



**NEW HORIZON**  
**COLLEGE OF ENGINEERING**



# **Department of Information Science and Engineering**

**VOLUME - 6**  
**ISSUE - 2**

# **NEWSLETTER**

## **I - NEWS**

**2021**  
**APR-AUG**

# About the Department

Information Science and Engineering department focuses on current Information Technology trends, and Domain Specific Applications. The program facilitates the evolution of skills in students to help them attain a higher degree of knowledge, global competency and excellence, for the betterment of the society. The Department of Information Science and Engineering at NHCE was established in the year of 2001 and offers graduate, post graduate and PhD programs. The four year B.E degree equip the students to meet day-today Technological advancements of the ever dynamic IT field through adept training on various subjects of curriculum of Information Science and engineering and beyond. The department offers B.E program through autonomous scheme from the year 2015 and intake increased to 180 students from the year 2019. The department has a very good team of highly qualified and talented faculty members including Professors, Associate Professors and Assistant Professors. The present strength of our department is 598 of 2021 batch.

## VISION

To emerge as a Department of eminence in Information Science and Engineering in serving the Information Technology industry and the nation by empowering students with a high degree of technical and practical competence.

## MISSION

- To strengthen the theoretical, practical and ethical dimensions of the learning process by continuous learning and establishing a culture of research and innovation among faculty members and students, in the field of Information Science and Engineering.
- To build long-term interaction between the academia and Information Technology industry, through their involvement in the design of curriculum and its hands-on implementation.
- To strengthen and mould students in professional, ethical, social and environmental dimensions by encouraging participation in cocurricular and extracurricular dimensions by encouraging participation in co-curricular and extracurricular activities.

## **Message from Principal**



**It gives me great pleasure to give my best wishes to i-News, a newsletter from the Department Of Information Science and Engineering Of New Horizon College Of Engineering, Bengaluru. The students and faculties of the department are always proactive in taking initiative in organizing all kinds of events. I congratulate all achievers, contributors and editorial board for bringing out such an informative newsletter. I hope this newsletter reflects all activities Of the department and inspires Others to do their best.**

## Message from HOD



'Neither we can make yesterday better nor you can control what will come tomorrow. But today is a gift. you can do your best.' I am very pleased to present the newsletter i-News Of ISE Department, New Horizon College Of Engineering, Bengaluru. This new endeavour is the result Of the efforts put in by a dedicated team of teachers and students. We provide opportunities for students to organize and participate in various curricular, co-curricular and extra-curricular activities through various club activities . This newsletter offers a platform for showing our activities and sharing our milestones achieved by our department. convey my best wishes to students and congratulate entire teary' of faculties and editors for making this issue exciting and interesting.

# ACHIEVEMENTS

KSCST, therefore, ventured into launching and implementing a programme called STUDENT PROJECT PROGRAMME (SPP) for providing financial and academic support for Bachelor of Engineering projects. Discussions held with the Director of Technical Education and the Principals of engineering colleges indicated that such a programme would be worthwhile.

Started in 1977-78, this programme is a unique experiment in Karnataka and it is a tribute to the foresight and inspired through on the part of a group of dedicated scientists, engineers and executives and administrators of Government of Karnataka. This programme is also a major innovation and first of its kind in technical education in the country and has a major impact in improving the quality of technical education.

