VISION AND MISSION OF THE INSTITUTE

Vision:

- To be one of the premier Institutes of Engineering and Management education in the country.

Mission:

- To provide Engineering and Management Education that meets the needsof human resources in the country
- To develop leadership qualities,team spirit and concern for environment in students

VISION AND MISSION OF THE DEPARTMENT

Vision:

- To be a premier department of learning in information Science and Engineering under Visvesvaraya Technological University, molding students into professional Engineers

Mission:

- Provide teaching-learning process that develops core competencies in Information Science and Engineering to meet the needs of the industry and higher education.

- Create an environment for innovative thinking and self learning to address the challenges of changing technology.

- Provide an environment to build team spirit and leadership qualities to succeed in professional career.

- Empathize with the societal needs and environmental concerns in Information Science and Engineering practices.

Ajay V. Bhatt

Well known as the Co-Inventor of the USB along with AGP(Accelerated Graphics Ports), PCI Express ,Platform Power Management Architecture (PPMA) , etc. Mr. Bhatt joined the INTEL GROUP where he is fondly known as 'INTEL ROCK STAR'. He is Intel Fellow, Chief Client Platform Architect of INTEL Architecture Group.

Contents

MESSAGE FROM THE EDITORIAL TEAM

We present to you, the third edition of the ISE newsletter, created completely by the students. We have taken opportunity to express ourselves out ideas, be creative and design our very own newsletter.

We hope you get to learn about, experience and share your thoughts about the new technologies explored by the writers and editors of this edition and that you enjoy what we have put

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

Graduates of BE program in ISE will be able to:

1. Analyze, design and implement solutions in the field of Information Science and Engineering and adapt to changes in technology by self learning.
2. Work effectively as an individual and in a team, the goals of the organization.
3. Keep abreast with the technology and pursue higher education.
4. Work with professionalism to meet societal needs along with concern for environment.

PROGRAM SPECIFIC OUTCOMES (PSOS):

Graduates of BE program in ISE will be able to:

1. Analyze, design, develop and test software solutions using structured and object oriented approach.
2. Design, develop and optimize solutions for information systems employing fundamentals of system hardware & software, graph theory, finite automata ,data storage and communication networks.

PROGRAM OUTCOMES (POS):

Engineering Graduates will be able to:

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

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

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

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

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

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

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

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

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

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

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

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

"If we drive down the cost of transportation in space, we can do great things."- Elon Musk

SMART HOMES

ZigBee is the only global, standards-based wireless solution that can conveniently and affordably control the widest range of devices to improve comfort, security and convenience for consumers. It is the technology of choice for world-leading service providers, installers and retailers who bring the benefits of the Internet of Things into the Smart Home.

ZigBee is the language for a wide variety of smart home devices so companies can deliver an integrated ecosystem of home monitoring, energy management, heating and cooling, security and convenience devices.

Today, ZigBee is used by a variety of cable and telecommunication companies including Comcast, Time Warner Cable, EchoStar, DirecTV, Charter, Rogers, Deutsche Telekom, Videocon. These companies are using ZigBee in their set-top boxes, satellite transceivers and home gateways to deliver home monitoring and energy management solutions to their customers.

ZigBee is also available in products from retailers around the world enabling the do-it-yourself-er to easily install and create their own smart home to improve their comfort and efficiency.

Brinda Hegde
V ISE

About Our Department

The Department of Information Science at BNMIT started in the year 2001 with an intake of 60 students. The Department consists of highly qualified professors who play a key role in the excellent results produced by the department. Students from ISE are multifaceted having come up with innovative projects, giving stellar performances on the sports field and bringing back trophies. Students are encouraged to pursue many fields of interest giving way to a holistic development. Many students have taken up internships in reputed organisations to gain first hand experience of corporate environment. The tips and tricks learnt there help the students excel in the academics as well.

