



# **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**

**Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana**

**A.Y : 2019-20**

**VOL.1**

Under  
Student Chapter IEEE, IETE & Technical Association Electro Spikes

# **TECHNITRONIX**

**HALF YEARLY TECHNICAL MAGAZINE**

**DEPARTMENT OF  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**ECE**

**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 MISSION**

- 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. 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 2014 and is organizing International Conference on Signal Processing Communications and System Design (ICSPCOMSD) every year, from past 5 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". 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

|             |                                                   |                                                                                                                                                                                                 |
|-------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PO1</b>  | <b>Engineering knowledge</b>                      | An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling               |
| <b>PO2</b>  | <b>Problem analysis</b>                           | An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components                                                     |
| <b>PO3</b>  | <b>Design / development of solutions</b>          | An ability to design a complex electronic system or process to meet desired specifications and needs                                                                                            |
| <b>PO4</b>  | <b>Conduct investigations of complex problems</b> | An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.                                |
| <b>PO5</b>  | <b>Modern tool usage</b>                          | An ability to use the techniques, skills and modern engineering tools necessary for engineering practice                                                                                        |
| <b>PO6</b>  | <b>The engineer and society</b>                   | An understanding of professional, health, safety, legal, cultural and social responsibilities                                                                                                   |
| <b>PO7</b>  | <b>Environment and sustainability</b>             | The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.            |
| <b>PO8</b>  | <b>Ethics</b>                                     | Apply ethical principles, responsibility and norms of the engineering practice                                                                                                                  |
| <b>PO9</b>  | <b>Individual and team work</b>                   | An ability to function on multi-disciplinary teams.                                                                                                                                             |
| <b>PO10</b> | <b>Communication</b>                              | An ability to communicate and present effectively                                                                                                                                               |
| <b>PO11</b> | <b>Project management and finance</b>             | 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 |
| <b>PO12</b> | <b>Life-long learning</b>                         | 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 2019-20. 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 prestigious half yearly department technical Magazine Technitronix under A.Y: 2019-20, 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. Madhatee Latha**

Principal

## HOD'S MESSAGE

It is an occasion of great pride and satisfaction for the department of ECE, MRECW to bring out the half yearly of the Technical magazine Technitronix under A.Y:2019-20, 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



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## SCIENTIST OF THE HALF YEAR

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### ANDRÉ-MARIE AMPÈRE

André-Marie Ampère was a French physicist, mathematician and lay catholic who was one of the founders of the science of classical electromagnetism, which he referred to as "electrodynamics". He is also the inventor of numerous applications, such as the solenoid (a term coined by him) and the electrical telegraph. As an autodidact, Ampère was a member of the French Academy of Sciences and professor at the École polytechnique and the Collège de France.

The SI unit of measurement of electric current, the ampere, is named after him. His name is also one of the 72 names inscribed on the Eiffel Tower.

## FACULTY ARTICLES

## GEO FENCING



A geofence is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated (as in a radius around a point location) or match a predefined set of boundaries (such as school zones or neighborhood boundaries). The use of a geofence is called geofencing, and one example of use involves a location-aware device of a location-based service (LBS) user entering or exiting a geo-fence. This activity could trigger an alert to the device's user as well as messaging to the geo-fence operator. This info, which could contain the location of the device, could be sent to a mobile telephone or an email account.

Geofencing was invented in the early 1990's and patented in 1995 by American inventor Michael Dimino using the first of its kind GPS and GSM technology for tracking and locating anywhere on the globe from a remote location. Cellular Geofencing for global tracking is cited in the United States Patent Office over 240 times by major companies such as IBM and Microsoft since 1995 and its first mention is as: "A global tracking system (GTS) for monitoring an alarm condition associated with and locating a movable object, the GTS comprising: a cellular telephone located with the movable object; a GPS (global positioning system) receiver located with the movable object, the GPS receiver being effective for providing data reflecting a present spatial position of the movable object, in terms of spatial latitude/longitude coordinates; an interface between the GPS receiver and the cellular telephone, the interface being connected between the GPS receiver and the cellular telephone and including circuitry for transmitting the spatial coordinates from the GPS receiver through the telephone, wirelessly to a remote location; and an alarm for detecting that the object has been moved, by calculating a spatial movement of the object which exceeds a predetermined distance based on information supplied by the GPS receiver, and the alarm initiating the transmission to the remote location the spatial coordinates from the GPS receiver when said movement of predetermined distance has been detected."

