An Initiative from
Sri. M. S. Ramaiah
Navkis
College of Engineering, Hassan
www.navkisce.ac.in

Department Computer Science & Engineering

Odd Semester
2021-22

2K22

NavCS MaCSeen

SEE THE UNSEEN

Volume-3 | Issue-1

Vision

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

Mission

- **To establish excellent environment and facilities for knowledge dissemination and generation**
- **To promote interactions with industries and institutions of higher learning**
- **To advance research and entrepreneurship**
- **To inculcate professional ethics and social responsibilities**

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FROM THE EDITOR'S DESK

DR.MYNA A N

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Department of Computer Science and Engineering is very happy to release the 4th issue of our department newsletter, NavCS MaCSeen for the term 2021-22 odd semester which was a very fruitful semester. In terms of admission, the department marked an all-time record of 100% admission in spite of an increase in intake from 60 to 120 students.

Our faculty members and students were actively involved in organizing IEEE International Conference, MysuruCon-2021 in our campus on 24th and 25th October 2021. Dignitaries from across the world graced the inauguration ceremony of the Conference.

Remarkable number of students registered for NPTEL courses and most of the students have cleared the exams. They have achieved good results in their university exams also. Our students have actively participated in the co-curricular and extra-curricular activities during this semester. Various competitions and events were conducted in the department for the students. They were also engaged in social service activities. They have visited nearby villages, schools, old age homes and involved in cleaning to promote Swachh Bharath. Industry interaction activities are regularly conducted. MoUs are initiated with industries.

The faculty members and staff of our department are striving hard for the betterment of the Institution. It gives me immense pleasure to present this edition of our newsletter.

Hologram Technology

-The Future, We Expect

Holography is a photographic technique that records the light scattered from an object, and then presents it as three-dimensional.

Holograms of varying forms have appeared over the years, including transmission holograms, which allow light to be shined through them and the image to be viewed from the side, and rainbow holograms, like those used on credit cards and driver's licenses for increased security. The development of hologram technology began in 1962, when Yuri Denisyuk, of the Soviet Union, and Emmett Leith and Juris Upatnieks, at the University of Michigan, developed innovative laser programs that recorded objects in 3D. They recorded on silver halide photographic emulsions at the time, but the clarity of the objects was far from perfect. But new methods have improved holograms over time.

Holograms are as close as your wallet. Most driver's licenses include holograms, as well as ID cards and credit cards. Holograms can even be found throughout our houses. Holograms come as part of CD, DVD, Blu-Ray, and software packaging, as well as nearly everything sold as "official merchandise". But, these security holograms — which discourage forgery — aren't impressive. They simply change shape and color when tilted. However, large-scale holograms, the kind illuminated with lasers or created in a dark room with carefully placed lighting, are phenomenal. They're basically two-dimensional surfaces that show very accurate three-dimensional images of real objects. You don't even have to wear special glasses like when you go to a 3D movie.

Holograms have surprising features. For example, each half contains whole views of the entire holographic image. The same is true if you cut out a small piece. Even a small fragment will still house the entire picture. Understanding the principles behind holograms, helps you understand that the hologram, your brain, and light waves work together to make clear, 3D pictures.

-Mrs. Shruthi
Assistant Professor
Computer Science & Engineering

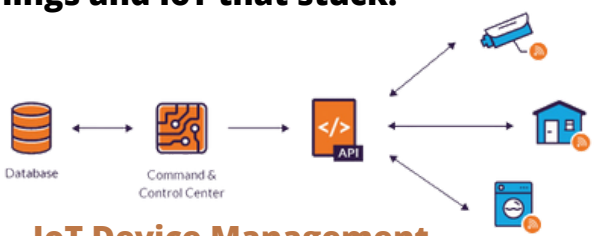
Internet of Things

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of wireless networks, it's possible to turn anything, from something as small as a pill to something as big as an aeroplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real-time data without involving a human being. The Internet of Things is making the fabric of the world around us more smarter and more responsive, merging the digital and physical universes.

