MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

Autonomous Institution – UGC, Govt. of India

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA

Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

A.Y : 2021-22 **VOL.1**

Under

Student Chapter IEEE, IETE & Technical Association Electro Spikes

TECHNITRONIX

HALF YEARLY TECHNICAL MAGAZINE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

E C E

www.mallareddyecw.com

DEPARTMENT VISION

- Our vision is to develop the department in to a full fledged Centre of learning in various fields of Electronics and Communication Engineering keeping in view the latest developments and to invoke enthusiasm among the Students to continually renew their education in rapidly developing technological scenario.

Vision

DEPARTMENT MISION

- Our mission is to inculcate a spirit of scientific temper and analytical thinking & train the students in contemporary technological trends in electronics and communication to meet the challenging needs of the industry by providing versatile sound knowledge in the field of engineering and technology

Mission

ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering is accredited by NBA, with an intake of 240 in B.Tech Programme and also offers M.Tech Programme in Embedded Systems. The department has state of the art laboratories with latest softwares like MENTOR GRAPHICS, CADENCE, MATLAB, XILINX, CCSTUDIO, KEIL, RTOS, RT Linux, OSCAD, PSPICE and MULTISIM. The department consists of well equipped Robotics- Centre of Excellence to train the students in specific modules to design and develop innovative projects that extend the state of the art in Robotics. It has well qualified and experienced faculty members. The highly competent and professional faculties, many of them drawn from premise institutions and industry have extensive experience and contribute to the holistic development of academics, research and career building of students. 32faculty members attained patent rights. The department faculty published 82 papers in SCI/Scopus indexed journals, 156 papers in UGC indexed/International journals and presented 226 papers in various national & international conferences and published 28 textbooks with ISBN. The department established IEEE, IETE & ISTE student chapters under which it organizes Technical Symposiums and various co-curricular activities every Academic Year. The department organized National Conference on Signal Processing Communications and System Design (SPCOMSD) in 2014and is organizingInternational Conference on Signal Processing Communications and System Design (ICSPCOMSD) every year, from past 7 years. The department also organized Faculty Development Programmes on Analog & Digital Design using CADENCE Tools, Embedded System using 32 bit processor, Programmable System on Chip Mixed Signal Microcontroller, Refresher Courses on Analog and Digital Communications, Digital Signal Processing, VLSI Design using CADENCE Tools and One Week Refresher Course on “VLSI & Embedded Systems”. The department organized AICTE Sponsored Two Week Faculty Development Programme on “Speech, Image & Video Processing Techniques, Analysis & Applications”, AICTE Sponsored One Week Short Term Training Programme on “Optimization Techniques through Machine Learning for Wireless and IOT”, AICTE Sponsored One Week Short Term Training Programme on “Emerging Trends in Wireless Sensor Networks and Applications”, AICTE Sponsored One Week Short Term Training Programme on “Deep Learning Techniques for Electronic Health Record Analysis”, AICTE Sponsored One Week Short Term Training Programme on “Emerging Trends in Advanced Signal & Image Processing”, AICTE Sponsored One Week Short Term Training Programme on “Emerging Trends in VLSI Technology” and the department also received AICTE sanctioned MODROB’s on “Advanced VLSI Lab” and Advanced Microwave Engineering Lab”. The department also publishes the Registered Journal “International Journal of Research in Signal Processing, Computing and Communication-System Design (IJRSCSD)” with an ISSN: 2395-3187.

PO'S

PO1	Engineering knowledge	An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling
PO2	Problem analysis	An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components
PO3	Design / development of solutions	An ability to design a complex electronic system or process to meet desired specifications and needs
PO4	Conduct investigations of complex problems	An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
PO5	Modern tool usage	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice
PO6	The engineer and society	An understanding of professional, health, safety, legal, cultural and social responsibilities
PO7	Environment and sustainability	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
PO8	Ethics	Apply ethical principles, responsibility and norms of the engineering practice
PO9	Individual and team work	An ability to function on multi-disciplinary teams.
PO10	Communication	An ability to communicate and present effectively
PO11	Project management and finance	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
PO12	Life-long learning	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

PSO'S

The graduates of the department will attain:

PSO1: The ability to analyze, design and implement application specific electronic system for complex engineering problems for analog, digital domain, communications and signal processing applications by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

PSO2: The ability to adapt for rapid changes in tools and technology with an understanding of societal and ecological issues relevant to professional engineering practice through life-long learning

PSO3: Excellent adaptability to function in multi-disciplinary work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

PEO'S

PEO1-PROFESSIONAL DEVELOPMENT

To develop in the students the ability to acquire knowledge of Mathematics, Science & Engineering and apply it professionally within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability with due ethical responsibility.