731.	45S_BE_3117	"ಸುರಕ್ಷಿತ ಸ್ವರ್ಗ": SECURE HAVEN AN ANTI THEFT APPLICATION FOR ANDROID	B.E.	INFORMATION SCIENCE AND ENGINEERING	Mrs. LOHITHA MALLIREDDY Dr. R. J. ANANDHI	Mr. CHARAN KRUSHNAMURTHY Mr. ATHARVA H. M. Mr. IBRAHIM ANSAR Ms. KEERTHAN MANJUNATH
732.	45S_BE_3118	ಆರೋಗ್ಯ ದಾಖಲೆಗಳ ಸುರಕ್ಷತೆ: HYBRID CRYPTOGRAPHIC TECHNIQUE FOR SECURED STORAGE OF HEALTH RECORDS	B.E.	INFORMATION SCIENCE AND ENGINEERING	Mrs. M SOBHA SHANMUGAM Dr. KALAIVANI D	Ms. ANKITHA K D Ms. ANISHA HIREMATH Ms. ANUSHA K M Ms. GONDRA SAI SHARANYA
733.	45S_BE_3125	ಕಸ ಸಂಗ್ರಹಣೆಗಾಗಿ ಡೈನಾಮಿಕ್ ರೂಟ್ ವೇಳಾಪಟ್ಟಿ: DYNAMIC Route SCHEDULE FOR GARBAGE COLLECTION.	B.E.	INFORMATION SCIENCE AND ENGINEERING	Mrs. KARTHIYAYINI Dr. R J ANANDHI	Mr. SHAIK NYAMATHULLA Mr. GADDAM JAITHRA REDDY CHINTHAPALLI RAMYA BHARGAVI Ms. GUIDA BHARGAVI
734.	45S_BE_3126	APP FOR ENHANCED LOGISTICS AND EFFECTIVE MANAGEMENT OF E WASTE	B.E.	INFORMATION SCIENCE AND ENGINEERING	Mr. L SRINIVASAN Ms. R J ANANDHI	Mr. MANAN AGARWAL Mr. SHUBHODEEP SARKAR Mr. ASIF KAMAL QUADRI Mr. DHIRUV GULATI
735.	45S_BE_3129	IOT BASED SYSTEM FOR SANDALWOOD TREES PROTECTION AND CULTIVATION	B.E.	INFORMATION SCIENCE AND ENGINEERING	Mrs. ANUSHA SHETTAR DR. R J ANANDHI	Mr. KARTHIK G R Mr. VIROCHAN A C Mr. VIGNESH K S Mr. Y NANDUSAI
736.	45S_BE_3132	CUSTOMER FRIENDLY IOT BASED TOUCH LESS SHOPPING.	B.E.	INFORMATION SCIENCE AND ENGINEERING	Ms. AKSHATA PATIL Dr. R. J. ANANDHI	Mr. ANKITSINGH Mr. AYUSH MIHARIA Mr. PINAKI MUKHERJEE
737.	45S_BE_3134	E-TRAFFIC POLICE IOT BASED AUTO-DETECTION OF TRAFFIC RULE VIOLATION	B.E.	INFORMATION SCIENCE AND ENGINEERING	Ms. PRIYA N Ms. KALAIVANI D	Mr. B. ARAVIND KUMAR Mr. GELLI SAI MANI KUMAR Mr. BATHULA SREE HARSHA Mr. M VINAY KUMAR REDDY
738.	45S_BE_3152	OPTIMIZATION IN SOLAR ENERGY HARVESTING	B.E.	INFORMATION SCIENCE AND ENGINEERING	Dr. GAUTAM K S Dr. ARVIND S KAPSE	Mr. KALYAN KUMAR N Ms. MOUNIKA B Ms. KAMINI YESESWINI Mr. BISHAL SINGH
739.	45S_BE_3163	ಶಿಶುವಿನ ಬಿಂಬಲು: ಶಿ-HEARING AID	B.E.	INFORMATION SCIENCE AND ENGINEERING	Dr. ANANDHI R J Mrs. DIVYA K V	Ms. YASHMITHA R Ms. TEJAL LALJI RANGANI Ms. ANUSHKA SEN
740.	45S_BE_3381	E ASSISTANT: SUPPORT FOR ELDERLY/PARKINSON PATIENTS	B.E.	INFORMATION SCIENCE AND ENGINEERING	DR. ARVIND S. KAPSE Mrs. SHANMUGAM SHOBA M	Mr. RITOM TAMULI Mr. AYUSH SINHA Mr. SRUTIBANTA SAMANTARA

# AI CHANGING OUR LIFE

Most people are not very familiar with the concept of artificial intelligence. As illustration, when 1,500 senior business leaders in the United States in 2017 were asked about AI, only 17 percent said they were familiar with it. A number of them were not sure what it was or how it would affect their particular companies. They understood there was considerable potential for altering business processes, but were not clear how AI could be deployed within their own organizations

Artificial intelligence algorithms are designed to make decisions, often using real-time data. They are unlike passive machines that are capable only of mechanical or predetermined responses. Using sensors, digital data, or remote inputs, they combine information from a variety of different sources, analyze the material instantly, and act on the insights derived from those data. With massive improvements in storage systems, processing speeds, and analytic techniques, they are capable of tremendous sophistication in analysis and decisionmaking. a little bit of body text



AI systems have the ability to learn and adapt as they make decisions. In the transportation area, for example, semi-autonomous vehicles have tools that let drivers and vehicles know about upcoming congestion, potholes, highway construction, or other possible traffic impediments. Vehicles can take advantage of the experience of other vehicles on the road, without human involvement, and the entire corpus of their achieved “experience” is immediately and fully transferable to other similarly configured vehicles. Their advanced algorithms, sensors, and cameras incorporate experience in current operations, and use dashboards and visual displays to present information in real time so human drivers are able to make sense of ongoing traffic and vehicular conditions. And in the case of fully autonomous vehicles, advanced systems can completely control the car or truck, and make



all the navigational decisions.