Pretty much any physical object can be transformed into an IoT device if it can be connected to the internet to be controlled or communicate information.
A lightbulb that can be switched on using a smartphone app is an IoT device, as is a motion sensor or a smart thermostat in your office or a connected streetlight. An IoT device could be as fluffy as a child's toy or as serious as a driverless truck. Some larger objects may themselves be filled with many smaller IoT components, such as a jet engine that's now filled with thousands of sensors collecting and transmitting data back to make sure it is operating efficiently. At an even bigger scale, smart cities projects are filling entire regions with sensors to help us understand and control the environment.

The term IoT is mainly used for devices that wouldn't usually be generally expected to have an internet connection, and that can communicate with the network independently of human action. For this reason, a PC isn't generally considered an IoT device and neither is a smartphone -- even though the latter is crammed with sensors. A smartwatch or a fitness band or other wearable device might be counted as an IoT device, however.

The IoT was initially most interesting to business and manufacturing, where its application is sometimes known as machine-to-machine (M2M), but the emphasis is now on filling our homes and offices with smart devices, transforming it into something that's relevant to almost everyone. Early suggestions for internet-connected devices included 'blobject's' (objects that blog and record data about themselves to the internet), ubiquitous computing (or 'ubicomp'), invisible computing, and pervasive computing. However, it was Internet of Things and IoT that stuck.



IoT Device Management

-Mr.Raghunandan R
Assistant Professor
Computer Science & Engineering

Cloud computing is the delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale.

Cloud-computing services cover a vast range of options now, from the basics of storage, networking and processing power, through to natural language processing and artificial intelligence as well as standard office applications. Pretty much any service that doesn't require you to be physically close to the computer hardware that you are using can now be delivered via the cloud – even quantum computing.

A fundamental concept behind cloud computing is that the location of the service, and many of the details such as the hardware or operating system on which it is running, are largely irrelevant to the user. It's with this in mind that the metaphor of the cloud was borrowed from old telecoms network schematics, in which the public telephone network (and later the internet) was often represented as a cloud to denote that the location didn't matter – it was just a cloud of stuff. This is an over-simplification of course; for many customers, location of their services and data remains a key issue.

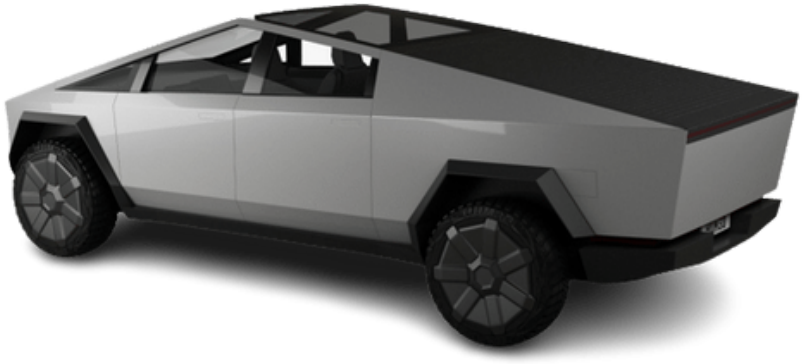
Cloud computing is becoming the default option for many apps: software vendors are increasingly offering their applications as services over the internet rather than standalone products as they try to switch to a subscription model. However, there are potential downsides to cloud computing, in that it can also introduce new costs and new risks for companies using it.

Many companies remain concerned about the security of cloud services, although breaches of security are rare. How secure you consider cloud computing to be will largely depend on how secure your existing systems are. In-house systems managed by a team with many other things to worry about are likely to be more leaky than systems monitored by a cloud provider's engineers dedicated to protecting that infrastructure.

One benefit of using cloud-computing services is that firms can avoid the upfront cost and complexity of owning and maintaining their own IT infrastructure, and instead simply pay for what they use, when they use it.