**Mrs. K. Supriya Reddy**  
Department of ECE





## AUTONOMOUS UNDERWATER VEHICLE



An **Autonomous** Underwater Vehicle or AUV is a self-propelled, unmanned, untethered underwater vehicle capable of carrying out simple activities with little or no human supervision. AUVs are often used as survey platforms to map the seafloor or characterize physical, chemical, or biological properties of the water. A large variety of AUVs are in existence, ranging from vehicles weighing tens of kilograms, to vehicles weighing thousands of kilograms. Motivations for employing AUVs range from the ability to obtain superior data quality, for example, obtaining high-resolution maps of the deep seafloor, or to establish a pervasive ocean presence, for example, using many small AUVs to observe oceanographic fields. While AUV technology development and occasional scientific use of AUVs have occurred since the 1960s, routine use of AUVs for science is a phenomenon of the last few years. Adoption of AUVs has led to increasing investment in AUV technology, and the establishment of successful commercial suppliers of AUVs and AUV services. AUV technology continues to evolve rapidly and a wide range of new AUVs and new AUV applications are under development.

**Mrs. V. Poornima**  
Department of ECE



## STUDENT ARTICLES

## CYBERTERRORISM



Cyberterrorism is often defined as any premeditated, politically motivated attack against information systems, programs and data that threatens violence or results in violence. The definition is sometimes expanded to include any cyber-attack that intimidates or generates fear in the target population. Attackers often do this by damaging or disrupting critical infrastructure. Various security organizations view cyberterrorism and the parties involved differently. The U.S. Federal Bureau of Investigation (FBI) defines cyberterrorism as any "premeditated, politically motivated attack against information, computer systems, computer programs and data, which results in violence against noncombatant targets by subnational groups or clandestine agents." The FBI views a cyberterrorist attack as different from a common virus or denial of service (DoS) Attack. According to the FBI, a cyberterrorist attack is a type of cybercrime explicitly designed to cause physical harm. However, there is no consensus among governments and the information security community on what qualifies as an act of cyberterrorism.

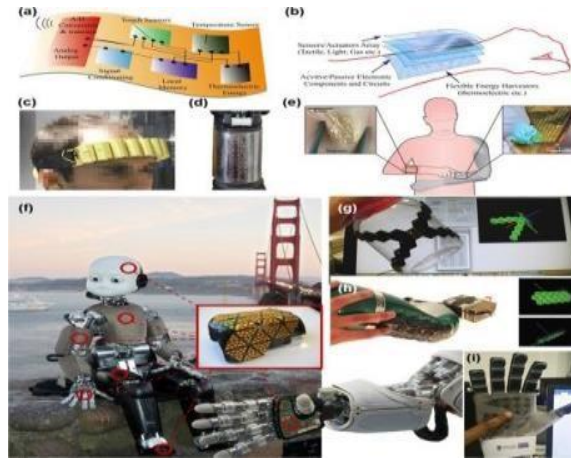
**Rimsha Nairin**

18RH1A04J5

II ECE D



## ENERGY AUTONOMOUS ELECTRONIC SKIN



An electronic-skin or e-skin is an artificial smart skin consisting of multiple sensors distributed either along the same surface Fig or stacked as shown in Fig. With various sensors spread over a large area, mimicking some of the features of human skin, the e-skin could bestow robots and prostheses with sense of touch. Moreover, the e-skin can also act as a 'second skin' in humans, i.e. sticking onto the body surface, with sensors augmenting the natural sensory capacity by measuring various body parameters (e.g. blood pressure, body temperature, heartbeat, etc.) or ambient parameters (e.g. gases, chemical, materials, radiation, etc.). The e-skin also require integration of large number of sensing/electronic components on flexible and conformal surfaces, as evident from the growing trend of high density of sensors in medical patches, active-matrix for touch screens<sup>25</sup> and tactile sensitive artificial skins for robots/prosthesis. A self-powered e-skin, also called here as energy-autonomous e-skin, can harvest sufficient energy from the ambient to power all its sensors and electronic components, and storing the excess of energy for future use. In this scenario, e-skin could have continuous and stable operation, even during short absence of energy sources. In this sense, the energy autonomy of e-skin will also improve the acceptance of flexible and wearable systems using this technology.

