoto invented it and introduced it to the world via a white paper in 2008. There are thousands of cryptocurrencies present in the market today.

Apart from bitcoin many other cryptocurrencies, known as "altcoins," have been launched.

Cryptocurrencies are generated by mining. For example, Bitcoin is generated using Bitcoin mining. The process involves downloading software that contains a partial or full history of transactions that have occurred in its network.

Features of cryptocurrencies

- Cryptocurrency investments can generate profits.

- Cryptocurrencies promise to make it easier to transfer funds directly between two parties, without the need for a trusted third party like a bank or a credit card company.
- Because they do not use third-party intermediaries, cryptocurrency transfers between two transacting parties are faster as compared to standard money transfers.

Drawbacks of cryptocurrencies

- Though cryptocurrency block - chains are highly secure, other crypto repositories, such as exchanges and wallets, can be hacked.
- Cryptocurrencies have become a popular tool with criminals for nefarious activities such as money laundering and illicit purchases.

Legality of bitcoin in India

The Reserve Bank of India (RBI) and the union government have not given any sort of recognition to cryptocurrencies and, therefore, they are not legal in the country right now.

It's impossible to say exactly what will happen to the cryptocurrency market in 2022 and beyond. But by keeping an eye on a few overarching tendencies of crypto, you will be able to make better investing decisions as the market continues to evolve.

cryptocurrencies offer a level global playing field to invest and grow wealth, irrespective of country of origin.

Cryptography

BY: TANYA RAWAT(2ND YEAR)

The word "cryptography" is derived from the Greek kryptos, meaning hidden. The prefix "crypt-" means "hidden" or "vault," and the suffix "-graphy" stands for "writing." Cryptography, or cryptology, is the practice and study of techniques for secure communication in the presence of adversarialbehaviour.

Cryptography is the science of encrypting and decrypting data. It secures information and communications using a set of rules that allows only those intended and no one else to receive the information to access and process it.

In our day-to-day lives, the use of cryptography is everywhere. For example, we use it to securely send passwords over vast networks for online purchases. Modern cryptography relies on cryptographic keys, usually a short string of text, for encoding and decoding messages in combination with cryptographic algorithms. Based on the type of keys used, cryptography is classified as either symmetric or asymmetric key cryptography. Both symmetric and asymmetric key cryptography provide data confidentiality. Asymmetric key encryption is sometimes called public-key encryption. Digital signatures, one of the by-products of public-key cryptography, enable the verification of authenticity, integrity, and non-repudiation.

The encryption process where different keys are used for encrypting and decrypting the information. Keys are different but are mathematically related, such that retrieving the plain text by decrypting ciphertext is viable. RSA is the most widely used form of public-key encryption.

Symmetric Key encryption

Symmetric key cryptography is an encryption system in which the sender and receiver of a message share a single, common key that is used to encrypt and decrypt the message. The most popular symmetric–key system is the Data Encryption Standard. Symmetric Key Cryptography is further categorized as Classical Cryptography and Modern Cryptography.

Asymmetric Key encryption

Based on complex mathematics, cryptography provides several important information security services such as authentication, confidentiality, integrity, and non-repudiation. With the recent technological development Hacking into the system and stealing information has become common. Cryptography provides a means to protect our data and private information. But attackers can still bypass cryptography and enter

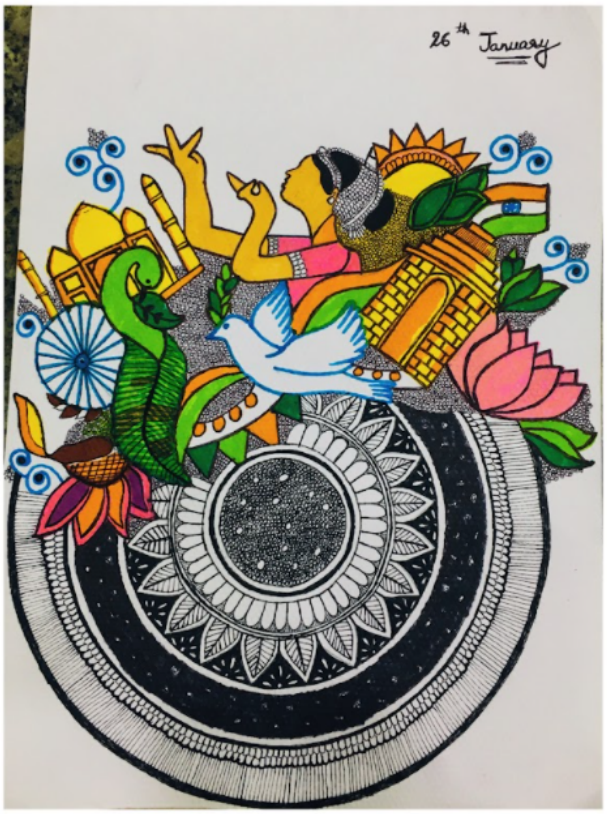
your system with hacking. But cryptography makes it harder for hackers to attack a system. The world is battling for the ability to securely store and transfer information.