-Mrs.Manasa DS
Assistant Professor
Computer Science & Engineering

TESLA CYBER TRUCK



The Tesla Cybertruck is a battery electric light-duty truck announced by Tesla in 2019. Three model shave been announced, with EPA range estimates of 400–800kilometre's (250–500 mi) and an estimated 0–100 km/h (0–62 mph) time of 2.9–6.5 seconds, depending on the model. The stated goal of Tesla in developing the Cybertruck is to provide a sustainable energy substitute for the roughly 6,500 fossil-fuel-powered trucks sold per day in the United States.

The base price of the rear-wheel drive (RWD) model of the vehicle was announced to be US$39,900, with all-wheel drive (AWD) models starting at US$49,900. Production of the dual-motor AWD and tri-motor AWD Cybertruck was slated to begin in late 2021, with the RWD model release date in late 2022, but it was pushed back, with the current estimate of the beginning of production being early 2023.

Features :

The proposed truck uses self-leveling suspension which compensates for variable load and some models feature all-wheel drive. The company states that other standard features will include on-board power inverters for supplying both 120 and 240-volt electricity, allowing use of power tools without a portable generator. An air compressor for powering pneumatic tools is included. The exterior stainless-steel sheet-metal is said to be bullet-resistant. All vehicles are also planned to come with Tesla Autopilot, and they are planned to have the hardware capabilities for fully autonomous operation. As of 2019, Musk indicated that there would be a solar roof option which would add 15 miles of range per day.

The interior of the prototype unveiled on 21 November 2019 included a 17-inch center display, seating for 6 using two bench seats with the front middle seat being a fold-down center arm rest, a digital rear-view camera-based mirror ,a race car style steering yoke, and a dashboard with a surface resembling marble. The rear middle seat folds down to allow loading long cargo extending into the cab from the vault (enclosed lockable bed). The "marble look" dashboard of the unveil prototype vehicle was a paper composite material made from "paper, wood-based fibers, natural wood pigments and non-petroleum-based resins.

- AMITH KUMAR H M
5th Semester
Computer Science & Engineering

AI is Not A Technology

Is AI the technologies people use to make machines intelligent, or, is it the movement towards the goal of achieving machine intelligence? According to John McCarthy, AI is actually a science. It's a field of study. But it might be more helpful to think of AI as a goal. If AI is considered to be a collection of technologies, then you can argue all day about what is and what isn't AI. Are software robots AI? Are self-driving cars AI? Is computer vision AI? Is character recognition AI? If you think about it as technology then it's always subject to disagreement and interpretation. However, if you think about it as a goal, or a quest, then it's something we're always striving to achieve, even if we aren't quite there yet. Even if you think of AI as a field of study, like physics, those fields of study have goals. The goal of physics is to gain the true understanding of the nature of the universe. Everything we've developed in that quest for understanding in physics are technologies that are useful in our everyday lives. But those technologies aren't physics -- they are the byproducts of our quest to understand physics. In the same way, machine learning and computer vision and robotics aren't AI, they are the technology byproducts of our quest to achieve or understand AI.

The quest for the artificially intelligent machine has lead to great advancements in the field. As outlined above, we now have technologies that can recognize and classify images, understand and generate natural language, self-driving vehicle capabilities, chatbots that are able to converse simultaneously in multiple languages, systems that can help diagnose diseases such as cancer or diabetes, and an almost innumerable set of applications across a wide range of industries. Many categorize these applications as "narrow AI" (or heaven forbid the pejorative term "weak AI"). It goes without saying that since no one has yet achieved AGI (considered to be "strong AI"), then every current application of AI is narrow. This makes the term narrow AI simultaneously unhelpful and useless. When people use the term narrow AI, they really mean the cognitive technologies that have been developed on the quest for the intelligent machine. So, instead of saying narrow AI, just use the term "cognitive technology." That's more indicative of what is meant. When someone says general AI or strong AI, you should ask - are you referring to the technologies that implement the intelligent machine or the ultimate goal itself? One is a science, the other is the technologies of application.