PEO2-CORE PROFICIENCY

To provide ability to identify, formulate and solve engineering problems with hands on experience in various technologies using modern tools necessary for engineering practice to satisfy the needs of society and the industry.

PEO3- TECHNICAL ACCOMPLISHMENTS

To equip the students with the ability to design, experiment, analyze and interpret in their core applications through multi disciplinary concepts and contemporary learning to build them into industry ready graduates.

PEO4- PROFESSIONALISM

To provide training, exposure and awareness on importance of soft skills for better career and holistic personality development as well as professional attitude towards ethical issues, team work, multidisciplinary approach and capability to relate engineering issues to broader social context.

PEO5- LEARNING ENVIRONMENT

To provide students with an academic environment and make them aware of excellence, leadership, written ethical codes and guidelines and the life-long learning to become a successful professional in Electronics and Communication Engineering

MESSAGES

Founder Chairman's Message

Ch. Malla Reddy

Founder Chairman, MRGI
Hon'ble Minister, Govt. of Telangana State

MRECW has made tremendous progress in all areas and now crossing several milestones within a very short span of time and now I feel very happy to know that the students and faculty of the ECE department of MRECW are bringing out the volume-1 of the Technical magazine Technitronix in A.Y 2021-22. As I understand this magazine is intended to bring out the inherent literary talents in the students and the teachers and also to inculcate leadership skills among them. I am confident that this issue will send a positive signal to the staff, students and the persons who are interested in the educational and literary activities

Principal's Message

I congratulate the department of ECE, MRECW for bringing out the first issue of the prestigious half yearly department technical Magazine Technitronix under A.Y: 2021-22, I am sure that the magazine will provide a platform to the students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and will also strengthen the all round development of the students. I am hopeful that this small piece of literary work shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well. My congratulations to the editorial board who took the responsibility for the arduous task most effectively. I extend best wishes for the success of this endeavor.

Dr. Y. Madhavee Latha

Principal

HOD'S MESSAGE

It is an occasion of great pride and satisfaction for the department of ECE, MRECW to bring out the first issue of the half yearly of the Technical magazine Technitronix under A.Y:2021-22, it gives me immense pleasure to note that the response to the magazine has been over whelming. The wide spectrum of articles gives us a sense of pride that our students and faculties possess creative potential and original thinking in ample measures. Each article is entertaining interesting and absorbing.

I applaud the contributors for their stimulated thoughts and varied hues in articles contributed by them.

Dr. N. Sreekanth

HOD

SCIENTIST OF THE HALF YEAR

JAMES CLERK MAXWELL

James Clerk Maxwell FRSE FRS (13 June 1831 – 5 November 1879) was a Scottish mathematician and scientist responsible for the classical theory of electromagnetic radiation, which was the first theory to describe electricity, magnetism and light as different manifestations of the same phenomenon. Maxwell's equations for electromagnetism have been called the "second great unification in physics“ where the first one had been realised by Isaac Newton. With the publication of "A Dynamical Theory of the Electromagnetic Field" in 1865, Maxwell demonstrated that electric and magnetic fields travel through space as waves moving at the speed of light. He proposed that light is an undulation in the same medium that is the cause of electric and magnetic phenomena. The unification of light and electrical phenomena led his prediction of the existence of radio waves. Maxwell is also regarded as a founder of the modern field of electrical engineering. He helped develop the Maxwell–Boltzmann distribution, a statistical means of describing aspects of the kinetic theory of gases. He is also known for presenting the first durable colour photograph in 1861 and for his foundational work on analysing the rigidity of rod-and-joint frameworks (trusses) like those in many bridges.

His discoveries helped usher in the era of modern physics, laying the foundation for such fields as special relativity and quantum mechanics. Many physicists regard Maxwell as the 19th-century scientist having the greatest influence on 20th-century physics. His contributions to the science are considered by many to be of the same magnitude as those of Isaac Newton and Albert Einstein.