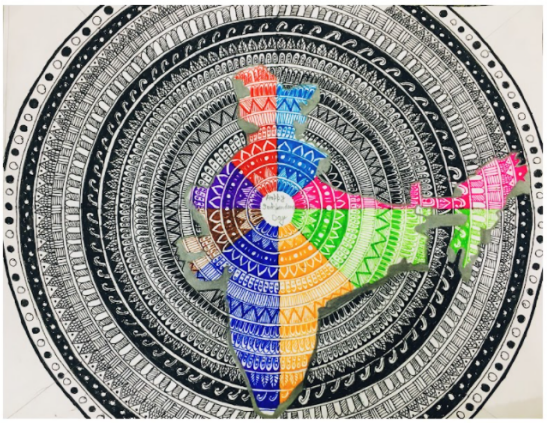
Art Corner

2021-22

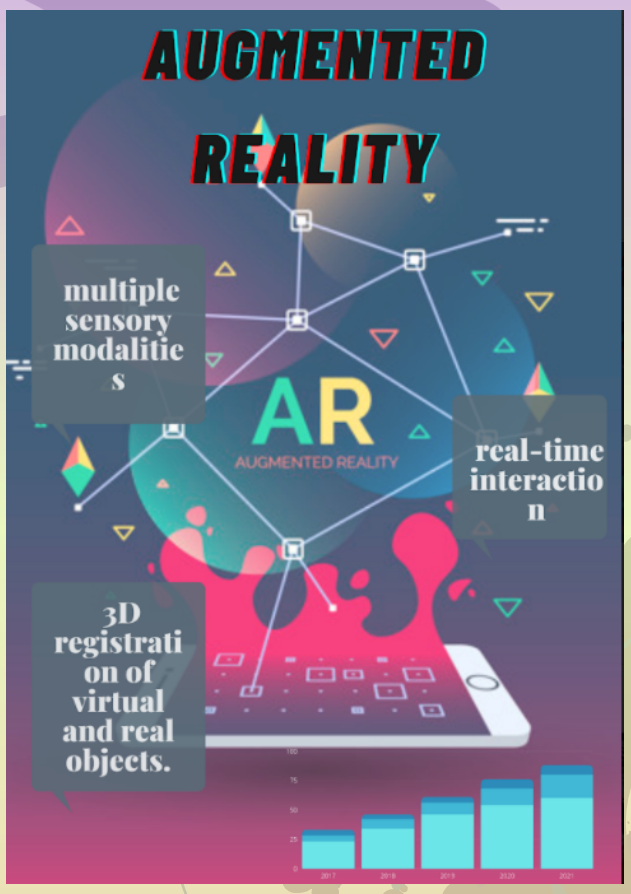
POSTERS

By: Gauranshi Varshney(3rd Year)





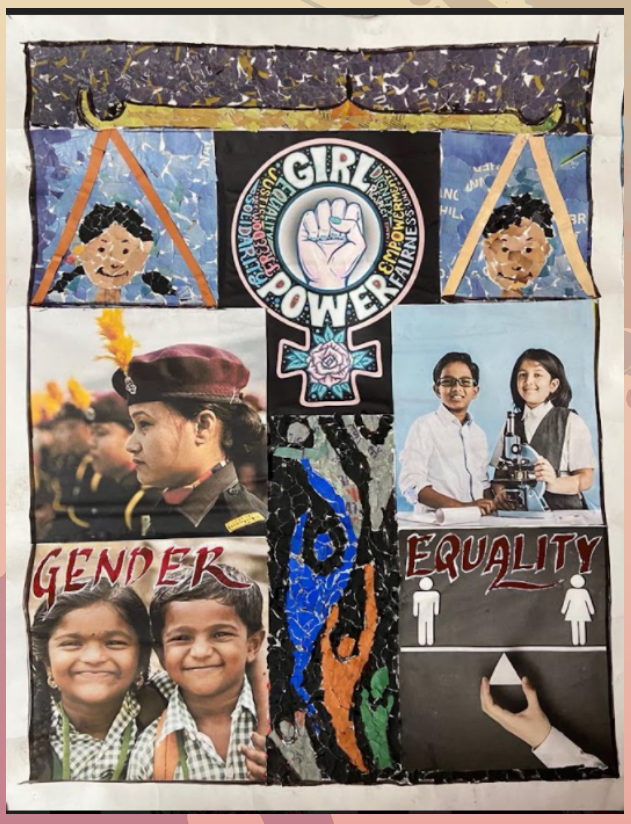
POSTERS



By: Anubhuti Chandola(1st Year)