In much the same way that the space race wasn't a technology, AI can be looked at from the same perspective. Many great developments came out of our quest to get to space such as thermal blankets, microprocessors, baby formula, and velcro. The quest to put people in space, on the moon, and even interstellar transportation was the goal. The developments created in the quest for the goal have been able to help society. What comes out of the race are all these technologies that make up bits and pieces of trying to achieve that goal.

-Sahana M B
5th Semester
Computer Science & Engineering

NATURE

Nature is part of our life. We grew out of the seed, the earth, and we are part of all that, but we are rapidly losing the sense that we are animals like the others. Can you have a feeling for a tree, look at it, see the beauty of it, listen to the sound it makes? Can you be sensitive to the little plant, a little weed, to that creeper growing up the wall, to the light on the leaves and the many shadows? One must be aware of all this and have that sense of communion with nature around you. You may live in a town, but you do have trees here and there. A flower in the next garden may be ill-kept, crowded with weeds, but look at it, feel that you are part of all that, part of all living things. If you hurt nature, you are hurting yourself.

One knows all this has been said before in different ways, but we don't seem to pay much attention. Is it that we are so caught up in our own network of problems, our desires, our urges of pleasure and pain that we never look around, never watch the moon? Watch it. Watch with all your eyes and ears, your sense of smell. Watch. Look as though you are looking for the first time. If you can do that, you see for the first time that tree, bush or blade of grass. Then you can see your teacher, your mother or father, your brother or sister, for the first time. There is an extraordinary feeling about that: the wonder, the strangeness, the miracle of a fresh morning that has never been before and never will be.

Be in communion with nature, not verbally caught in the description of it, but be a part of it, be aware, feel that you belong to all that, be able to have love for all that, to admire a deer, the lizard on the wall, that broken branch lying on the ground. Look at the evening star or the new moon without the word, without merely saying how beautiful it is and turning your back on it, attracted by something else, but watch that single star and new delicate moon as though for the first time. If there is such communion between you and nature, you can commune with man, with the boy sitting next to you, with your educator or with your parents. We have lost all sense of relationship in which there is not only a verbal statement of affection and concern but also this sense of communion, which is not verbal. It is a sense that we are all together, that we are all human beings, not divided, not broken up, not belonging to any group or race or some idealistic concepts, but that we are all human beings, living on this extraordinary, beautiful earth.

-Nishma
5th Semester
Computer Science & Engineering

SAVE TREE SAVE LIFE

ACCOMPLISHMENTS

FDPs/Webinars/Workshops Attended by Faculty Members

Mrs. Prathibha G

- Webinar on "Machine Learning Models for COVID-19 Diagnosis" organized by IEEE Mysore Subsection held on 19th January 2022.
- Webinar on "Getting started with Embedded Systems" organized by IEEE Circuits and Systems (CAS) Society Bangalore Chapter in Association with IEEE Bangalore Section on 31st January 2022.

Mrs. Shruthi

- AICTE VTU Joint Teachers Training - Programme on "An Overview of Teaching Techniques in Scientific Foundations of Health" between 20th & 24th December 2021 Organized by VTU Human Resource Development Centre (VTU - HRDC), Centre for PG Studies, VIAT, Muddenahalli, Chikkaballapur (Dist.) - 562101.
- Research Development Program on "Problem Formulation, Publication, Proposal & Thesis Writing" from 07th to 12th February 2022 organized by of Department of Computer Science and Engineering, Alva's Institute of Engineering and Technology, Moodbidri in association with Indian Institute of Information Technology, Allahabad (IIITA) and Computer Society of India (CSI)..

Ms. Meghashree DP

- Research Development Program on "Problem Formulation, Publication, Proposal & Thesis Writing" from 07th to 12th February 2022 organized by of Department of Computer Science and Engineering, Alva's Institute of Engineering and Technology, Moodbidri in association with Indian Institute of Information Technology, Allahabad (IIITA) and Computer Society of India (CSI).

