NAVKIS
COLLEGE OF ENGINEERING, HASSAN

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

NavCS MaCSeen

Volume-2 | Issue-1

2020 – 2021

Odd Semester

Vision

To become a renowned education and research center producing globally competent Computer Science Engineers

Mission

01 To establish excellent environment and facilities for knowledge dissemination and generation

02 To promote interactions with institutions of higher learning

03 To advance research and entrepreneurship

04 To inculcate professional ethics and social responsibilities

SEE THE UNSEEN

FROM THE EDITORS DESK

Dr.Myna A.N

HOD CSE

We, from department of Computer Science and Engineering are presenting the second issue of our News Magazine, NavCS MaCSeen. This issue showcases the talents of the faculty members and students of the department through their contributions in co-curricular and extracurricular activities. It is an amalgamation of technical and literary information.

Amidst the fear of COVID-19, we did not succumb to the situation. All the activities of the department went on as planned by taking proper precautionary measures. The odd semester of the academic year 2020-21 began with online classes but later on revision classes, laboratory sessions and exams were conducted in the offline mode. Induction programme was conducted to the first year students. Our students also visited local villages and spread awareness about preventing the spread of COVID-19. All the students of the department have become members of Computer Society of India.

We have conducted webinars and faculty development programmes. Faculty members are continuously upgrading their knowledge by participating in various workshops and faculty development programmes organized across the country. They are also actively involved in research. They have submitted research proposals to the funding agencies and published papers in reputed journals. We are happy to host the IEEE International Conference, MysuruCon 2021 in our college on 24th and 25th October 2021.

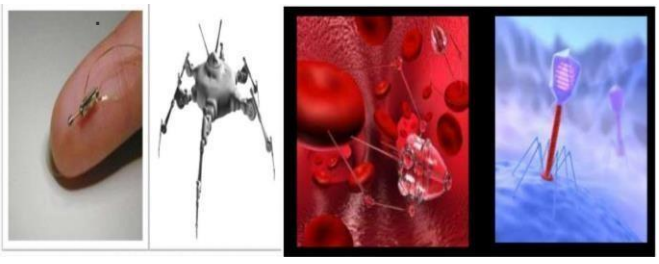
Technical artIcles

BLUE BRAIN PROJECT

Human brain is the most valuable creation of god. Man is called intelligent because of the brain. But all of the knowledge of brain is lost when the body is destroyed after death. Blue brain: The name of the world's first virtual brain. That means a machine that can function as human brain. Today scientists are conducting research to create an artificial brain that can think, respond, take decision, and keep anything in memory. EPFL's Blue Brain Project is a Swiss brain research Initiative led by Founder and Director Professor Henry Markram.

The aim of Blue Brain is to establish simulation neuroscience as a complementary approachalongside experimental, theoretical and clinical neuroscience to understand the brain, by building the world's first biologically detailed digital reconstructions and simulations of the mouse brain. The supercomputer-based simulations and reconstructions built by Blue Brain offer a radically new approach for understanding the multi-level structure and functions of the brain.

Now there is no question how the virtual brain will work. But the question is how the human brain will be uploaded into it. This is possible due to the fast growing technology



Nano robots:

The uploading is possible by the use of small robots known as the nanobots. These robots will be small enough to travel throughout our circulatory systems. Travelling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an interface with computers that is as close as our mind can be while we still reside in our biological form. This information when entered into a computer could then continue to function like us. Thus, the data stored in the entire brain will be uploaded into the computer. Nano robots are also capable of carefully scanning the structure of our brain.

BLUE BRAIN POWER:

The human brain has 100 billion nerve cells that enable us to adapt quickly to an immense array of stimuli. Blue brain is a technology that uses "blue gene". A super computer capable of processing 228 flops. The main aim of blue brain is to build a software replica or template which could reveal many existing aspects of the brain circuit, memory capability and how memories are lost. IBM, in partnership with scientists at Switzerland's Ecole Poly technique federal de Lausanne's (EPFL) is working on this project.