FACULTY ARTICLES

ELECTRIC WHEEL CHAIR CONTROLLED THROUGH VOICE

Physically challenged persons those who are suffering from different physical disabilities face many challenging problems in their day-to-day life for commutating from one place to another and even sometimes they need to have to be dependent on other people to move from one place to another. There have been many significant efforts over the past few years to develop smart Wheelchair platforms that could enable the person for its ease of operation without any ambiguity. The main aim of our paper is to develop the smart Wheelchair to make the life easier for physically challenge. The smart Wheelchair control unit consists of an integration of AVR microcontroller ATmega328 with Bluetooth module, GSM module SIM900, ultrasonic and infrared sensors, temperature sensor LM35 and motor driving circuit for controlling motor's speed.

The android smart phone support BT Voice Control for Arduino. This application software uses android phone's internal voice recognition to forward voice commands to the microcontroller Pairs with Bluetooth Serial Modules and sends in the recognized voice as a string. While android device is paired with microcontroller(ATmega328) via Bluetooth we can give audio input like forward ,left, right back as well as line follower input to go to specific section of hospital. Microcontroller section also have Bluetooth device to receive the data string transmitted by android phone.

Microcontroller executes these string inputs and gives output at PWM pins. This Microcontroller has six PWM output pins. These PWM pins can be used to run DC motors. Here we are using only four pins to drive DC motor driver circuits which will drive motor subsequently. We used Arduino IDE with embedded "C"

Mrs. H. Bhagya Laxmi
Department of ECE

INTERNET OF THINGS APPLICATION IN IMAGE PROCESSING

Image processing offers various type of camera based sensors and processing of their generated data could lead to multiple types of IOT applications.

The system consists of a sensor, digital camera, database in the fog and the mobile phone. Sensors are placed in the frame of the door which alerts camera, to capture an image who intends to enter the house, then sends the image to the database or dataset that is stored in the fog. Image analysis is performed to detect and recognize and match the image with the stored dataset of the authenticated people or pets. If the image captured does not match with the dataset then an alert message is send to the owner of the house. The image processing algorithms are considered for the processing spatial and time complexity of the image captured to cross check with the dataset stored in the fog.

Dr. N. Jagadeesan
Department of ECE

STUDENT ARTICLES

PLASTIC SOLAR CELL TECHNOLOGY

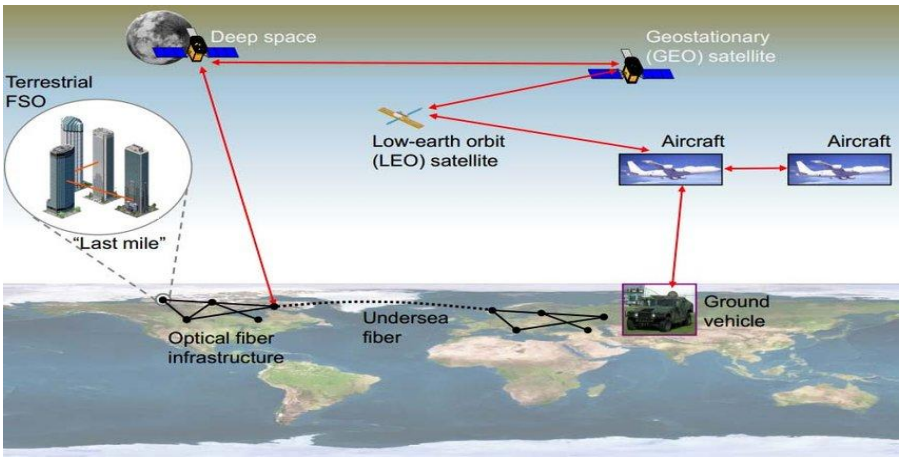
Solar energy is the most readily available source of renewable energy by which electricity is produced by solar panels. The solar panel consisted array of solar photovoltaic cells that convert the sunlight into usable electricity. The solar panels placed on the roof of homes or freestanding remote locations.

The molecules used in organic solar cells are solution-processable at high throughput and cheap, resulting in ;low production costs to fabricate a large volume. Combined with the flexibility of organic molecules, organic solar cells are potentially cost-effective for photovoltaic applications.

Compared to silicon-based devices, polymer solar cells are lightweight, potentially disposable and inexpensive to fabricate ,flexible, costomizable on the molecular level and potentially have less adverse environment impact.