Mrs. Manasa DS

- AICTE VTU Joint one week online Faculty Development - Programme on "Universal Human Values" between 2nd to 6th march 2022 Organized by VTU .

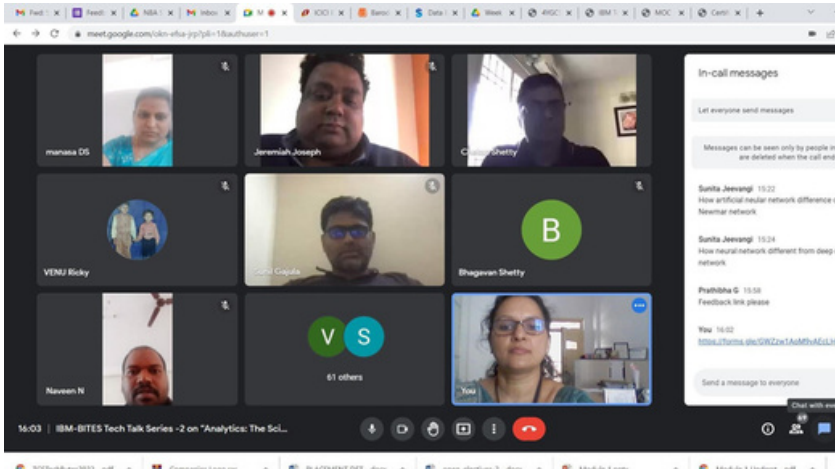
ACCOLADES

Dr. Myna A N

Is awarded in recognition of outstanding contribution to IEEE Mysore Subsection in the year of 2021

EVENTS CONDUCTED IN CSE DEPARTMENT

Webinar on “Analytics: The Science of What data can Do”



A Webinar on "Analytics: The Science of What data can Do" was organized by the Department of Computer Science and Engineering on 4th March 2022.The Technical talk started at 3.00 PM . 100 registered participants from all over the country participated in this tech talk series through google meet link which was circulated through whatsapp.

Dr. Myna. A.N delivered the welcome address and introduced the speaker Mr. Jeremiah Joseph to the participants. Then Mr. Jeremiah Joseph(Chief Architect, IBM, Bengaluru) took over. He first gave a brief introduction about Data Science, importance of the data, need for the learning the data science and career opportunities in the data science field.

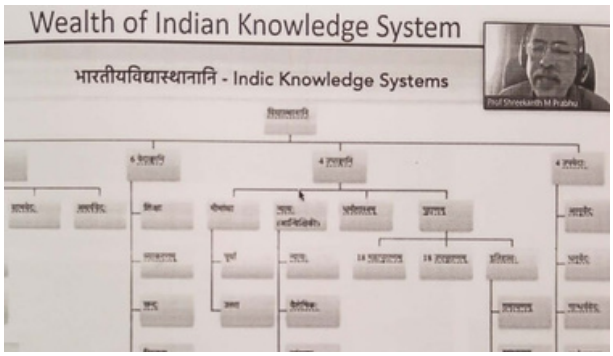
Technical talk on "The Paperless shop floor and The Next Industry Revolution"

Technical talk on "The Paperless Shop Floor. The New Industry Revolution" was conducted by the department on 12th January 2022 between 2:00 p.m. to 3:30 p.m in CSE department laboratory. The aim of the Technical talk was to provide an insight into the concepts and applications of The Paperless Shop Floor and The New Industry Revolution by the speaker Mr. Yashwanth Kumar TH(Embedded Software engineer (Loginware softtec Pvt.Ltd,Hassan).

Technical talk on "Natural Language Processing"

Technical talk on "Natural Language Processing" was conducted by the department on 29th December 2021 between 2:00 p.m. to 4:00 p.m. The aim of the Technical talk was to provide an insight into the concepts and applications of Natural Language Processing, Image Processing and Data Mining by the speaker Santhosh Lakshminarayanappa (Vice President, Value Labs India Pvt Ltd,Hyderbad).