Pujith K L

7th Sem, CSE

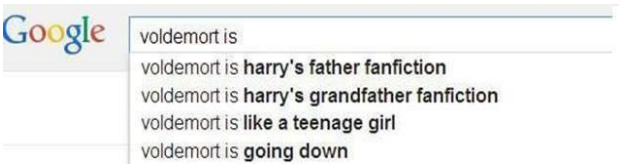
Technical articles

5 SURPRISING FACTS ABOUT GOOGLE

Here's a fact that everyone owning a piece of technology is aware of: Google is number one search engine. Not only is it a portal to access everything you'd like to know, but it also acts as an amazing backup here are some, rather interesting facts about Google that you may not know.

FACT 01:
When you perform a Google search, the machine checks the Google index to determine the relevant search results to be displayed to you. The search engine considers 200 factors before displaying you the best results for your query. Google uses a special algorithm called the Googlebot to generatesearch results.

FACT 02:
Google owns a cluster of domains such as, Google.com, Gogle.com and Google .com which directs to Google.com, which is completely reasonable. However, Google also owns 466453.com.



thus making 466453 as Google. So, if on typing any of these knowingly or unknowingly, it doesn't take you to some strange page. Instead, you'll land up on Google.com only.

"When Google was founded in September 1998, it served around ten thousand search queries per day. Currently, there are more than 2 million Google searches per second"

FACT 03:
When Google was founded in September 1998, it served ten thousand search queries per day. Currently, there are more than 2 million Google searches per second. The search engine finds a trillion unique URL's on the web. Crawls many billion sites a day and processes numerous searches every month.

FACT 04:
Google takes on the best projects that could change the world for millions of people. In 2012, Google introduced the Cherokee language in Gmail, which is the first Native American Tribal language added to its list.

FACT 05:
Google's search index is so huge (100 million gigabytes) in size that it would require about 100,000 one-terabyte personal drives to store the same amount of data.

Ms. Shruthi
Asst. Professor Dept, of CSE

Technical articles

ARTIFICIAL INTELLIGENCE IN ACTION

Artificial Intelligence, or simply AI, is the term used to describe a machine's ability to simulate human intelligence. Actions like learning, logic, reasoning, perception, creativity, that were once considered unique to humans, is now being replicated by technology and used in every industry.

A common example of AI in today's world is chat bots, specifically the "live chat" versions that handle basic customer service requests on company websites. As technology evolves, so does our benchmark for what constitutes AI.

Artificial Intelligence is a complex field with many components and methodologies used to achieve the final result — an intelligent machine. AI was developed by studying the way the human brain thinks, learns and decides, then applying those biological mechanisms to computers.

As opposed to classical computing, where coders provide the exact inputs, outputs, and logic, artificial intelligence is based on providing a machine the inputs and a desired outcome, letting the machine develop its own path to achieve its set goal. This frequently allows computers to better optimize a situation than humans, such as optimizing supply chain logistics and streamlining financial processes

AI in Banking and Payments:

This report highlights which applications in banking and payments are most mature for AI. It offers examples where financial institutions FIs and payments firms are already using the technology, discusses how they should approach implementing it, and provides descriptions of vendors of different AI based solutions that they may want to consider using.

AI in E-Commerce :

This report outlines the numerous applications of AI in retail, and provides case studies of how retailers are gaining a competitive edge using this technology. Applications include personalizing online interfaces, tailoring product recommendations, increasing the search relevance, and providing better customer service.

The robotic doctor :

After the Covid-19 pandemic began early last year, Traverso and his colleagues turned their attention toward new strategies to minimize interactions between potentially sick patients and health care workers. To that end, they worked with Boston Dynamics to create a mobile robot that could interact with patients as they waited in the emergency department.