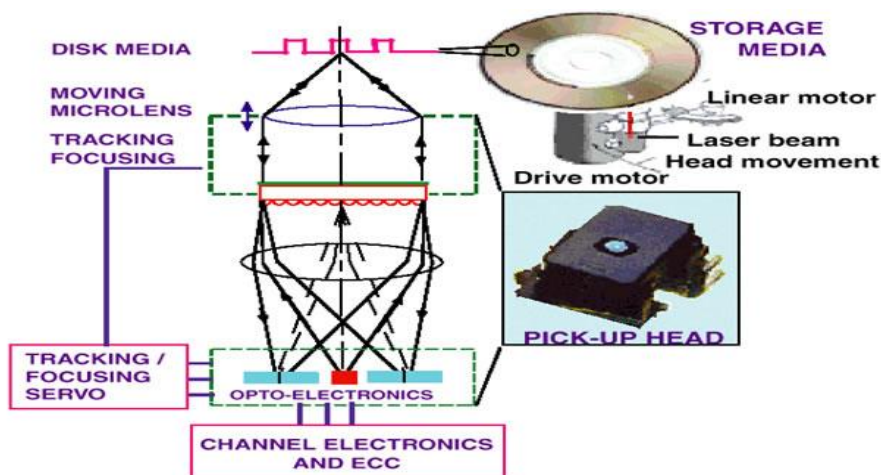
**S. Suvarana Phani**

18RH1A04J8

II ECE D



## 3D OPTICAL STORAGE TECHNOLOGY



3D optical data storage is the term given to any form of optical data storage in which information can be recorded and/or read with three-dimensional resolution (as opposed to the two dimensional resolution afforded, for example, by CD). This innovation has the potential to provide petabyte-level mass storage on DVD-sized disks. Data recording and readback are achieved by focusing lasers within the medium. However, because of the volumetric nature of the data structure, the laser light must travel through other data points before it reaches the point where reading or recording is desired. Therefore, some kind of nonlinearity is required to ensure that these other data points do not interfere with the addressing of the desired point.

No commercial product based on 3D optical data storage has yet arrived on the mass market, although several companies are actively developing the technology and claim that it may become available soon.

**S. Swathi**

18RH1A04K3

II ECE D



## SNIFFER FOR DETECTING LOST MOBILES



It is not uncommon that mobiles do not get lost. There are many times that mobiles get stolen or they fall of the pocket etc. The sniffer helps in detecting the lost mobile. The sniffer comprises of two stations. One is the base station other being the transceiver station. The principle which the sniffer makes use of to detect the lost mobile handset is that of frequency. The frequency of the sniffer is much more that the frequency of the cell phone which is being detected. The frequency which the sniffer transceiver section emits is 900MHz. The sniffer too has an antenna to detect the lost phone.

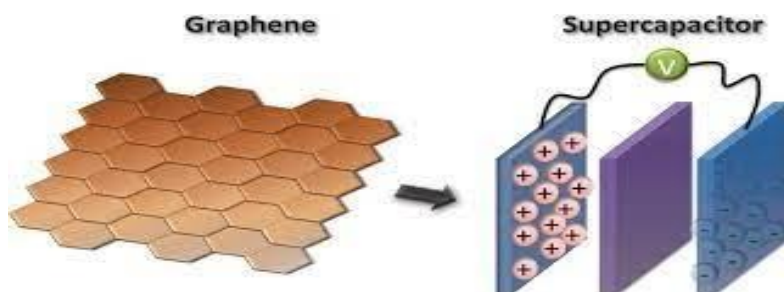
The IMEI (International Mobile Station Equipment Identity) number is fed on the sniffer to track the mobile with the frequency it releases. The IMEI digits work at the information of the RAM. With the IMEI the sniffer detects the lost mobile emitting the frequency. With the sniffer one might block calls made by the person who has stolen it and along with it find out the location of the mobile. This new system has proved to be very useful and also effective to look for lost mobiles. However not always has the sniffer been successful in detecting the lost phone.