It is a wide-ranging tool that enables people to rethink how we integrate information and analyse data and use the resulting insights to improve decision making.

AI is already altering the world and raising important questions for society, economy and governance.



**-SURAJ ANTONY  
PRANEETH S**



# The new age of Computers

There have been many advancements in the field of technology. It's growing at a very fast pace over the years. The most talked about technology in recent times is the Quantum Computing. We have heard the news that "Google has achieved Quantum Supremacy".



" But what does quantum computing anyway?

It dates back to the 1980's when a physicist named **Paul Benioff** proposed a quantum model of Turing machine. Later Richard Feynman and Yuri Manin suggested that quantum computers had the potential to simulate things that classical computers couldn't.

The study of Quantum computing is a subfield of Quantum Information Science . It uses quantum phenomena such as **superposition and entanglement** to perform computation. Computers that perform it are called Quantum computers.



*Paul Benioff*



*Richard Feynman*

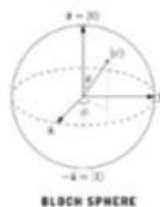


*Yuri Manin*

There are several models of quantum computers including quantum circuit model, quantum turing machine, adiabatic quantum computer, **one-way quantum computer**, quantum cellular automata, etc;

The **Bloch sphere** is a representation of a qubit, which is the fundamental building block of quantum computer.

Operation	Quantum	Matrix
Pauli X (X)		$\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$
Pauli Y (Y)		$\begin{bmatrix} 0 & -i \\ i & 0 \end{bmatrix}$
Pauli Z (Z)		$\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$
Rotation (R)		$\begin{bmatrix} \cos(\theta/2) & -i \sin(\theta/2) \\ i \sin(\theta/2) & \cos(\theta/2) \end{bmatrix}$
Phase (S, P)		$\begin{bmatrix} 1 & 0 \\ 0 & e^{i\phi} \end{bmatrix}$
CNOT (C)		$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}$
Controlled Not (CNOT, CN)		$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}$
Controlled Z (CZ)		$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & -1 \end{bmatrix}$
SWAP		$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}$
Multi (CCNOT, CCC, Toffoli)		$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$

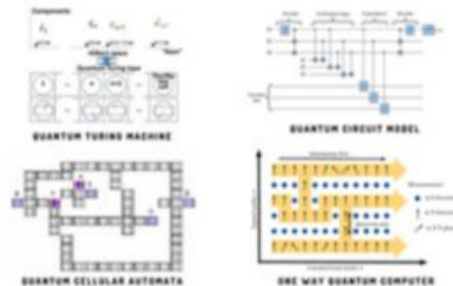


COMPUTATION PERFORMED BY MANIPULATING QUBITS WITH QUANTUM LOGIC GATES

## Quantum Circuit model

The quantum circuit model is being widely used. It is based on quantum bit or "Qubits". They can be 1 or 0 quantum state or they can be in a superposition of both states. There are two approaches to it:

- Analog that involves quantum simulation, annealing, etc;
- Digital that involves Quantum logic gates.



The most important application of quantum computing is **quantum cryptography**. The integer factorization underpinning the security of public key cryptography systems. Other applications include quantum search, annealing, adiabatic optimization, solving linear equations, etc;

**With further advancements, quantum computing will be capable of performing wonders that would startle human kind.**

Submitted by,

Vigneshwara.T  
INH19IS182



## **BE AWARE HYPER AUTOMATION CAN MAKE YOU JOBLESS!!!**

Hyper automation is the use of advanced technologies, including artificial intelligence (AI), robotics, and cloud computing, to automate high-volume, repeatable tasks that were previously performed by humans.

Hyper automation can be used to automate any process that can be reasonably well defined, including manual tasks such as data entry as well as more complex processes such as claims processing or fraud detection. The goal of hyper automation is to reduce or eliminate the need for human intervention in these processes, thereby reducing errors, increasing efficiency, and freeing up employees to focus on more value-added activities.