B. Subhalaxmi
16RH1A0423
IV ECE B

FREE SPACE OPTICS

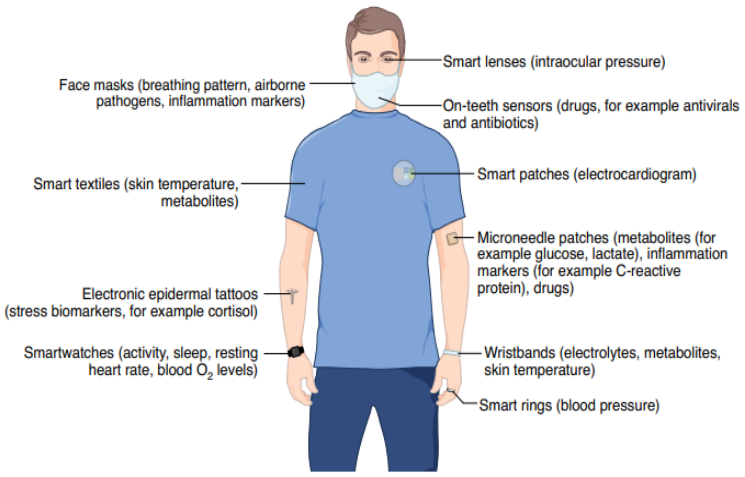


FSO is a communication system where free space acts as medium between transceivers and they should be in LOS for successful transmission of optical signal. Medium can be air, outer space, or vacuum. This system can be used for communication purpose in hours and in lesser economy. There are many advantages of FSO like high bandwidth and no spectrum license. The transmission in FSO is dependent on the medium because the presence of foreign elements like rain, fog, and haze, physical obstruction, scattering, and atmospheric turbulence are some of these factors.

FSO(Free space optics) is an optical communication technology in which data is transmitted by propagation of light in free space allowing optical connectivity. There is no requirement of the optical fiber cable. Working of FSO is similar to OFC (optical fiber cable) networks but the only difference is that the optical beams are sent through free air instead of OFC cores that is glass fiber. FSO system consists of an optical transceiver at both ends to provide full duplex (bidirectional) capability. FSO communication is not a new technology. It has been in existence from 8th century but now is more evolved. FSO is a LOS (line of sight) technology, where data, voice, and video communication is achieved with maximum 10Gbps of data rate by full duplex (bidirectional)connectivity.

MVSN Pravalika
18RH1A04C5
III ECE C

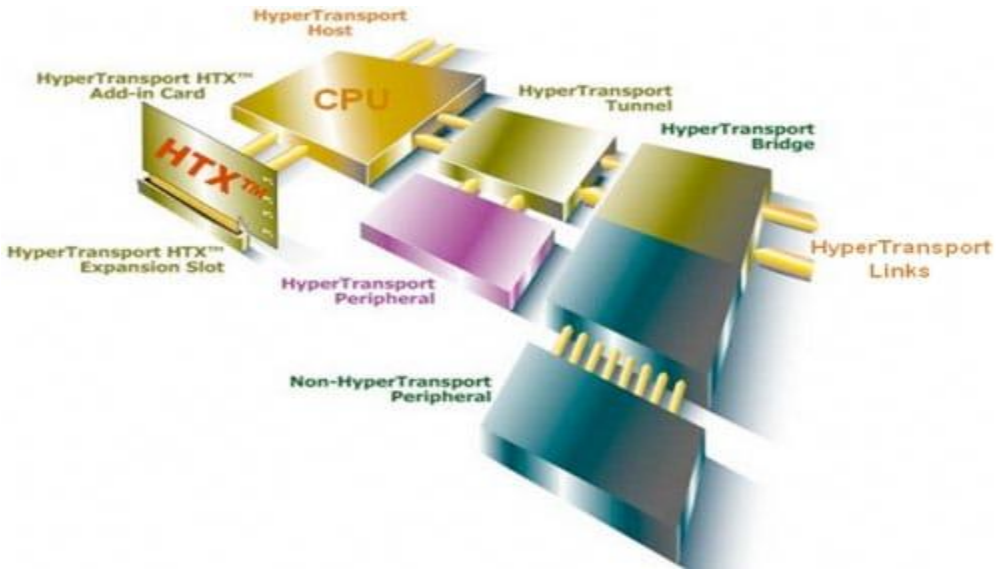
WEARABLE DEVICES FOR THE DETECTION OF COVID-19