**Saher Banu**

18RH1A04K5  
II ECE D



## GRAPHENE SUPER CAPACITORS



Graphene is a thin layer of pure carbon, tightly packed and bonded together in a hexagonal honeycomb lattice. It is widely regarded as a “wonder material” because it is endowed with an abundance of astonishing traits: it is the thinnest compound known to man at one atom thick, as well as the best known conductor. It also has amazing strength and light absorption traits and is even considered ecologically friendly and sustainable as carbon is widespread in nature and part of the human body.

Graphene is often suggested as a replacement for activated carbon in supercapacitors, in part due to its high relative surface area (which is even more substantial than that of activated carbon). The surface area is one of the limitations of capacitance and a higher surface area means a better electrostatic charge storage. In addition, graphene based supercapacitors will utilize its lightweight nature, elastic properties and mechanical strength.

A Graphene supercapacitor is said to store almost as much energy as alithium-ion battery, charge and discharge in seconds and maintain all this over tens of thousands of charging cycles. One of the ways to achieve this is by using a a highly porous form of graphene with a large internal surface area (made by packing graphene powder into a coin-shaped cell and then dry and press it).

**Shivani Sampada Pala**

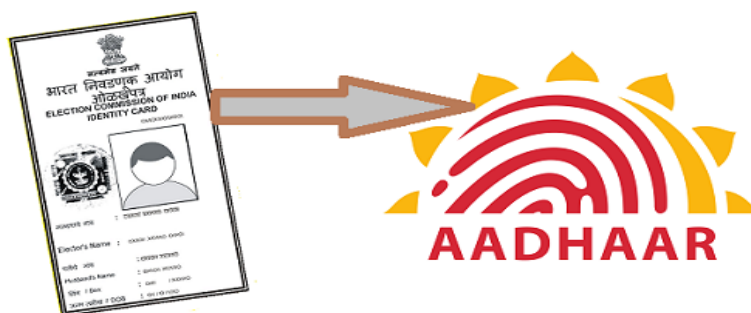
18RH1A04K6

II ECE D





## SMART VOTING



The main objective of the democracy is "vote" by which the people can elect the candidates for forming an efficient government to satisfy their needs and requests such that their standard living can be improved. In developing countries like "INDIA" the election commission follows manual voting mechanism which is done by electronic voting machine. This machine is placed in the poll booth centre and is monitored by higher officials. due to some illegal activities the polling centre are misused and people's vote to right has been denied. This seldom occurs in rural areas as well as in urban cities because the educated people are not interested in casting their votes to candidates who represent their respective areas. To ensure 100% voting automation came into play. But this automated system have been approved only on some developed countries since security have not been ensured to a large extent. Our main aim of the proposed system is to develop a compatible voting machine with high security . The proposed system is mainly designed for our country. It has three phases. First the details of the persons who are above 18 years are extracted from aadhar card database since it had become mandatory in present scenario.

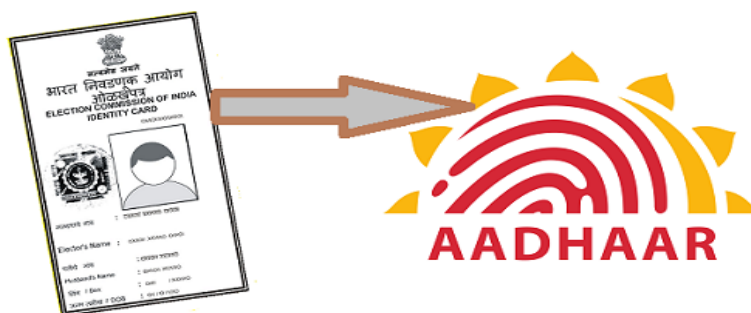
**S. Srinitha**

18RH1A04L0

II ECE D



## SMART VOTING



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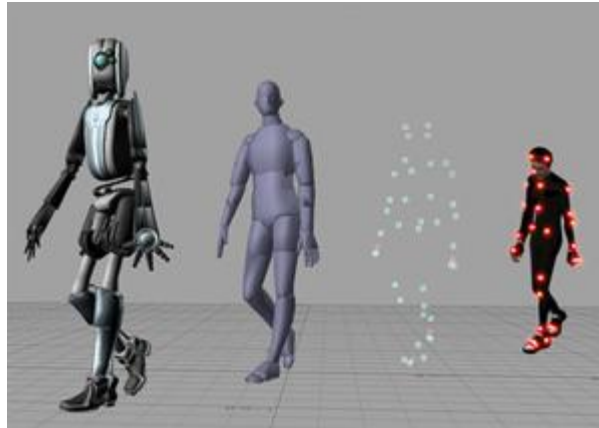
**S. Srinitha**