" If I have seen further than others, it is by standing on the shoulders of giants." – Sir Issac Newton

POET CORNER

We make 10% of the world
The world in which we aren't accepted
But we were born this way

We are unique in our own way
and for this we were given a name
A name in a part of a community
A community still alien to me
But we were born this way

We represent ourselves with a rainbow
A rainbow representing a spectrum
A spectrum different from the "straight world"
But we were born this way

Some of us live in warm,fuzzy space we call
the closet
While others are living their best lives
The lives we(the ones in the closet) dream of
But we were born this way

If we do come out of the closet
The closest of pretence
The pretence will come to a halt
Amd judgement will come our ways
But we were born this way
But we were born this way

Suditi Hoysal
I ISE
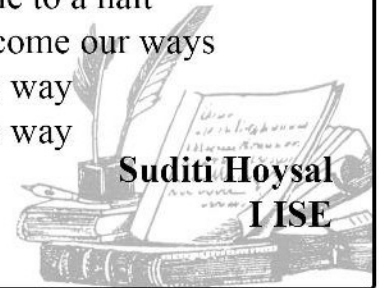
DID YOU KNOW?

91% of all adults have their mobile phone within arm's reach every hour of every day.

Academic Achievers

The honouring of FCD holders for the even semester University level examination held in June-July 2016 was conducted on 22nd October 2016 at 11.30 AM with Dr. Krushna Chandra Gouda, Senior Scientist and Faculty (AcSIR) , CSIR C-MMACS, NAL Belur Campus , Bangalore as the Chief Guest. Dr. K C Gouda shared his knowledge on "Modelling, Simulation and Data Intensive Research (MS-DIR): The NEXT Step for IT Students" which was enjoyed by the students. This was followed by the memento distribution to 141 FCD holders belonging to II, I V, VI and VIII, semesters and M.Tech II semester.

Dr. K C Gouda, enlightened students about the ethics/moral characters expected from a professionals of the corporate world. The various applications of data analysis like weather forecasting, social networking, online shopping etc, were stressed upon by the guest.The guest later gave an insight to the innovative ideas needed to develop applications to satisfy societal needs. He concluded by motivating the students with the explanation of the research areas under data analysis & data mining.

"Try not to become a man of success, but rather try to become a man of value"
– Albert Einstein

CMU Algorithm Detects Online Fraudsters

An algorithm developed at Carnegie Mellon University makes it easier to determine if someone has faked an Amazon or Yelp review or if a politician with a suspiciously large number of Twitter followers might have bought and paid for that popularity.

The method, called FRAUDAR, marks the latest escalation in the cat-and-mouse game played by online fraudsters and the social media platforms that try to out them. In particular, the new algorithm makes it possible to see through camouflage that fraudsters use to make themselves look legitimate, said Christos Faloutsos, professor of machine learning and computer science.

Professor Christos Faloutsos and his team won a Best Paper Award at the ACM Conference in San Francisco.

In real-world experiments using Twitter data for 41.7 million users and 1.47 billion followers, FRAUDAR fingered more than 4,000 accounts not previously identified as fraudulent, including many that used known follower-buying services such as TweepMe and TweeterGetter.

Manisha Yalamanchali
V ISE

Apple Patents For Gesture Control

Apple has a new patent (via AppleInsider) for 3D gesture control, specifically describing the tech used to help a computer identify hand motions made by a user. The patent goes into detail about how the system can not only recognize gestures, but learn them so well that it can even spot them when part of the hand making the gesture is blocked or not visible by the camera, leading to greater accuracy overall.

Apple's tech would allow Kinect-style recognition to be more forgiving of less-than-ideal conditions, meaning it would make gesture interaction theoretically less painful for users, and therefore more likely to be used at all. The key innovation Apple made with the iPhone's interaction model was getting touch-based input right – its capacitive screens and rigorously engineered touchpoint response was completely unlike the kludgy resistive touch-based experiences customers were used to.

Ayisha Parveen
V ISE

"A physicist is an atom's way of knowing about atoms. " – George Wald.