Hyper automation can be implemented in a number of ways, depending on the specific process being automated and the resources available. For example, a simple data entry process might be automated using a software robot, which would be programmed to mimic the keystrokes of a human data entry operator. More complex processes might be automated using AI-powered software, which would be able to learn from past data to make predictions about future outcomes.

The benefits of hyper automation extend beyond the individual process being automated. By automating high-volume, repeatable tasks, organizations can improve their overall efficiency and productivity, and free up employees to focus on more value-added activities. In addition, hyper automation can help to improve decisionmaking by providing organizations with more accurate and up-to-date data. Hyper automation provides a high-speed route to engaging everyone in transforming the business, supported by automating more and more complex work that relies on knowledge input from people.

Hyper automation is an emerging technology with the potential to transform the way organizations operate. As such, it is important to keep abreast of developments in this area in order to ensure that your organization is able to take advantage of the opportunities that hyper automation presents.

K HARSHITH  
1NH20IS190



# I-SCRUM

**NEW HORIZON COLLEGE OF ENGINEERING**  
Autonomous College, Affiliated to VTU | Approved by AICTE New Delhi & UGC  
Accredited by NAAC with 'A' Grade & Approved by NBA  
50th Anniversary

**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING**  
PRESENTS

**TECHVRISHTI**  
AWAKEN YOUR INNER GEEK!

IN ASSOCIATION WITH QUBYTES 2021  
AN INTER COLLEGE TECH FEST  
ON 10TH JUNE 2021

TIME: 03:00 TO 05:30 PM  
VENUE: ONLINE

ROUND -1: DOUBLE TROUBLE  
ROUND-2: TREASURE SEEKERS  
ROUND-3: BELIEVE IT OR NOT

E-CERTIFICATE WILL BE PROVIDED FOR EVERY PARTICIPANTS

FOR FURTHER QUERIES :  
SOUADHAARYA B.S : 9585050112  
YASHMITHA R : 9259645125

Registration here: <https://forms.gle/pXfLJTR6JEFnKmczA>

The event was held for all the students of different domains. A total of 39 students took active participation in the event. The best in each round were qualified for the next round. The first round was “Double Trouble”, Based on their confidence in the topic, participants were given the option to double the points by clicking on the buzzer. If the participant answered rightly the points were double or else they suffered from negative marks. The second round was “Treasure Seekers” in this round participant was given a bunch of riddles; participants had to solve the riddle and send answers in a snapshot format within a time constraint of one minute. The third round was “Believe It or Not”. It was a rapid-fire round in which participants have to identify whether the statements are true or false within a time constraint of 5 seconds. 6 students participated in this round each student was asked 5 questions.

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**NEW HORIZON COLLEGE OF ENGINEERING**  
50th Anniversary

i-SCRUM Club of  
The Department of Information Science and Engineering  
Presents

**TEQNIQX**  
An Online Tech Event

**HEAD OF THE DEPARTMENT:**  
Dr. D J Anandh

**FACULTY COORDINATORS:**  
Prof. Gowri Prasad  
Prof. K M Sivika

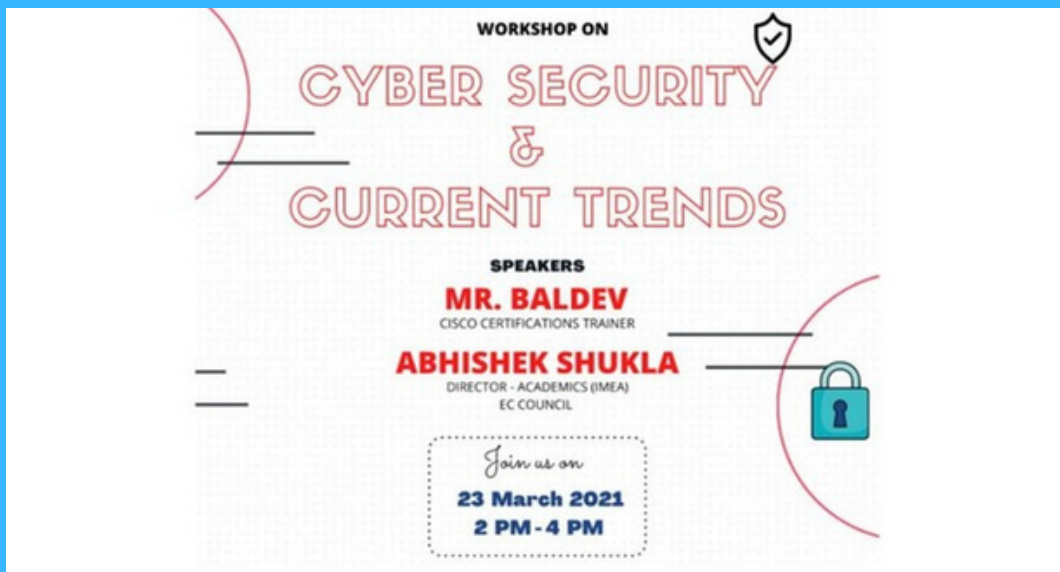
**STUDENT COORDINATORS:**  
Malvika Ravi  
Yashmitha R