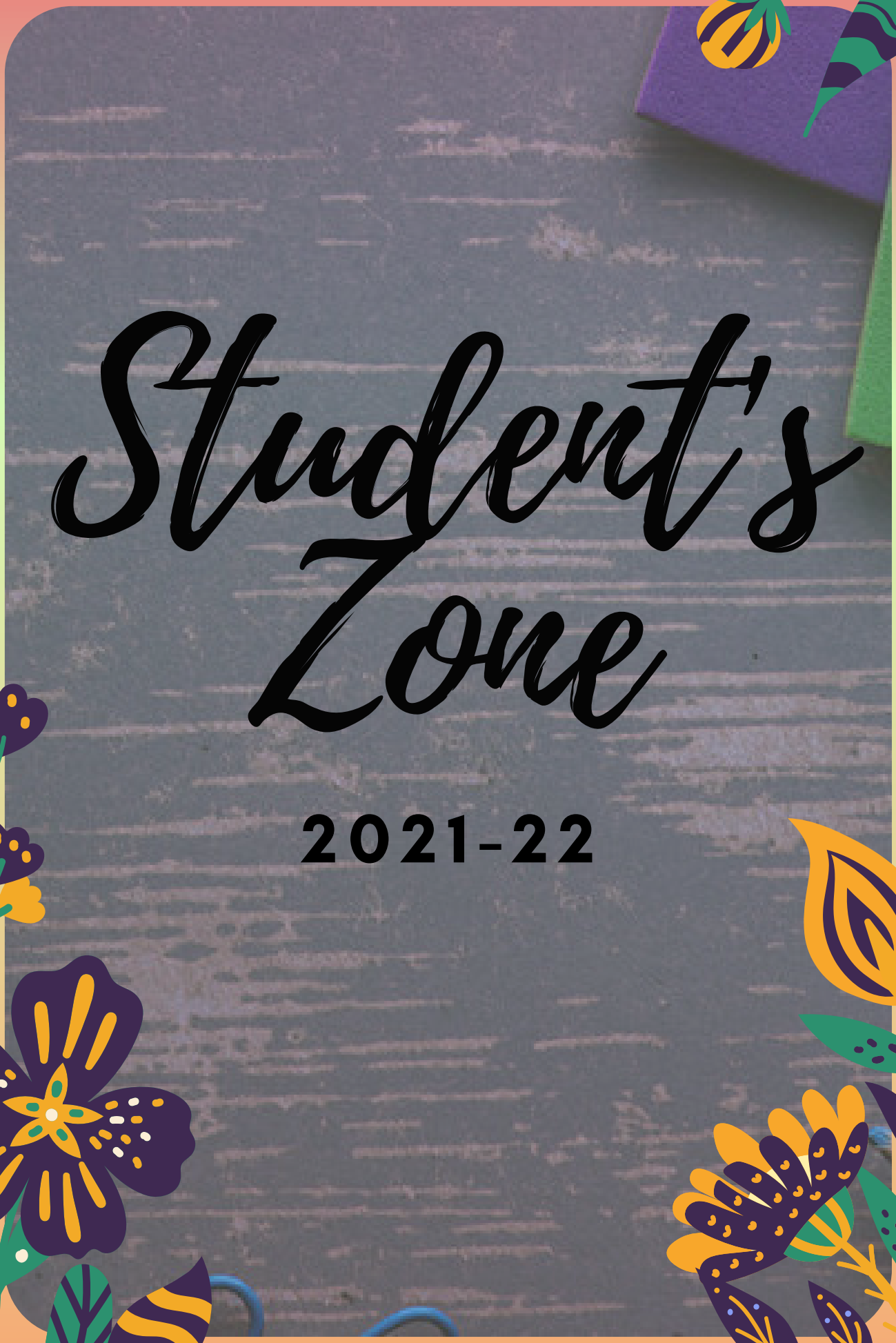
By: Tanya Rawat(1st Year)

By: Gauranshi Varshney(3rd Year)



By: Lakshika Sheoran(1st Year)

By: Gauranshi Varshney(3rd Year)



Student's Zone

2021-22

10 Interesting Facts

By: Ridhi Jain(2nd Year)

01. The computer control password for US nuclear missiles was ooooooooo for 8 years before changing it.

02. 92% of the world's currency exists only on computers.

03. A computer as powerful as the human brain would be able to perform 38,000 trillion operations per second.

04. The word "Typewriter" is the longest word you can type using only one row of the keyboard.

05. HP, Apple, and Microsoft all began developing their computers in a garage.

06. The QWERTY keyboard was invented to reduce the typing speed of users.

07. Doug Engelbart, invented the first computer mouse in the year 1964, which was made of wood!

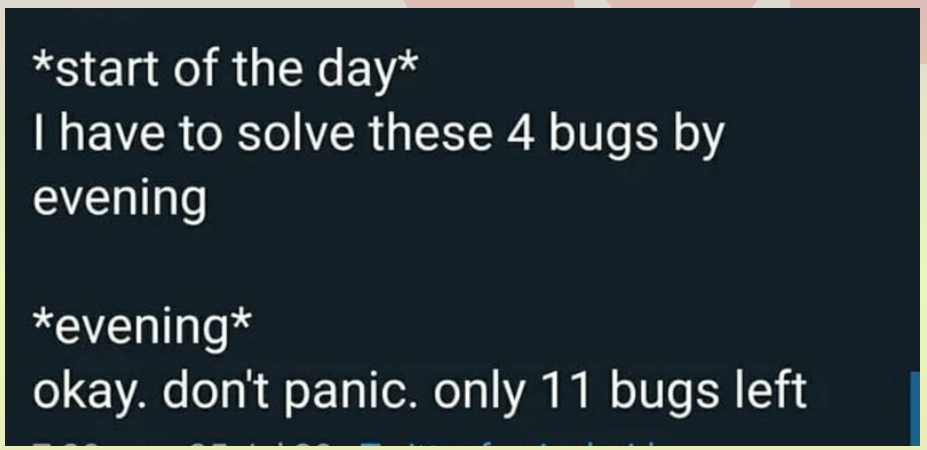
08. Bill Gates' house was designed using a Macintosh computer.

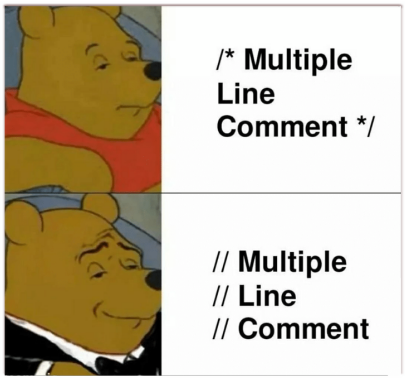
09. 40-55% of all Wikipedia vandalisms are caught by a single computer program with 90% accuracy.