H S Harsha

5th Sem, CSE

Technical articles

GLOBAL NAVIGATION SATELLITE SYSTEM(GNSS)

GNSS stands for Global Navigation Satellite System. It refers to a constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location.

The performance of GNSS is assessed using four criteria:

1. Accuracy: the difference between a receiver's measured and real position, speed, or time

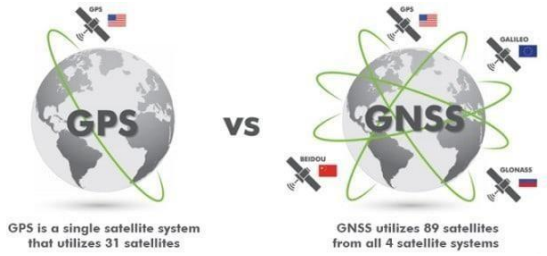
2. Integrity: a system's capacity to provide a threshold of confidence and, in the event of an anomaly in the positioning data, an alarm

3. Continuity: a system's ability to function without interruption

4. Availability: the percentage of time a signal fulfills the above accuracy, integrity, and continuity criteria

Some basic terminology for GNSS System is as follows:

1. Global Positioning System (GPS) – United States
2. GLONASS (Globalnaja nawigazionnaja sputnikowaja Sistema) – Russia
3. Galileo – Europe
4. BeiDou – China
5. QZSS (Quasi-Zenith Satellite System) – Japan



Reyax RYS8830 & EVB

The REYAX RYS8830 is built on the high performance of the SONY CXD5605GF CXD5605AGF GNSS engine.

The RYS8830 modules utilize concurrent reception of GNSS systems offering high sensitivity in a small SMD form factor.

It occupies a small SMD size of 121 mm2, which currently is the smallest GNSS module worldwide with an antenna. The operating voltage is around 1.65～1.95V. The frequency is 1561.098 MHz for BeiDou, 1575.42 MHz for GPS & 1602.5625 MHz for Glonass. RYS8830 has a built-in enhanced GNSS filter, a low noise amplifier, an embedded antenna, and it offers an option of an external antenna. The tracking sensitivity is around -161 dBm.

Specifications:

1. GNSS Center Frequency: 1561.098 MHz (BeiDou), 1575.42 MHz (GPS)
2. Navigation update rate: 1 Hz
3. Accuracy: up to 1m
4. Operating Temperature: -40°C to +85°C
5. Dimensions: 11mm*11mm*2.2mm
6. Power Supply Voltage: 1.8V
7. Satellite acquisition Current: 19 mA
8. Satellite tracking Current: 13 9. Satellite tracking Current: 2.6 mA to 8.2 10. Idle Current: 3 mA (GNSS continuous mode)

Ms. Tejaswini MR

Asst. Professor Dept, of CSE

GENERAL
artIcles

MYSTERY OF BLACK HOLE

Black hole is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.

Because no light can get out, people can't see black holes. They are invisible. Space telescopes with special tools can help find black holes. The special tools can see how stars that are very close to black holes act differently than other stars.

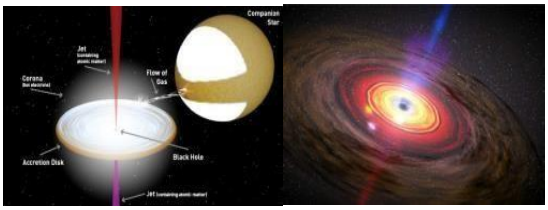
Black holes can be big or small. Black holes are as small as just one atom. These black holes are very tiny but have the mass of a large mountain. Mass is the amount of matter, or "stuff," in an object.

Another kind of black hole is called "stellar." Its mass can be up to 20 times more than the mass of the sun. There may be many, many stellar mass black holes in Earth's galaxy. Earth's galaxy is called the Milky Way.

The largest black holes are called “supermassive”. These black holes have masses that are more than 1 million suns together. Scientists have found proof that every large galaxy contains a supermassive black hole at its center.