**DATE: 02-JUNE-2021**  
**TIME: 03:00PM Onwards**  
**VENUE: Online**

**ROUNDS:**  
Round 1  
Dots & Bugs  
Round 2  
Technoquiz  
Round 3  
Tech-Task

Registration link: <https://forms.gle/PYEnnpzTE2J8Mwe69>

# I-CSEH



i-CSEH CLUB of Information Science and Engineering department of New Horizon College of Engineering conducted a workshop on Cyber Security and Current Trends on 23th of March 2021. The event started at 2:00 PM, commencing with short welcome speech and went on till 4:30 PM. The workshop was conducted by resource persons, Mr. Abishek Shukla, Director-Academics(IMEA), EC Council and Mr. Baldev, Ether Global Pvt. LTD.

The first phase of the workshop provided a detailed explanation about network security current trends and basic technology requirements to solve security threats. The speaker detailed about the tools which can be used for enterprise level cyber security solutions. Various network attacks and defense strategies were explained with use cases.

The second phase of the workshop explained in detail about cyber security domain. The speakers engaged the students by using detailed illustrations from the websites and presentation slide and pictographically explained the topics making the workshop more interesting. All the students who attended the event showed immense interest and enthusiasm and were motivated to learn new cyber security techniques.

# VM-WARE

The poster features the logos of New Horizon College of Engineering and VMware IT Academy. The text reads: 'Department of Information Science and Engineering and VMware IT ACADEMY Presents "Utkranti" Unleash the power of learning through fun On the 22nd of April 2021 GeekNation • Tower of Pixels • Coders Crusade'. It includes a QR code for registration and contact numbers for Vismaye (9902362984) and Nidhish (8105991908). The slogan 'EMBRACE IT • FEEL IT • CODE IT' is at the bottom.

UTKRANTI was conducted online by VMware IT Academy of information science and engineering department. The event consisted of three rounds. Round 1: Geek Nation- It contained 3 types of questions which are guessing the word when two or more sentences are given, pseudo code cracking debugging. 32 members were qualified to the next round. Round 2: Tower of pixels- This round contained 2 types of questions which are Pictionary: The participants will be made into pairs and one of them will be given a technical word and they will have to draw it the partner must guess it. The participants were asked to select a no and the respective question was assigned to them and there were images which were to be guessed by the participants which would lead to a technical word. Round 3: Coder's Crusade- This was a coding round. An algorithm or a flowchart was given and the participants had to code that to get a desired output in a programming language.

# EDITORIAL COMMITTEE MEMBERS



Poorvi J



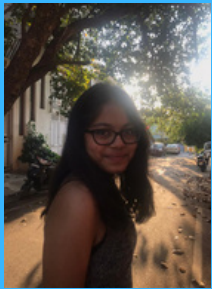
Adithi Rao



Deepak T



**SURAJ ANTONY**



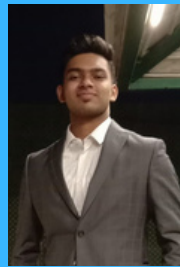
Yukthaa S



Likith Rama



Praneeth S

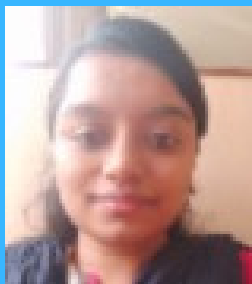


Rovin J



Sukriti S

# STAFF ADVISORY COMMITTEE



K M Bilvika



Lohitha M



KRISHNAVENI AVandana CP



MS Shoba



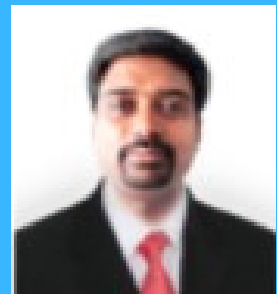
Divya K V



Mounica B



SHRUTHI GR



Dr Srinivasan