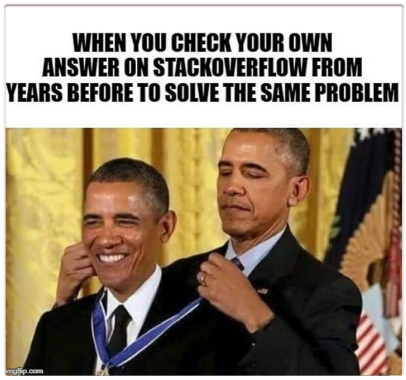
10. The Very First Webcam Was Invented to Keep an Eye on a Coffee Pot at Cambridge University

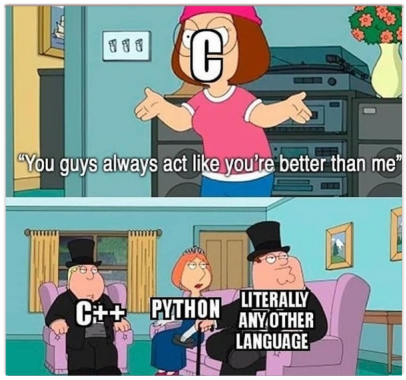
LAUGHTER CORNER

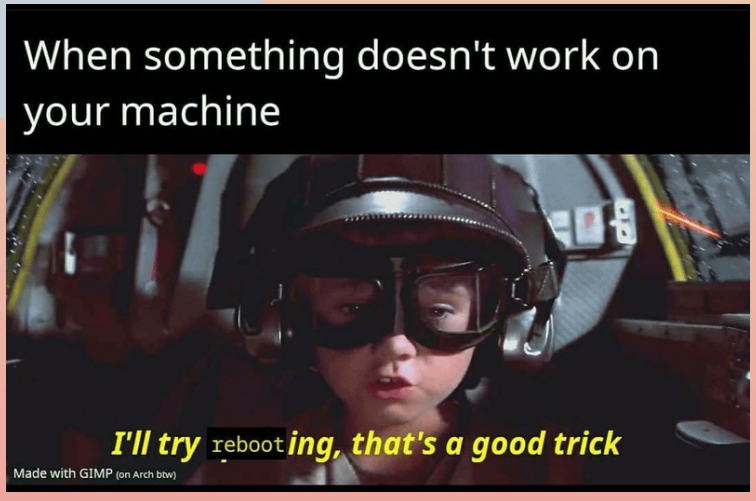
By: Neeraja Giri(3rd Year)