18RH1A04L0

II ECE D



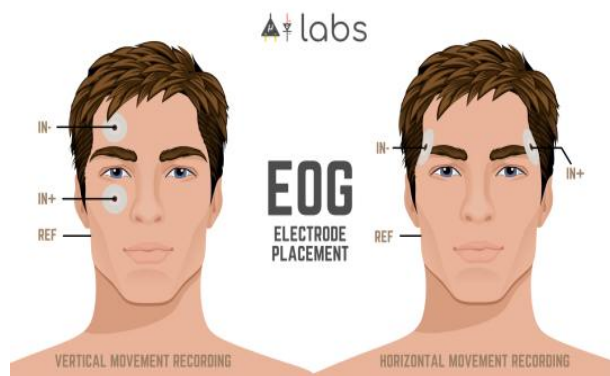
## COMPUTER ANIMATION



Computer animation is the process used for digitally generating animated images. The more general term computer-generated imagery (CGI) encompasses both static scenes and dynamic images, while computer animation only refers to moving images. Modern computer animation usually uses 3D computer graphics to generate a three-dimensional picture. Sometimes, the target of the animation is the computer itself, but sometimes film as well. An example of computer animation which is produced from the "motion capture" technique. Computer animation is essentially a digital successor to stop motion techniques, but using 3D models, and traditional animation techniques using frame-by-frame animation of 2D illustrations. Computer-generated animations can also allow a single graphic artist to produce such content without the use of actors, expensive set pieces, or props.

To create the illusion of movement, an image is displayed on the computer monitor and repeatedly replaced by a new image that is similar to it but advanced slightly in time (usually at a rate of 24, 25, or 30 frames/second). This technique is identical to how the illusion of movement is achieved with television and motion pictures. For 3D animations, objects (models) are built on the computer monitor (modeled) and 3D figures are rigged with a virtual skeleton. Then the limbs, eyes, mouth, clothes, etc. of the figure are moved by the animator on key frames. The differences in appearance between key frames are automatically calculated by the computer in a process known as tweening or morphing.

## ELECTROOCULOGRAPHY



The corneo-retinal standing potential, which exists between the front and back of the human eye, is measured via electrooculography (EOG). The electrooculogram is the resultant signal. Ophthalmological diagnosis and eye movement recording are two of the most common uses. In the beginning, the EOG is normal, but as the retinal involvement progresses, it becomes subnormal to varying degrees. In comparison to the fundus flavimaculatus, the EOG is often less impacted. We discovered that before dark adaptation defects arise and the ERG becomes abnormal, the EOG becomes subnormal. This shows a strong link between the EOG's light-rise-dark-trough ratio and the RPE's structural integrity. A pathologic EOG is frequently reported in association with normal dark adaptation and ERG in various primary pigment epithelial illnesses, such as fundus flavimaculatus (and presumably vitelliform dystrophy as well).

The dark trough is caused by the light-insensitive component, which is dependent on the integrity of the retinal pigment epithelium (RPE), as well as the cornea, lens, and ciliary body. The light-sensitive component is the EOG's gradual light increase, which is caused by depolarization of the RPE's basal membrane.

**L. Alekhya**

18RH1A04C1

II ECE C



## NEXT-LEVEL WEARABLE DEVICE INNOVATION WITH PURPOSE-BUILT SOLUTIONS



Smartwatches, sports watches, fitness trackers and medical wrist-worn devices are the key wearables applications for monitoring and tracking personal health. Due to the current pandemic, health monitoring, social distance enforcement, predication or contact tracing are just a few aspects which will further boost the importance of wrist-worn devices. Beside health and fitness monitoring, wearables provide other features, such as location tracking, access control, BT connectivity, notifications, voice recording and assistant, payment functionality and many more.