The supermassive black hole at the center of the Milky Way galaxy is called Sagittarius A. It has a mass equal to about 4 million suns and would fit inside a very large ball that could hold a few million Earths.

The smallest black holes formed when the universe began. Stellar black holes are made when the center of a very big star falls in upon itself, or collapses.



When this happens, it causes a supernova. A supernova is an exploding star that blasts part of the star into space. The supermassive black holes were made at the same time as the galaxy they are in.

A black hole cannot be seen because strong gravity pulls all of the light into the middle of the black hole. But scientists can see how the strong gravity affects the stars and gas around the black hole. Scientists can study stars to find out if they are flying around a black hole.

When a black hole and a star are close together, high-energy light is made. This kind of light cannot be seen with human eyes. Scientists use satellites and telescopes in space to see the high-energy light.

Black holes do not go around in space eating stars, moons and planets. Earth will not fall into a black hole because no black hole is close enough to the solar system for Earth to do that.

Even if a black hole the same mass as the sun were to take the place of the sun, Earth still would not fall in. The black hole would have the same gravity as the sun.

Mr. Theerthesha N.O

Asst. Professor Dept, of CSE

GENERAL
artIcles

COVID-19 OUTBREAK: AN OVERVIEW

An outbreak of pneumonia of unknown origin was reported in Wuhan, Hubei Province, China. Most of these cases were epidemiologically linked to the Huanan Seafood Wholesale Market. Inoculation of bronchoalveolar lavage fluid obtained from patients with pneumonia of unknown origin into human airway epithelial cells and Vero E6 and Huh7 cell lines led to the isolation of a novel coronavirus, SARS-CoV-2, previously named 2019-nCov. Coronaviruses belong to the family corona viridae and are positive single-stranded RNA viruses surrounded by an envelope. Alpha-, Beta-, Gamma-, and Delta coronavirus. To date, seven human corona viruses (HCoVs) have been identified, which fall within the Alpha- and Beta coronavirus genera. The Alpha corona virus genus includes HCoVNL63 and HCoV- 229E, while the Beta coronavirus genus comprises HCoV-OC43, HCoV-HKU1, SARS-CoV (severe acute respiratory syndrome coronavirus), MERSCoV(Middle East respiratory syndrome-related coronavirus), and the novel SARS-CoV-2. The alpha coronaviruses HCoV-NL63 and HCoV-229E and the beta corona viruses HCoV-OC43 and HCoV-HKU1 usually cause common colds, but also severe lower respiratory tract infections, especially in the elderly and children. HCoV-NL63 infection has also been significantly associated with croup (laryngotracheitis), and HCoVOC43 infection with severe lower respiratory tract infection in children. SARS-CoV and MERS-CoV are zoonotic in origin; they cause severe respiratory syndrome and are often fatal.

Since the beginning of the epidemic in late December 2019, SARS-CoV-2 has now spread to all continents, and as of March 18, 2020, the WHO communicated 179,111 confirmed cases and 7,426 deaths globally (Situation Report-57).

They are different genera are there:

- SARS-CoV-2 Epidemiology
- Molecular Diagnosis of SARS-CoV-2
- SARS-CoV-2 Modeling

Conclusion:

This study is a current research on molecular evolution, epidemiology, and diagnostics in response to the outbreak of COVID-19. Many studies have been published within different scientific disciplines with the intent to control and prevent this pandemic. Phylogenetic analysis and homology modeling add new knowledge together with epidemiological and diagnostic methods. Studies exploring the genome and the structure of the viral proteins are essential in order to define prevention and control measures to minimize the impact of the outbreak. All this knowledge will pave the way for the development of a vaccine and antiviral therapy.

Vishal Gowda C S
7th Sem, CSE

STUDENT CORNER

I'LL BE THERE FOR YOU

If you've got secret, you want to tell, We can talk all day long.