What I wish my Seniors had told me

On the 12th of November, three alumni of BNMIT Shree Ram,Shreesha Kumar and Dharthi Kashyap visited the campus to interact with the students of 5th semester. The aim was to provide some guidance to the students regarding possible career opportunities post under graduation. From taking up an MS course in foreign Universities to joining elite business schools right here in India. A lot of knowledge was imparted to the students regarding the essential topics one must know before sitting for both campus interviews and off campus interviews. Details regarding how several IT companies function and the kinds of answers an interviewer looks for was shared. They discussed the current industry standards, how to go about achieving the goal and so on. The students gained much needed clarity to make informed choices about their future.

Mayur L.S
V ISE

Technological Singularity

The acceleration of technological progress has been the central feature of this century. We are on the edge of change comparable to the rise of human life on Earth. The precise cause of this change is the imminent creation by technology of entities with greater than human intelligence. There are several means by which science may achieve this breakthrough (and this is another reason for having confidence that the event will occur):

• The development of computers that are "awake" and superhumanly intelligent. (To date, most controversy in the area of AI relates to whether we can create human equivalence in a machine. But if the answer is "yes, we can", then there is little doubt that beings more intelligent can be constructed shortly thereafter.

• Large computer networks (and their associated users) may "wake up" as a superhumanly intelligent entity.

• Computer/human interfaces may become so intimate that users may reasonably be considered superhumanly intelligent.

• Biological science may find ways to improve upon the natural human intellect.

What are the consequences?

Within a quarter century, nonbiological intelligence will match the range and subtlety of human intelligence. It will then soar past it because of the continuing acceleration of information-based technologies, as well as the ability of machines to instantly share their knowledge. Intelligent nanorobots will be deeply integrated in our bodies, our brains, and our environment, overcoming pollution and poverty, providing vastly extended longevity, full-immersion virtual reality incorporating all of the senses (like "The Matrix"), "experience beaming" (like "Being John Malkovich"), and vastly enhanced human intelligence. The result will be an intimate merger between the technology-creating species and the technological evolutionary process it spawned.

Shrey Arora
VII ISE

I have never met a man so ignorant that I couldn't learn something from him.
–Galileo Galilei

What is VoLTE?

As the name suggests, Voice over LTE is what happens when your carriers allows you to place a phone call over your LTE connection instead of the more common voice networks. Verizon Wireless, for example, traditionally used 1XRTT for all of your voice calls, relying on LTE for data. This used to be why Verizon phones couldn't simultaneously use voice and data. AT&T and T-Mobile, which relied on a combination of LTE for data and HSPA+ for calls, would drop down to a 3G signal when talking to someone on the other line. With VoLTE, neither of these scenarios are necessary anymore.
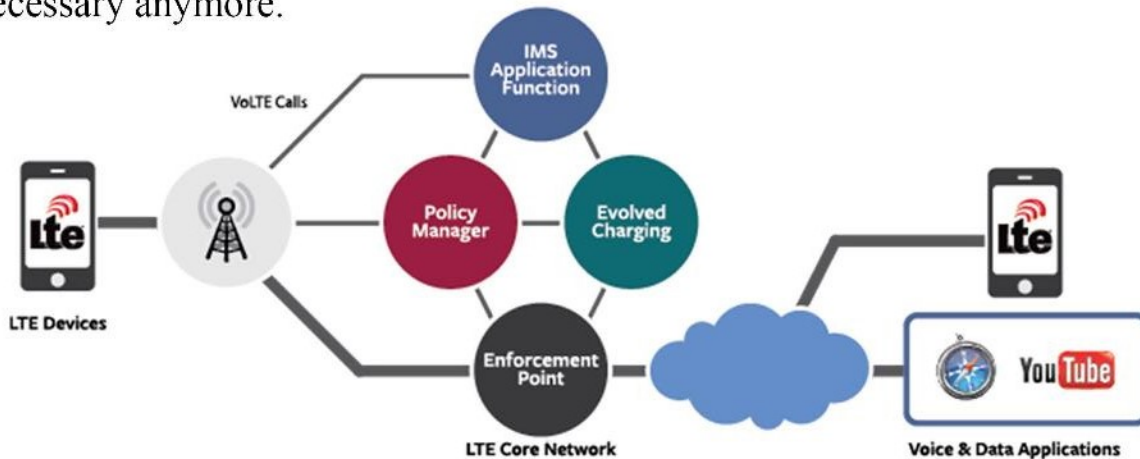
What both network types now have in common thanks to VoLTE is the ability to use more bandwidth to make phone calls with higher quality audio traveling both ways. When you are on a call with someone else who is using VoLTE, you immediately notice the difference in call quality on both ends. You'll also notice the calls connect faster if you are calling someone near you, and while that's not a feature worth bragging about it's a cool thing to test for yourself.