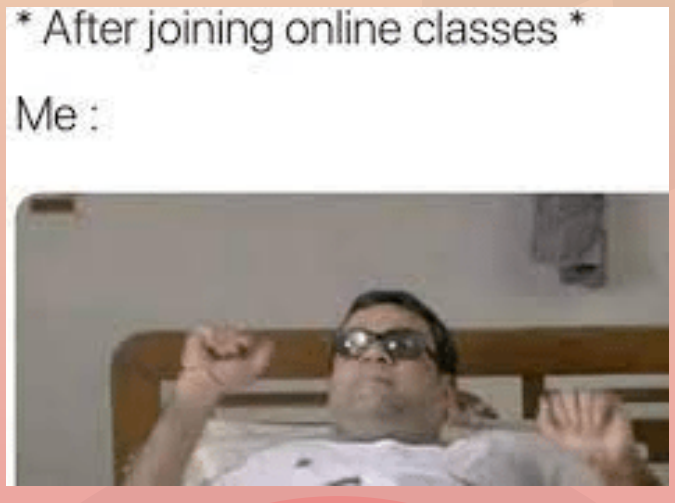






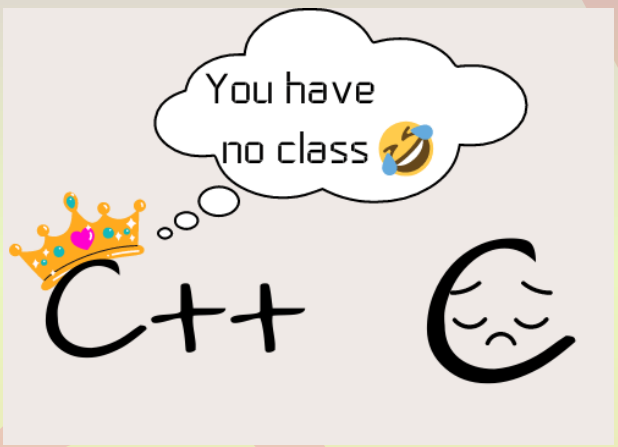


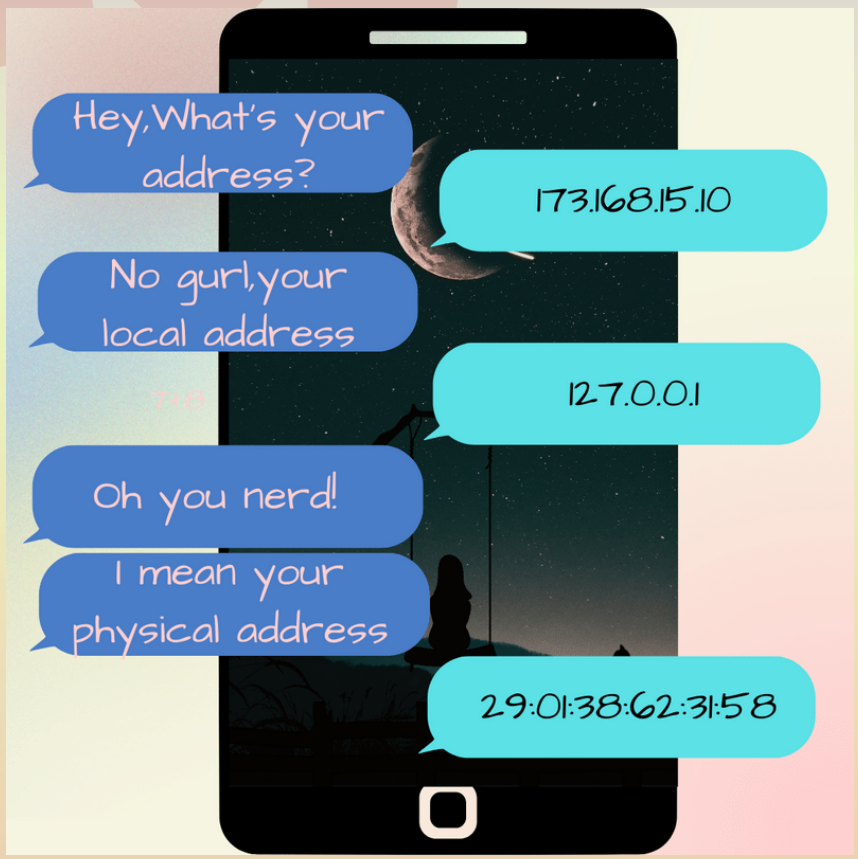


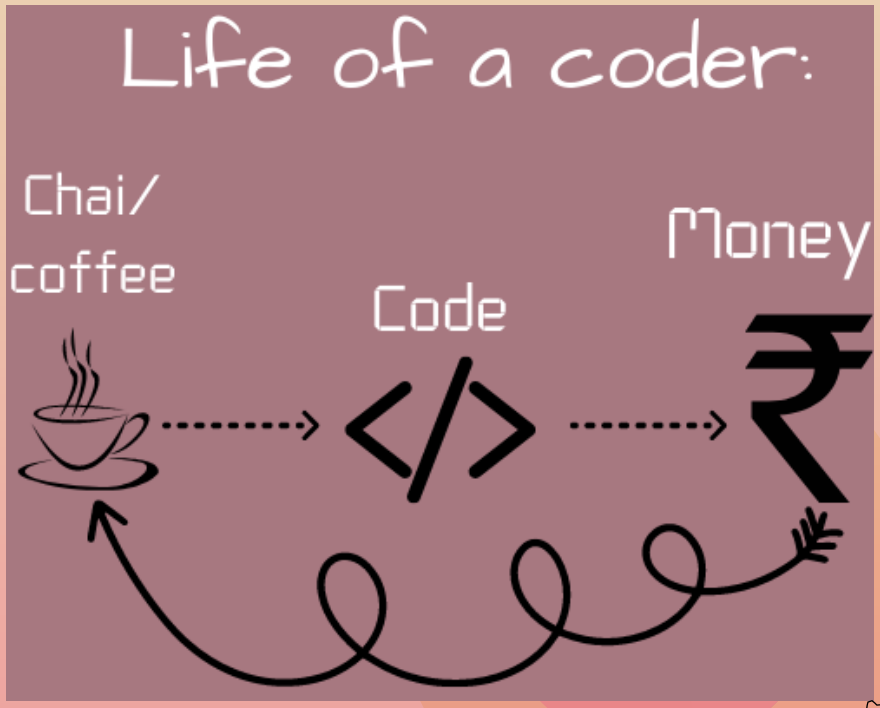


LAUGHTER CORNER

By: Gurpreet Kaur(2nd Year)







Life Of Programmers

By: Gurpreet kaur(2nd year)

"Computers have lots of memory but no imagination"

"We need technology in every classroom and in every student and teachers hand, because It is the pen and paper of our Time, and it is the lens through which we experience Much of our world."

"Computers are
Incredibly fast,
Accurate,
And stupid;

Humans are
Incredibly slow,
Inaccurate,
And brilliant;

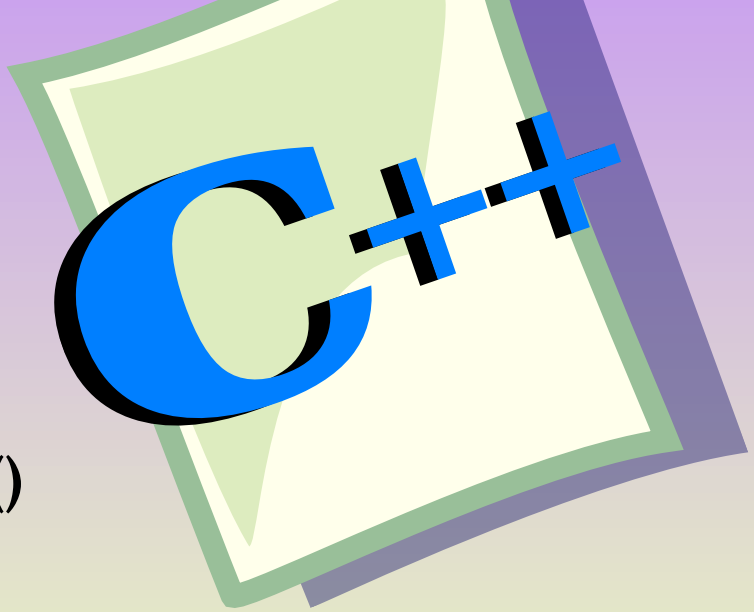
Together they are
Powerful
Beyond
Imagination."

"My beloved children mock me for not under-standing technology and then have to Google how to boil an egg.."

"Life was much easier when apple and BlackBerry were just fruits."