If your dreams get broken somehow, I'll remind you that you belong.
If you need some place to hide, you can hold my hand for a while.
If your sky begins to fall, I'll stay with you till you smile.
Whenever you need some space, there is my room you can take it.
If someone breaks your heart, Together we'll unbreak it.
When you feel sad or empty inside, I'll show you you're not alone.
If you get lost out there, I'll come and take you home.
I'll go with you somewhere else, when you need to get away.
And when nothing seems to be going right and you need a friend, I'll stay.
You and me...buds Forever

CHANDU L N
3rd Sem, CSE

HOW TO BECOME SUCCESSFUL IN LIFE

The positive attitude is an essential ingredient for us to become a successful person in life. It can easily distinguish a successful person from a not so successful person. One must possess constant Sense of optimism. Positive attitude has the potential to convert failures into success. To become successful in life everyone should have some of the following in built qualities: Hope, Faith, Confidence, Trust and Positive Attitude.

Environment matters a lot in changing one's attitude. There is nothing called bad time or good time to undertake a work. We can always complete the given constructive task without waiting for any auspicious moment to come. Fine paths are made by walking, not waiting for a fine path to walk. If path is beautiful first confirm where it leads. But, if the destination is beautiful don't bother how the path is.

CHANDAN H
3rd Sem, CSE

BELIEVE IN YOURSELF

Believe in yourself you are braver than you think, more talented than you know, and more capable than you imagine. Believe in your infinite potential. Your only limitations are those you set upon yourself.
Everything you have in your life is a result of your belief in yourself and the belief that it's possible. The truth is that we've been conditioned throughout our lives to doubt ourselves. We must restrain ourselves to get rid of our fears and self-doubt in order to build self-esteem and self-confidence. Look in the mirror and see a better you. Your self-belief can help you climb mountains, so get up and get moving. 'Believe that you can do it, and work hard to get it, and its yours', Beliefs controls results, because you will never take an action towards something you don't believe is possible! If you can believe yourself, you can achieve anything in your life.
'You have a right to perform your prescribed duties, but you are not entitled to the fruit of your actions. Never consider yourself to be the cause of the results of your activities, nor be attached to inaction'. Believe in yourself is like a medicine to our life.

HARSHITHA H H
5th Sem, CSE

TO ME, FAMILY MEANS.

I will never be truly alone, and
I'll always have a place to call home.
I have people who know the real me,
And they still love me even if we disagree.
Though sometimes we may fuss and fight,
In the end everything will be all right
Because families forgive each other no matter what.
That's just the way it is, no ifs, ands, or buts.
Family stays true all the way down the line,
And I couldn't live without these people of mine.

Yes, this is what family means to me

NISHMA A A
3rd Sem, CSE

THE PHONE

I am the phone,
Which every one does own...!
I connect many friends,
Also I come into different friends...!
I will be with my owner in their home,
And follow them wherever they room...!
When there is a fall in my change,
They recharge me in charge...!
For few I am ferocious,
But many think am precious...!
Though rise in my bill,
People who throw me away are nil...!
No one calls me boring,

Because they always remember me as loving

HARSHITHA H H
5th Sem, CSE

HOPE

A man with hope walking
In the dark of the night....
To find his destiny
All stars laughing at him
From the bluesky...
The fire of the pain still ashing
Inside of his heart...
But man still walking in the darknight...
Man thinking in the dark
Love and care of his mother...
The broken dreams coming out
From his tear....
The road which man taken
Built by the generious stories....There is a identity of happiness and sadness ....
But still.....man walking in the darkness

YATHEESH KUMAR K B
3rd Sem, CSE

ACCOMPLISHMENTS BY FACULTY MEMBERS

WEBINARS/FDP'S ATTENDED

Dr. Myna A.N:

- FDP on "Introduction to Machine Learning" during September to December 2020.
- FDP on "Concepts, Methods, Challenges and Future directions in Medical image analysis using Machine learning", organised by the Department of Electronics and Instrumentation, SJCE , JSS S&TU, Mysuru during 10th to 14th August 2020.