Wearable electronic devices, which allow physiological signals to be continuously monitored, can be used in the early detection of asymptomatic and pre-symptomatic cases of COVID-19.Wearable devices, such as activity trackers and smartwatches, can provide unique insights into our health and well-being. Unlike conventional testing in a clinical setting, which may occur a few times a year, wearables offer continuous access to real-time physiological data. This allows deviations from a person's 'usual' baselines to be detected: an approach to healthcare that is fundamentally different from current practice, which predominantly compares physiological measurements to population statistics. And during the coronavirus disease 2019 (COVID-19) pandemic, the potential of wearable health devices has become increasingly apparent. The future of wearable electronic devices. Currently, smartwatches provide information such as heart rate, sleep time and activity patterns. In the future, this could be augmented with new classes of wearable devices that monitor, for example, concentrations of cortisol for tracking stress (using electronic epidermal tattoos), biomarkers of inflammation and levels of blood O2 (microneedle patches), skin temperature (electronic textiles), blood pressure (smart rings), concentration of ions (wristbands), intraocular pressure (smart contact lenses), the presence of airborne pathogens and breathing anomalies (face masks), and the concentration of therapeutic drugs (on-teeth sensors). Such emerging low-cost wearable sensing technologies, monitoring both physical parameters and biochemical markers, could be used to identify symptomatic and pre-symptomatic cases in future pandemics. The devices could also be used to remotely monitor the recovery of individuals undergoing treatment or self-isolating at home.

M. Sowmya
18RH1A04C7
IV ECE C

HYPER TRANSPORT TECHNOLOGY



Faster processors, memory, and I/O are common requests in market applications ranging from personal computers and servers to networking systems, video games, and office automation equipment. When data is digitised, the speed with which it is handled becomes the most important factor in determining product success. Speedier processing is aided by a faster system.

HyperTransport is a state-of-the-art packet-based high-bandwidth, scalable, low-latency point-to-point interconnect technology that connects CPUs, coprocessors, and I/O and peripheral controllers.

HyperTransport technology is a high-speed, low-latency, point-to-point link designed to increase the communication speed between integrated circuits in computers, servers, embedded systems, and networking and telecommunications equipment up to 48 times faster than some existing technologies

M. Chandana
18RH1A04D0
IV ECE C

INTERNET OF THINGS

The internet of things, or IOT, is a system of computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UID) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

An, IOT consists some web enabled smart devices that are fixed in systems such as processors, sensors, communication hardware etc. The IOT devices like sensor, antenna, micro controller collects data and transfers it to IOT hub or IOT gateway. The IOT hub or gateway analyze data and taken action to user interface (smart phones, machines) Business applications (customer relationship). As the main con is as many people use these devises these devices develop bugs and it can be hacked and you may get trouble.

It has many pros like helps to access information on any devices, improved communication between electronic devices, transferring data. Improved the quality of business services and reduced human interaction.

Finally, Internet of Things made human life easy and technically smart.

A. Rushika
19RH1A0405
III ECE A

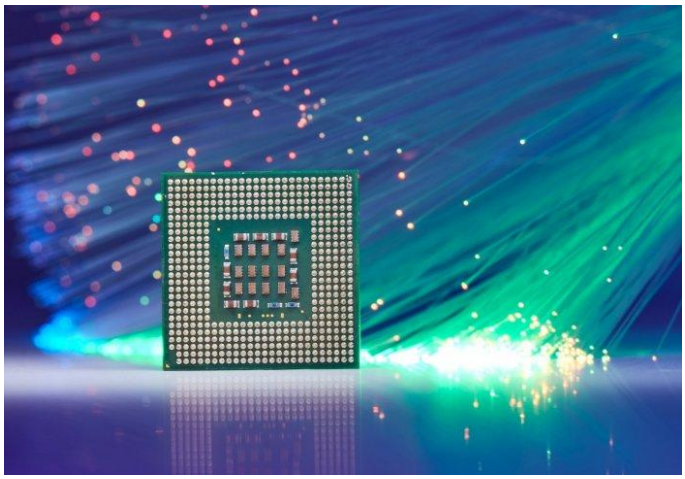
CYBER SECURITY

Cyber security is the protection of internet-connected systems such as hardware, software and data from cyber threats. The practice is used by individuals and enterprises to protect against unauthorized access to data centers and other computerized systems.