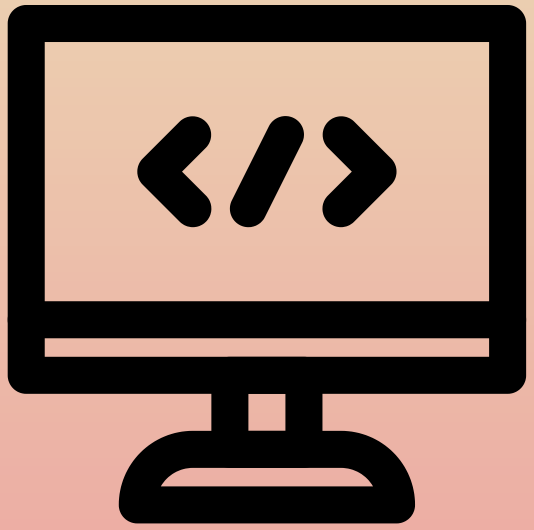
"I correct autocorrect More than autocorrect Corrects me."

```
//Life Motto
if(Sad()==true)
{
  Sad().stop();
  beAwesome();
}
```




```
Function stayAtHome()
{
  Eat();
  Sleep();
  Code();
  Repeat();
}
while(corona.isActive())
{
  stayAtHome();////Hahaha
}
```

An optimist says:
“the glass is half-full"
An pessimist says:
“the glass is half-empty"
A programmer says:
“the glass is twice as large as necessary”



Science students:
e=mc 2
Programmers:
errors=(more code) 2

Programmer:
As machine that turns chai/coffee into code.

Some Fun Technology Facts You Possibly Never Knew

By: Ishita Mishra(2ndYear)

1

A test using pigeons carried out in rural England in 2010 proved pigeons were faster in sending data than the internet. Where it took 90 minutes to download a 4 GB file through a router, a pigeon carrying a 4GB USB stick containing the same file, setting off from the same location as the server... took 60 minutes to receive and upload to the same spec'd computer, proving the internet speed was 30 minutes slower.

2

If you are a smoker and use Apple products, then you quite likely void your Apple warranties. Yes you really should read the fine print, many customers who have returned their new computers and laptops to the manufacturer for a repair under warranty have been left speechless when told they have been in breach of their warranty and they would have to pay for the repair because they had been smoking while using the device.

3

Google was originally to be named Googol which is a number; 10 to the power of 100. But due to a spelling error the name Google was registered, however the founders preferred the name and obviously stuck with it.

4

We spend more time reading from a screen than we do from a book or newspaper, and I'm not saying that because we spend more time on a computer and mobile devices. No, in fact on average it takes us 10% longer to read exactly the same content on a screen than on paper, generally due to less distractions.

5

Hundreds of millions of pounds worth of precious metals such as gold and silver are thrown into landfill each and every year, predominantly contained in the smartphones and devices we no longer use. Sadly even when taken to a recycling center, if it is too difficult and therefore not cost effective to recycle it will end up in landfill.

6

Every conversation you have with yours or your friends Amazon Alexa is stored in the cloud for life. Frightening thought, especially when friends or family are forced into a contract with Amazon they hadn't read, agreed to or were likely ever made aware of.

Some Interesting Facts About !Outer Space!

By: Vibhuti Gupta(1st Year)

What?

We see stars, galaxies, planets, dust clouds, and gas clouds through telescopes. The interesting fact is that whatever we see is just 5% of the universe ! So, 95% of the universe is not visible through an actual telescope and is missing. We do not have clue about it. But, We can perceive this missing mass by the gravitation interaction it has.

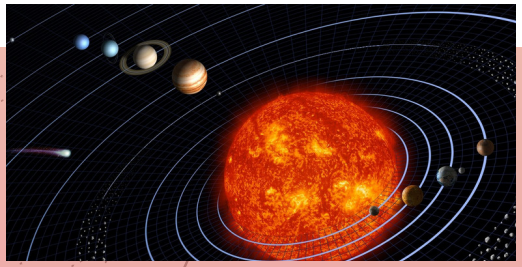
VENUS

Venus might have life in its cloud-tops. Europa and Enceladus might have life teeming in a sub-surface ocean of liquid water. Even Titan's liquid hydrocarbon lakes provide a fascinating place to search for exotic living organisms. And if water is liquid, it means that it is warm and there could be biochemistry all there. It could also create life. So, it is probable that there could be microbian life in our own solar system outside the earth.

Birth of UNIVERSE

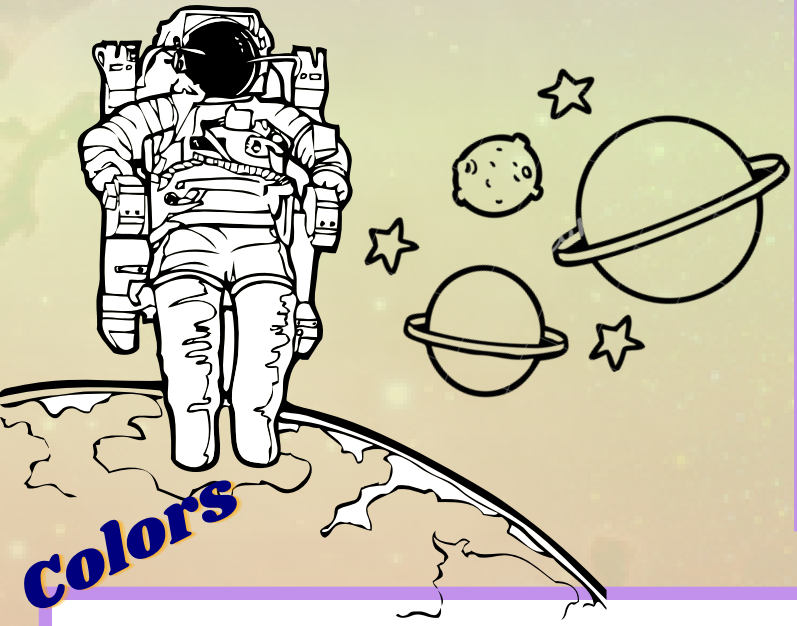
Our universe was born about 13.8 billion years ago in a massive explosion and blew space up like a gigantic balloon. That, in a nutshell, is the Big Bang theory, which virtually all cosmologists and theoretical physicists endorse. The evidence supporting the idea is extensive and convincing. We know, for example, that the universe is still expanding even now, at an ever-accelerating rate.