Webinar on "Reimagining IT Education in Atmanirbhar Bharat"



Webinar on "Reimagining IT Education in Atmanirbhar Bharat" was conducted by the department on 13th September 2021 time 3.00 P.M The aim of the Technical talk was to provide an insight into IT Education in self reliant India for academic and research projects by the speaker Dr.Shreekanth M Prabhu (Professor and HOD of CSE, CMRIT, Bengaluru).

Dr. Shreekanth M Prabhu graduated from IIT Bombay with Master's Degree in Computer Science & Engineering in 1986. He has around 25 years of experience in industry, spanning industry majors TCS, IBM and Hewlett Packard where he managed product engineering groups in Operating Systems, Utility/Cloud Computing and Printer R&D.

Webinar on "Bringing Excellence in Teaching "

Webinar on "Bringing Excellence in Teaching " was conducted by the department on 24th September 2021 time 3.00 P.M .The aim of the webinar was to provide an insight into how to bring the excellent skill and quality in Teaching by the speaker Dr.Sasindran M Prabhu (Key Resource Person ,KSGI, Bengaluru).

Sasindran Prabhu is M.Tech, PGDM by qualification. Professionally, he is a Senior Member in IEEE, Fellow in IETE, qualified and certified Project Management Professional (PMP). He was a "Senior Program Manager" in CDOT (Centre for Development of Telematics, a Telecom research centre funded by Govt. of India) till the year 2000. Later, he joined Tech Mahindra in 2001 and retired from there as "Senior Solution Architect" a couple of years ago.

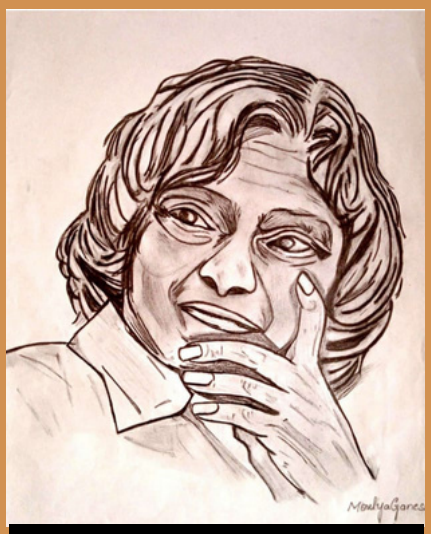
Webinar on "National Education Policy : 2020-An Analysis"

Webinar on "National Education Policy : 2020-An Analysis" was conducted by the department on 17th November 2021 time 3.00 P.M .The aim of the webinar was to provide an insight into How our national education policy works and its take overs by the speaker Dr.Krishnaraj P.M .

Dr.Krishnaraj .P.M is serving as Associate Professor in the department of Information Science and Engineering at MSRIT, Bengaluru

STUDENT GALLERY

Kshama B S (3rd Sem)



Moulya Ganesh(3rd Sem)

Harshitha H C (3rd Sem)

Bhargavi C G (7th Sem)

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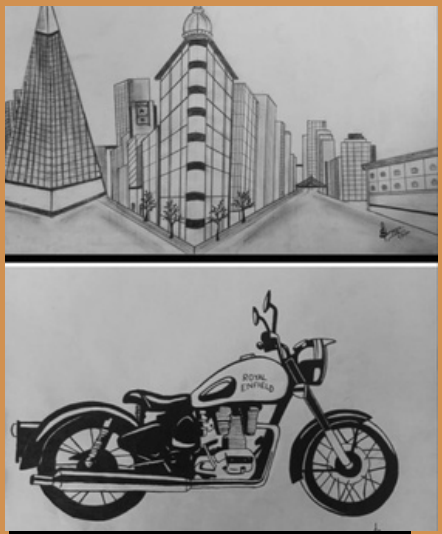

Ananya K S (3rd Sem)