A strong cyber security strategy can provide a good security posture against malicious attacks designed to access, alter, delete, destroy or extort an organization's or user's systems and sensitive data. Cyber security is also instrumental in preventing attacks that aim to disable or disrupt a system's or device's operations. With an increasing number of users, devices and programs in the modern enterprise, combined with the increased deluge of data -- much of which is sensitive or confidential -- the importance of cyber security continues to grow. The growing volume and sophistication of cyber attackers and attack techniques
compound the problem even further

K. Amulya
19RH1A0409
III ECE-A

OPTICAL COMPUTING

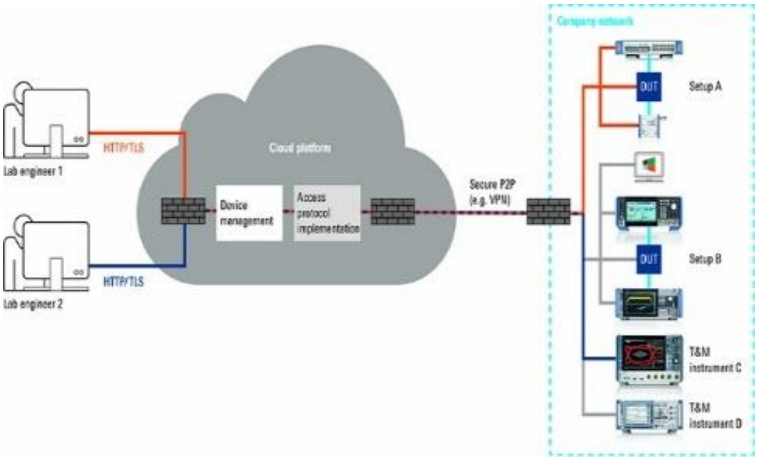


Optical computing (also known as optoelectronic computing and photonic computing) is a computation paradigm that uses photons (small packets of light energy) produced by laser/ diodes for digital computation. Photons have proved to give us a higher bandwidth than the electrons we use in conventional computer systems. The optical computers, would give us a higher performance and hence be faster than the electronic ones. The speed of computation depends on two factors: how fast the information can be transferred and how fast that information can be processed that is data computation. Photons basically use wave propagation and the interference pattern of waves to determine outputs. This allows for instantaneous computation without inducing latency. Data is processed while it's propagating. There is no need to stop the data movement and flow for its processing. This speed factor would transform the computer industry.

The building block of any conventional electronic computer is a transistor. For optical computing, we achieve an equivalent optical transistor by making use of materials with non-linear refractive indices. Such materials can be used for making optical logic gates, which go into the CPU. An optical logic gate is simply a switch that controls one light beam by another. It is "ON" when light is being transmitted, and it is "OFF" when it blocks the light. Photons are almost massless, hence we need very less amount of energy to excite them. Also, instead of operating in a serial fashion like most of the classical computers, optical computing operates in a parallel way, which helps it to tackle complex problems using light reflection, as well as have increased bandwidth as compared to electron-based systems. Coming to security, as optical computing processes data while it is in motion, very less data is exposed. This leads to increased security than the conventional systems.

H. Banuka
19RH1A0420
III ECE -A

COLLABORATIVE MEASUREMENT VIA THE CLOUD



Everything as a service (EaaS) is the latest trend, and it is becoming more and more popular. Users of such services, most of which are based on cloud technology, save on capital expenditures because they do not have to maintain the underlying infrastructure and only pay for the services © vander / Shutterstock.com GENERAL PURPOSE Cloud platform Company network Lab engineer 1 Secure P2P (e.g. VPN) Lab engineer 2 HTTP/TLS HTTP/TLS Access protocol implementation Device management T&M instrument C Setup B Setup A T&M instrument D DUT DUT they actually use. In addition, these services are usually highly scalable, so users can count on the required capacity being available.

A prerequisite for moving a service to the cloud is that it can be virtualized. At a virtual sales counter, the user simply books a service based on type, time, scope and quality. The cloud management system allocates the necessary resources. Such systems, which are typically offered by large cloud operators for various tasks, can also be set up on a smaller scale for test and measurement services. These differ from typical software as a service (SaaS) solutions with regard to the type of service and the resources. A company that wants to virtually pool all or a part of its T&M equipment to make it accessible companywide from any location only has a limited number of each type of T&M instrument in its portfolio, and unlike a server, each instrument can only be used for one measurement task at a time. Scalability is not the main consideration here.