Mr. Abhinandhan E:

- FDP on "Data Mining and Analytics" conducted by Reva University, Bengaluru during 17th to 23rd February,2021
- FDP on "Mobile Application Development-Hands on Experience" conducted by NCEH on 15th and16th April, 2021

Mr. Theerthesha N.O:

- FDP on "Mobile application Development: Hands- on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan.
- FDP on "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education conducted online during 1 -5 February, 2021.
- FDP on "Virtual Labs for affiliated Engineering Colleges under VTU Belagavi" organized by VTU in association with NIT, Surathkal, Karnataka

Ms. Prathibha G:

- FDP on " Computer Science & Biology" from 19 January 2021 to23 January 2021 at MCE,Hassan
- FDP on "Mobile application Development: Hands- on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan.

Ms. Shruthi:

- FDP on "Mobile application Development: Hands- on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan.
- FDP on "Data Mining and Analytics" held between 17th to 23rd February 2021 at Reva University, Bengaluru..

Mr. Raghu Nandan.R:

- FDP on "Mobile application Development: Hands- on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan.
- FDP-Student Induction on "Universal Human Values" organized by All India Council for Technical Education(AICTE) conducted online during 1 -5 February, 2021.

Ms. Shubhangi Rajpoot:

- FDP on "Mobile application Development: Hands- on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan.
- FDP on "Research Opportunities in Electrical and Electronics Engineering" held during 1st march to 5th March 2021, MVJ College of Engineering, Bangalore.

Ms. Tejaswini M.R:

- FDP on "Operational planning in Electric distribution systems" organized by Department of Electrical and Electronics Engineering, BIET, Davanagere from 11-15 January 2021
- FDP on "Entrepreneurship And Innovation" Sponsored by Dept. of Science &Technology, New Delhi & Organized by Dept. Of Information Science Engineering & Edc Cell , Dayananda Sagar Academy Of Technology & Management Banglore held from 22nd Feb to 6th Mar 2021.

ACCOMPLISHMENTS BY FACULTY

PUBLICATIONS

Dr. Myna A.N

- Myna.A.N, Deepthi K, Prathibha G, "Classification of Photographs Based on Face Recognition", International Journal of Advanced Research in Engineering and Technology (IJARET), Vol.17, No.9, September 2020, pp: 4145-4149 (Scopus Indexed), ISSN: 1546-1955 (Print): EISSN: 1546-1963 (Online), h-index 47, Q4, SJR: 0.17
- "Hybrid Recommender System for Melody Information Retrieval", Journal of Computational and Theoretical Nanoscience, Vol.17, No.9, September 2020, pp: 4145-4149 (Scopus Indexed), ISSN: 1546-1955 (Print): EISSN: 1546-1963 (Online), h-index 47, Q4, SJR: 0.17

Ms. Prathibha G

- "Classification of Photographs based on face recognition" in International Journal of Advanced Research in Engineering and Technology (IJARET), volume 12, issue 3, March 2021, pp.732-740 Article ID: IJARET_12_03_067, ISSN Print: 0976-6480 and ISSN online: 0976-6499