Over time, stars gravitated together to form galaxies, leading to more and more large-scale structures inthe universe. Planets coalesced around some newly forming stars, including our sun. And 3.8 billion years ago, life took root on Earth as soon as the planet cools a little bit.



Jupiter

Jupiter is named after Roman God Jupiter. We are not sure when Jupiter was discovered. It is visible to the unaided eye and references have been found dating back to the 7th or 8th century BC.



Mars

This smaller, colder, more distant cousin of Earth most certainly had a wet past, where liquid water clearly flowed on the surface for more than a billion years. Circumstantial evidence has pointed to the plausibility of life on Mars, not only in the ancient past, but possibly still living, and perhaps occasionally active, even today. With the information we've obtained from various orbiters, landers, and rovers, we've made a slew of fascinating discoveries on Mars. We see dried-up riverbeds and evidence of ancient glacial events on the Martian surface.

Colors

We perceive light because of the photons that enter the cornea/retina of our eyes and then, they transmit as a neural signal to the brain. Let me tell you something very strange! We perceive the world in a certain way but it may not be the real nature of the world. Thus the major elements is that" what is color?". Color is nothing but a certain vibration of the electromagnetic field. And this is interpreted by our brain as color. We know the color of our rainbow i.e. VIBGYOR. Is there black in there? Is there grey, brown, pink in there? These colors don't even exist in the rainbow and yet we perceive them. These are non-spectral colors that are invented by our brain to make a sense of a certain connection between spectral colors. So, our perception is color coding in a real sense.

For example, let's say you have a cell phone. You have a user interface that is used to send emails. But inside the phone, you have a very complicated clip that has layers of software, voltages, has ones & zeroes and all that. If you have to toggle voltages and circuits to send an email, you would never be able to send it. So, the user interface gives a very simplified version of what's inside.

Trivia Time

By: Vanshita Arora(2nd Year)

1 The term 'computer' is derived from

A. Latin
C. German
B. Greek
D. French

2 Which one is the first fully supported 64-bit operating system

A. Windows Vista
C. Linux
B. Mac
D. Windows XP

3 Which of the following is not the web browser

A. MOSAIC
C. Facebook
B. WWW
D. Netscape Navigation

4 Who is mother of computer

A. Ada Lovelace
C. Dr. grace Murry Hopper
B. Margaret Merry Hopper
D. Franbilas

5 Who is the father of computer science

A. Charles Babbage
C. Allen turning
B. Edward Robert
D. Robert Hook

6 which one is the latest one from PARAM supersries computer

A. PARAM Yuva II
C. PARAM Padma
B. PARAMNet
D. PARAM 10000

7 Father of Indian Supercomputing

A. Ragunath Mashelkar
C. Jayant Narlikar
B. Vijay Bhatkar
D. Nandan Nilekani

8 what is the extention type of the excel 2007

A. .xls
C. .xsl
B. .xlsx
D. none of the above

Trivia Time

By: Vanshita Arora(2nd Year)

9

A folder in windows computer can't be made with the name

A. can
C. mak
B. con
D. make

10

Main circuit broad in a computer is

A. Decoder
C. Select
B. Highlight
D.Motherboard

11

which one of the following in a programming language

A. HTTP
C. FTP
B. HTLM
D. SMTP

12

which protocol is used to send e-mail

A. POP3
C. SSH
B. SMTP
D. HTTP

13

@ sign was first chosen was first use in e-mail address

A. 1976
C. 1972
B. 1980
D. 1977

14

A computer uses which type of number system to calculate and to store data

A. Decimal
C. Binary
B. Octal
D. Hexadecimal

15

Which of the following is not a type of computer on basis operations

A. Digital
C. Hybrid
B. Analog
D. Remote

Answers

1. latin
2. Linux
3. Facebook
4. Ada Lovelace
5. Allen turning
6. PARAM Yuva II
7. Vijay Bhatkar
8. xlxs
9. Con
10. Mother board
11. HTML
12. SMPT
13. 1972
14. Binary
15. Remote