K. Shirisha
20RH1A04A4
II ECE B

INTERNET OF BEHAVIOR

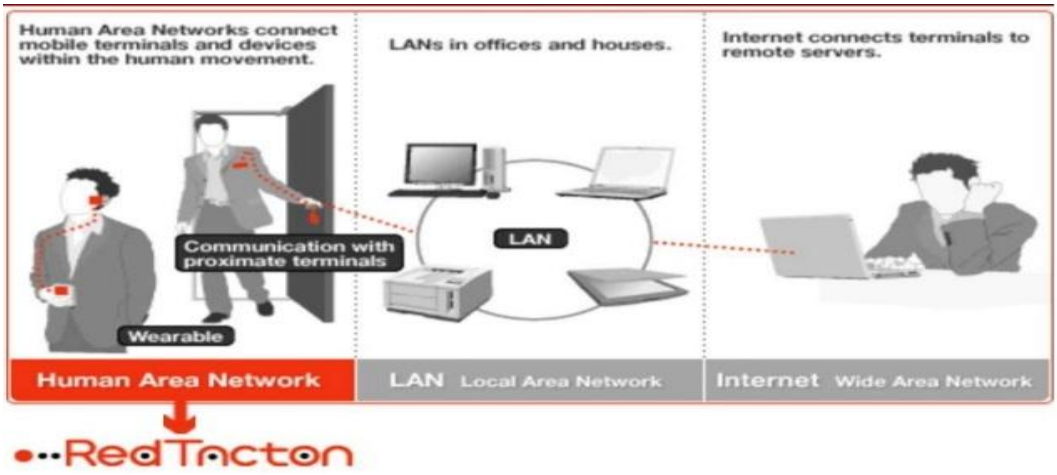
IoB can't be talked about without the mention of IoT. The Internet of Things (IoT) is an interconnected network of physical devices that gather and share data and information via the Internet. The IoT is continually increasing and changing in terms of its complexity, i.e. the way devices are interconnected, the calculations that these things can perform on their own, and the data that is stored in the cloud are all evolving. The Internet of Behaviour refers to the gathering of data (BI, Big Data, CDPs, etc.) that offers important information on client behaviours, interests, and preferences (IoB). From a behavioural psychology standpoint, the IoB tries to comprehend the data acquired from users' online activities. It aims to answer the question of how to interpret data and how to use that knowledge to develop and promote new goods, all from the perspective of human psychology.

The term "IoB" refers to a method of analyzing user-controlled data from a behavioural psychology standpoint. The findings of that study influence new ways to create a user experience (UX), search experience optimization (SXO), and how to advertise a company's final products and services.

As a result, while doing IoB is technically easy, it is psychologically challenging. For ethical and legal reasons, it is necessary to perform statistical studies that record everyday routines and behaviours without totally revealing customer privacy.

K.Varshini
20RH1A04A5
II ECE B

HUMAN AREA NETWORK



Human Area Network

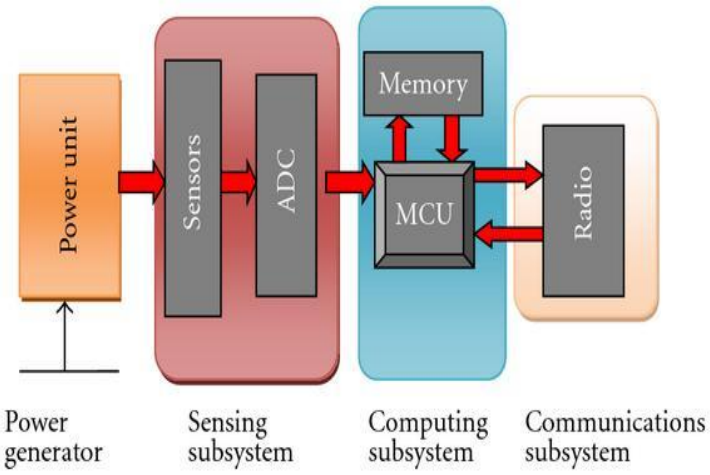
Human Area Network is a wireless network also referred to as RedTacton that uses the human body as a medium for high-speed transmission. It is different from other wireless and infrared technologies in the sense that it uses tiny electric field emitted on the surface of the human body.

The human body forms a transmission path whenever a part of it comes into contact with the RedTacton transceiver. Body surface can be hands, legs, arm, feet or face. It can work through clothes and shoes. Whenever the physical contact between the transceiver and the human body is lost, communication ends.

RedTacton can be used for intuitive operation of computer-based systems in daily life, temporary one-to-one private networks based on personal handshaking, device personalization, security, and a host of other applications based on new behavior patterns enabled by RedTacton.

Sindhuja. G
18RH1A04K9
IV ECE D

PIEZOELECTRIC ENERGY HARVESTING



The recent advances in ultralow power device integration, communication electronics, and microelectromechanical systems (MEMS) technology have fuelled the emerging technology of wireless sensor networks (WSNs). The spatial distributed nature of WSNs often requires that batteries power the individual sensor nodes. Moreover, the embedded nature of some of the sensors and hazardous sensing environment make battery replacement very difficult and costly.