Kailasa Arvinda
V ISE

Microsoft joins the Linux Foundation, 15 years after Ballmer called it 'cancer'

Microsoft has truly embraced Satya Nadella's culture change at the company, and the software maker has open sourced PowerShell, Visual Studio Code, and Microsoft Edge's JavaScript engine recently.

Microsoft ❤ Linux

Alongside Microsoft, Google is also making its own surprising news. Google is joining the .NET Foundation, which oversees .NET Platform programming languages that form part of Microsoft's major competitor to Java and Android.

Sai Navaneeth V
V ISE

APPetizer

Google Opinion Rewards

Complete Short surveys for Google and you will be given credit to spend on the Google PlayStore. And no survey takes longer than a minute or two.

" Innovation distinguishes between a Leader and a Follower." – Steve Jobs

Student Achievements

Prize Winning IPL Projects:

• Project from III SEM: Sumukh, Srikanth, Shaista Fathima, Sunidhi Gurudutt, Utkarsh Jogani
Insight ("lead the way")
The project is about the belt that helps the blind navigate, It does so as the phone is connected to the GPS on the phone and vibrates accordingly with respect to the directions specified by the GPS.

• Project from V SEM: Sai Navaneeth V
"Hiding in a plain sight" a Steganography tool
The project is about hiding a encrypted message inside an image. It uses PIL tools from python libraries to manipulate the pixels of an image and replace the data into it.

Congratulations to the following students who have successfully completed their Interships

Vidya Murthy | VII Sem
Mercedes Benz (R&D)

Hemanth BM | VII Sem
Tata Elxsi

Poorna Shekhar | VII Sem
Prathyusha Ayyagari | VII Sem
HAL

Shrey Arora | VII Sem
Customized technologies Pvt. ltd

Vignesh Nayak | VII Sem
JustDoc.com

Sakshi Aggarwal | VII Sem
Optimize IT systems

Scholarships:

Akshay Anand (III SEM) was awarded the prestigious Ms.Subbulakshmi Award by the Premier Art and Music "Sri Shanmukhananda Fine Arts and Sangeetha Sabha" of Bombay. The award consists of *rupees one lakh* for of three years intended to aid Akshay towards achieving higher goals in the field of music.

Sports Achievements:

• Pallavi V Rao | VII SEM
Throwball(Centralzone): Second Place
Table Tennis(Interzone & Centralzone): First Place

Students pursuing Higher Education:

• Namrata Simha
Master of Computer Science | University of California,Santa Cruz

SUDOKU MANIA

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	9						5	
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8	1			7				
	9		3					6
	4					9		

EDITORIAL TEAM

FACULTY

Mrs.Christy Persya A | Associate Professor, ISE
Mrs.Puspha G | Assistant Professor, ISE
Mr. Rohith Vaidya K | Assistant Professor, ISE

STUDENTS

Nikhil S.V | 7th semester
Shrey Arora | 7th semester
Vidya Murthy | 7th semester
Akshay Anand | 3rd semester

Sai Navaneeth V | 5th semester
Mayur L.S | 5th semester
Kailasa Aravind | 5th semester
Sarthak Sureka | 3rd semester

You can email us your queries and opinions at: isenewsletter2016@gmail.com

Progress is made by trial and failure; the failures are generally a hundred times more numerous than the successes; yet they are usually left un-chronicled. – William Ramsay