Infineon and its product portfolio solve design challenges such as data security, sensor accuracy, longer battery lifetime, small form factor of the components, device protection and differentiation between everyday movements and a fall event. Infineon can support you to develop highly efficient, safe and innovative new solutions by addressing use cases such as smart payment and ticketing, notifications and voice calls, smart access or wireless charging.

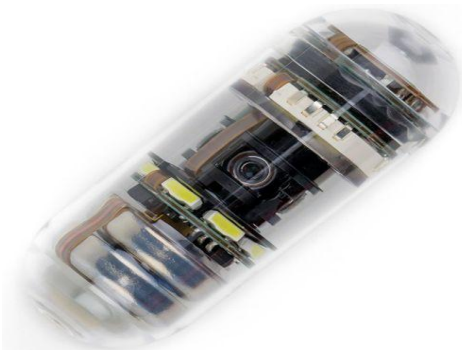
**D. Anusha**

18RH1A0453

II ECE A



## ELECTRONIC PILLS



These pills contain sensors or tiny cameras that collect information as they travel through the gastrointestinal tract before being excreted from the body a day or two later. These new electronic inventions transmit information such as acidity, pressure and temperature levels or images of the esophagus and intestine to your doctor's computer for analysis. Doctors often use invasive methods such as catheters, endoscopic instruments or radioisotopes for collecting information about the digestive tract. So device companies have been developing easier, less intrusive ways, to gather information.

Digestive diseases and disorders can include symptoms such as acid reflux, bloating, heartburn, abdominal pain, constipation, difficulty swallowing or loss of appetite. "One of the main challenges is determining just what is happening in the stomach and intestines." says Dr. Anish A. Sheth, Director of the Gastrointestinal Motility Program at Yale-New Haven Hospital.

Doctors can inspect the colon and peer into the stomach using endoscopic instruments. But some areas cannot be easily viewed, and finding out how muscles are working can be difficult. Electronic pills are being used to measure muscle contraction, ease of passage and other factors to reveal information unavailable in the past.

**V. Anupama**

19RH5A0424

II ECE D





## ELECTRIC CARS



An electric car is a car that is propelled by one or more electric motors, using energy stored in rechargeable batteries. Compared to internal combustion engine (ICE) vehicles, electric cars are quieter, have no exhaust emissions, and lower emissions overall. There are a few different types of electric cars. Some run purely on electricity, these are called pure electric vehicles, and some can also be run on petrol or diesel, these are called hybrid electric vehicles.

The advantages are :

These are better for the environment, electricity can be renewable, gasoline can't

These require less expensive and less frequent maintenance.

**G. Ramya**

19RH1A0487

II ECE B

## SILENT SOUND TECHNOLOGY



The Silent sound technology is a perfect solution for those people who have lost their voice but wish to speak on mobile phones. This technology helps to detect every lip movement and converts the electrical pulses into sounds signals and sends those signals avoiding the surrounding noise which may cause disturbance. 'Silent Sound' technology aims to notice every movements of the lips and transform them into sounds, which could help people who lose voices to speak, and allow people to make silent calls without bothering others.

Silent sound technology used in electromyography technology

Electromyography: The Silent Sound Technology uses electromyography, monitoring tiny muscular movements that occur when we speak. Monitored signals are converted into electrical pulses that can then be turned into speech, without a sound uttered.

**Ch. Pravalika**

19RH1A0441

II ECE A

## IMPORTANT WEBSITES

[www.ieee.org/india](http://www.ieee.org/india)

[www.engineering.careers360](http://www.engineering.careers360)

[www.technologyreview.com](http://www.technologyreview.com)

[www.mathworks.in/products/matlab/](http://www.mathworks.in/products/matlab/)

[www.microwaves101.com/](http://www.microwaves101.com/)

[www.ece.utoronto.ca/student-life-links](http://www.ece.utoronto.ca/student-life-links)

<https://www.ece.org/>

[Science Commons.org](http://Science.Commons.org)

[MathGV.com:](http://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](http://www.dspguide.com)

[www.howstuffworks.com](http://www.howstuffworks.com)

<http://nptel.iitm.ac.in>

<http://www.opencircuitdesign.com/>

<http://www.futuresinengineering.com/>

# TECHNITRONIX



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**Autonomous Institution – UGC, Govt. of India**

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**Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana**