Mr. Raghu Nandan.R

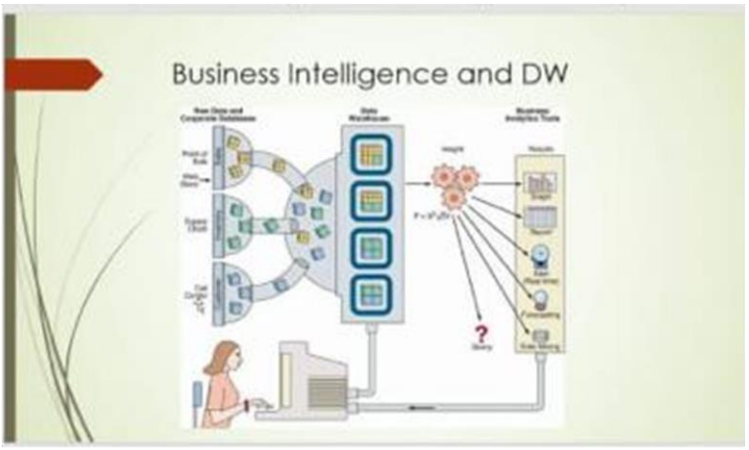
- "CBSSE-IoT: A Clue-Based Services Search Engine for the Internet of Things", in 2nd International Conference on Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy(MMCITRE -2021) organized by Pandit Deendayal Petroleum University (PDPU), Gandhinagar, Gujarat, India.
- "IoT-CBSE: A Search engine for Semantic Internet of Things" in the Sixth International conference on "Emerging Research in Computing, Information, Communication and Applications"-ERCICA 2020 held at NMIT, Bangalore, India

Faculty Development Program on Mobile Application Development

Faculty Development Programme on 'Mobile Application Development: Hands-on Experience' was conducted by the department on 15th and 16th April 2021. Mr. Devrath A D, Lead Software Engineer from Recro, Bengaluru was the resource person. The aim of the FDP was to provide an insight into the concepts of Mobile Application Development, provide hands-on experience in Android Application Development and exposure to JAVA & Kotlin programming. Mr. Devrath A. D gave an introduction about the various tools used for android Mobile Application. Participants were given hands-on experience using these tools. They were also given demonstration on real-time applications. At the end of the session, Mr. Devrath A D spoke about the opportunities available in the field of mobile application development.

Webinar on Business Intelligence and Data Warehousing

A webinar on 'Data Mining and Business Intelligence' was organized by department of CSE on 11th January 2021. 100 registered participants from all over the country participated in this webinar. Resource person was Mr.Suresh Kumar Durgappa who is an expert in this area. He is the CEO of Kaletics India Pvt. Ltd. Ms. Prathibha. G. delivered the welcome address. Dr. Myna. A.N introduced the speaker to the participants. Then Mr. Suresh Kumar Durgappa started the session. He first gave a brief introduction about data, transactions, databases and nosql databases. Later he explained the concepts of online transaction processing and online analytical processing. He then gave an introduction about data warehousing and data warehouse architecture. He later spoke about the importance of data marts. Then he discussed about various data mining techniques. He explained about the various applications of data warehouses, data mining and business intelligence. Finally, he demonstrated a live example of corona virus tracker.

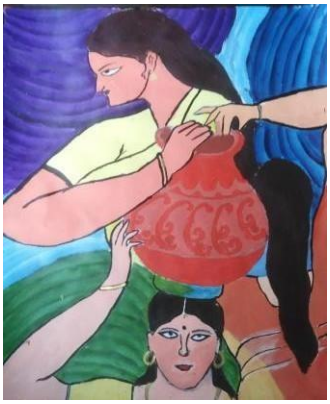


ART GALLERY

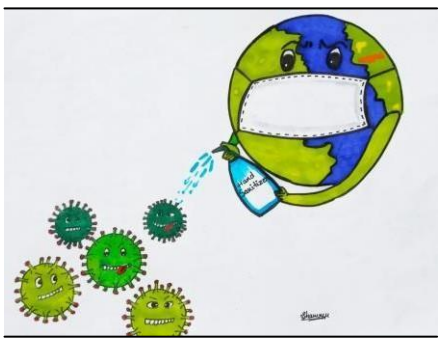
SHAMIKA
7th Sem, CSE

YUVARANI
3rd Sem, CSE

SHAMIKA
7thSem, CSE



ROHITH K
3rd Sem, CSE



SHAMIKA
7th Sem, CSE

BHARGAVI C S
5th Sem, CSE