The advances in low power electronics, and wireless sensor networks (WSNs) in particular, have driven numerous researches in the field of energy harvesting in the past decade. A wireless sensor node consists of low power microcontroller unit, radio frequency transceiver and micro electromechanical- (MEMS-) based sensor. The task of each node is to collect and transmit data to the outside world via a radio link.WSN technology has gained increasing importance in industrial automation, structural health monitoring, healthcare, agriculture, and civil and military applications. Traditionally, batteries are used as the electrical energy power sources to power wireless sensors and embedded electronics.

V.Swethasahasri
18RH1A04N3
IV ECE D

AUGMENTED REALITY TECHNOLOGY

Augmented reality is a technology that combines virtual reality with reality. In recent years, the rapid development of augmented reality technology has aroused people's high attention. AR can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. The overlaid sensory information can be constructive (i.e. additive to the natural environment), or destructive (i.e. masking of the natural environment). This experience is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment. Augmented reality alters one's ongoing perception of a real-world environment, whereas virtual reality completely replaces the user's real-world environment with a simulated one. Therefore, extensively generated graphics in this technology will improve the perception of everyone's in the real world. The essential components used in this technology are displays, orientation techniques, tracking, software, etc. AR technology is used in games, education, defence, security, entertainment, medical, etc.

T. Tejaswini
18RH1A04M1
IV ECE D

MEDICAL METAVERSE

It is feasible to implement the three basic functions of the MIoT, namely, comprehensive perception, reliable transmission, and intelligent processing, by applying a metaverse platform, which is composed of AR and VR glasses and the MIoT system, and integrated with the technologies of holographic construction, holographic emulation, virtuality-reality integration, and virtuality-reality interconnection. In other words, through interactions between virtual and real cloud experts and terminal doctors, we will be able to carry out medical education, science popularization, consultation, graded diagnosis and treatment, clinical research, and even comprehensive healthcare in the metaverse. The interaction between virtual and real cloud experts and terminal users (including terminal doctors, patients, and even their family members) could also facilitate different medical services, such as disease prevention, healthcare, physical examination, diagnosis and treatment of diseases, rehabilitation, management of chronic diseases, in-home care, first aid, outpatient attendance, consultation, etc. In addition, it is noteworthy that security is a prerequisite for the Metaverse in Medicine, and a reliable security system is the foundation to ensure the normal operation of such a platform.

D. Keerthi Reddy
19RH1A0453
III ECE A

MEMORABLE EVENTS

ESPERANZA – 2K21

Personality Development Programme by Dr. Yandamuri Veerendranath

BATHUKAMMA CELEBRATIONS

ORIENTATION DAY – 2K21






GRADUATION DAY – 2K21






HARITHA HARAM

MEDHA – 2K21

ALUMNI TALK

"Good college"

My plans after getting a degree are to go to other countries for education and we had got a good percentage of students in every batch we had the highest package with 14lakhs per annum and the average was 3.5lakhs we will get campus placement eligibility for 3-2 semesters

M. Jayasri
17RH1A04C5

This college has good infrastructure with good faculty and with good placements. We also have hostel facility. The is very disciplined.

Our college has good placement opportunities from last 4years. Where max students of our college will be placed. companies like Accenture, hexaware,delloite, amazon etc have been visited our college to recruit our students

D. Soumya
17RH1A0452

Excellent. I usually feel very much safe inside the college that's the one thing I like most about my college and there interest to help the students to achieve there dreams is on top every individual in college will work so hard.

K. Suma
17RH1A04M1

IMPORTANT WEBSITES

www.ieee.org/india

www.engineering.careers360

www.technologyreview.com

www.mathworks.in/products/matlab/

www.microwaves101.com/

www.ece.utoronto.ca/student-life-links

https://www.ece.org/

Science Commons.org

MathGV.com:

http://www.engineeringchallenges.org/

http://engineering.stanford.edu/announcement/stanford-announces-16-online-courses-fall-quart

http://www.tryengineering.org/

http://www.engineergirl.org/

http://www.discoverengineering.org/

http://www.eng-tips.com/

http://efymag.com

http://efymagonline.com/

http://electronicsforu.com

www.dspguide.com

www.howstuffworks.com

http://nptel.iitm.ac.in

http://www.opencircuitdesign.com/

http://www.futuresinengineering.com/

TECHNITRONIX

MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

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