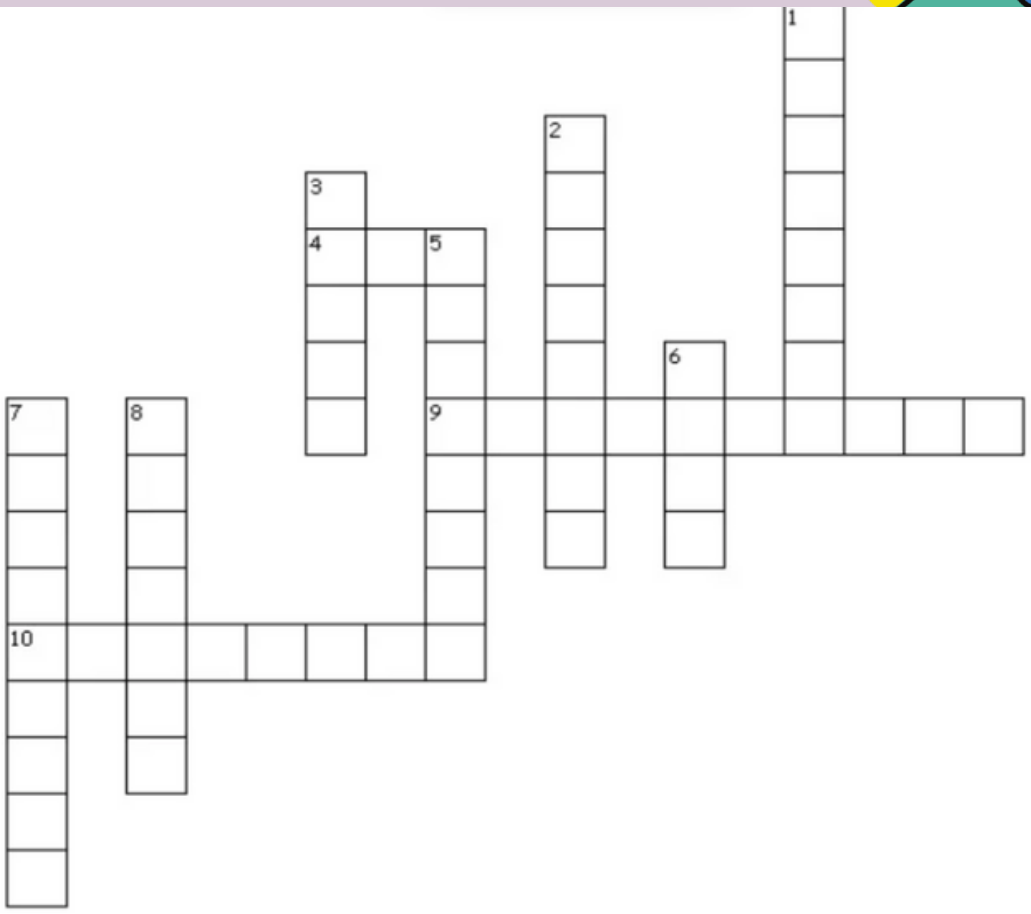
Abbreviations

By: Vanshita Arora(2nd Year)

- ABC : Atanasoff Berry Computer
- ACM : Association for Computing Machinery
- AI : Artificial Intelligence
- ALGOL : Algorithmic Language
- ALU : Arithmetic Logic Unit
- AMD : Advanced Micro Devices
- ARPANET : Advanced Research Project Agency Network
- BCD : Binary Coded Decimal
- BIOS : Basic Input Output System
- BIPS : Billions of Instructions Per Second
- BPI : Bytes Per Inch
- CAD : Computer Aided Design
- CAE : Computer Aided Engineering
- CAN : Campus Area Network
- CASE : Computer Aided Software Engineering
- VGA : Video Graphics Array
- VOD : Video-On-Demand
- VoIP : Voice over Internet Protocol
- VSAT : Very Small Aperture Terminal
- WAN : Wide Area Network
- WAP : Wireless Application Protocol
- WiMAX ; Worldwide Interoperability for Microwave Access
- WLAN : Wireless Local Area Network
- WWW : World Wide Web
- XML : eXtensible Markup Language
- X.400 : Electronic Mail Protocol
- X.500 : Directory Server Protocol

CrossWords Puzzle

By: Neeraja Giri(3rd Year)



Across

4. This stores the data which tells the computer how to load the operating system when it is switched on or re-booted.
9. The ..... Logic Unit is the part of the CPU which performs all of the calculations
10. The parts of a computer that you can touch

Down

1. The more common name for the programs or instructions on your computer
2. Memory is known as ..... when all the data is lost if the power is switched off.
3. The central processing unit is often called the ..... of the computer
5. This is the unit of storage generally used for RAM
6. The CPU is made from a silicon .....
7. The speed that a processor is usually measured in
8. The ..... unit is the part of the cpu which controls the input and output devices.

Answers
1. Software 2. Volatile 3. Brain 4. ROM 5. Megabyte 6. Chip 7. Gigahertz 8. Controls 9. Arithmetic 10. Hardware

Students Achievements in Placement

Associate Analyst Profile at Deloitte

ANNUAL PACKAGE : 3.82LPA

- **Karamjot Kaur**
- **Pragati Rawat**
- **Anushka Purwar**
- **Darshpreet Kaur**
- **Janessa Karra**
- **Khushi Singh**

Students Achievement in National and International Conferences

Name of Student :

Riya

Presented Research Article:

Defence Against Phishing attacks
AND
A Plunge Into Dark Web and its Ethical Analysis

Conference:

6TH Asia pacific International Modern Sciences Congress
AND
International confrences on Global Issues in Multidisciplinary Academic Research

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Vanshita Arora

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**Human or Technology :
Which is a Tool for Other ?**

Conference:

**6TH Asia pacific International
Modern Sciences Congress**

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Exploration of 5G Technology Period : Boon of Bane

Conference:

Int'I conf. on Advances in Management and Technology (ICAMT-2021)

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AND

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Int'l conf. on Computational Intelligence and Computing Application (IEEE ICCICA 2021)

Students Achievement in National and International Conferences

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Challanges of Robot Assisted Teaching in Education Domain

Conference:

Int'l conf. on Computational Intelligence and Computing Application (IEEE ICCICA 2021)

Students Achievement in Researh Work

Name of Student :

Anushka Purwar

Research Article:

Cyborgs : A coming era

Publications

CRC/Artificial Intelligence in Cyber Physical Systems : Principles and Applications

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Kritika Dey

Research Article:

A Comparative study of Classification Techniques on Car Evaluation Data using Machine learning algorithms in IOT

Publication

CRC/Artificial Intelligence in Cyber Physical Systems : Principles and Applications

TECHINSIGHT'21

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TRUTH IS THE HIGHEST OF ALL VIRTUES BUT TRUE LIVING IS HIGHER STILL