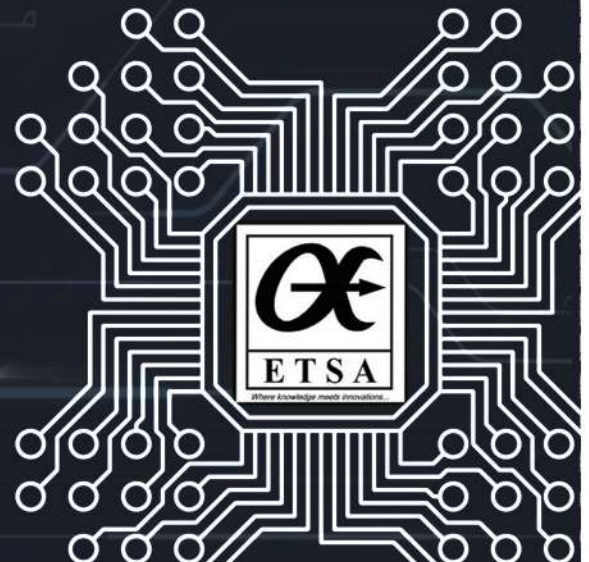
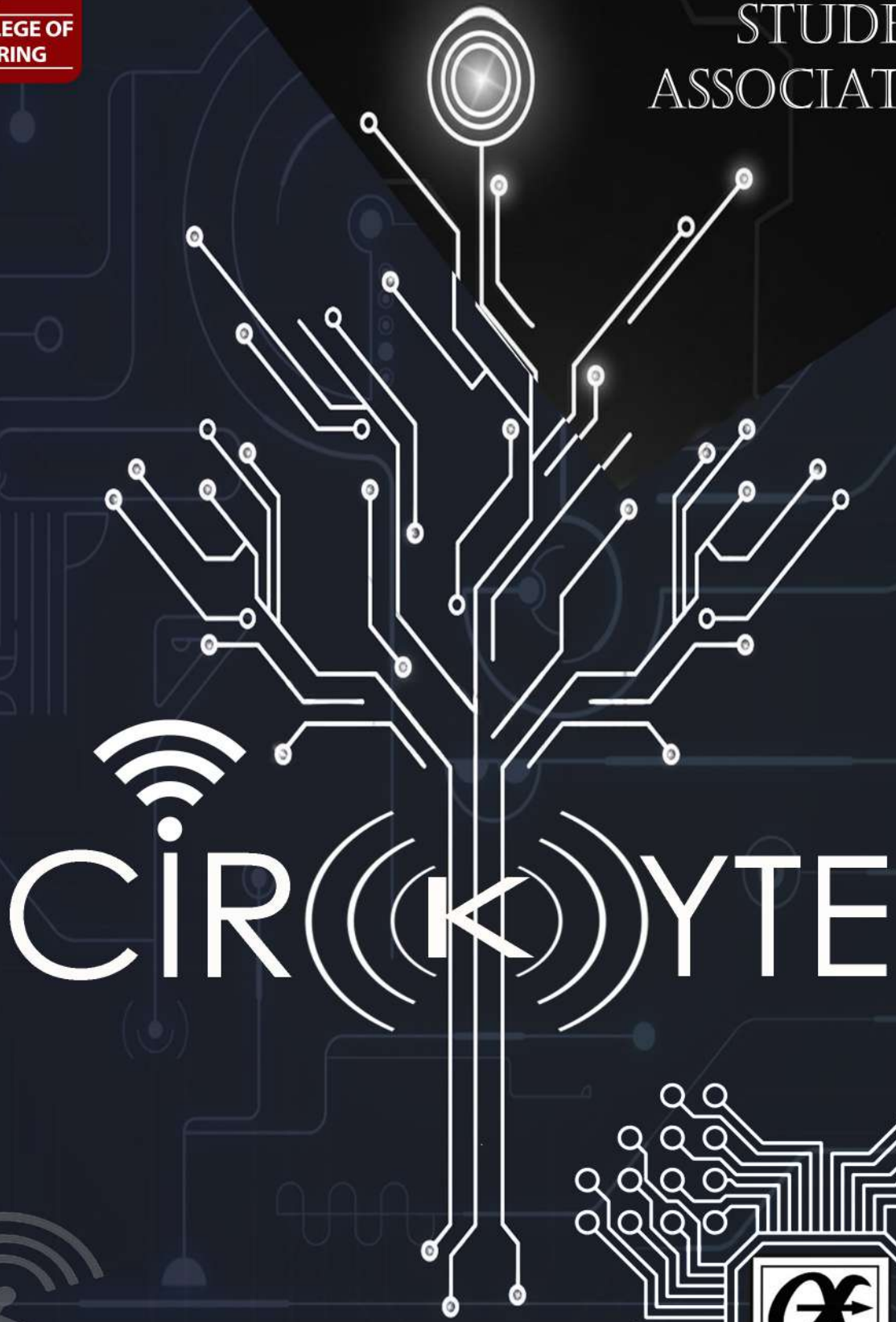




ELECTRONICS & ELECTRONICS  
AND TELECOMMUNICATION  
STUDENTS  
ASSOCIATION



MAY 2018

*Dear Students,*

*Technical Education is the backbone of every nation and is the stepping stone for a country to move into the niche of a developed nation. I am very happy to see you all achieving the success in all your endeavours. This is always possible as you all along with the department are ready to reiterate your aims at showcasing the best in academic and extra-curricular fields. One must believe that success is inevitable where there exists- Foresightedness, Firm Determination, Hard work and Discipline. I am pretty sure about your successful future growth and prosperity in the years to come.*



*All the Best!!!*

***Dr. Sandeep Joshi***  
***Principal***



*I am happy to know that ETSA of PCE, New Panvel is bringing out magazine. The magazine covers all the activities conducted by the enthusiastic team of ETSA throughout the academic year 2017-2018. This is a synergetic product of team work involving students and faculty. I express my best wishes to the ETSA team for their commitment and efforts for bringing this magazine.*

***With Best Wishes***  
***Prof. R.H. Khade***  
***Head Of Department***  
***(Electronics)***



*Creating facilities for learning is the culture of Pillai College of Engineering. It is an occasion of great pride for the Department of Electronics and Telecommunication to bring out this issue of the ETSA Magazine. I am immensely pleased by the content that gives us insight in the fields of interest of our Department. This magazine portrays the creative potential and originality of our students and faculty in ample measure. I am indebted to Dr.K.M.Vasudevan Pillai and Dr.Sandeep Joshi for their inspiration and their guidance. I am sure the magazine will inspire the students and faculty to learn and research in their respective fields of interest.*



*With Best Wishes*  
**Dr. Avinash Vaidya**  
*Head Of Department*  
*(Electronics and Telecommunication)*



*We are in the era of digitization, globalization and innovation that great minds once dreamt of. In these times, one has to keep oneself continuously updated and inquisitive in his area of expertise. The academicians specially have to keep pace with the latest state of the art technology so as to impart the same knowledge to their students and help them attain success in the future. I am happy that the students have joined their hands and chipped in with their might to publish this magazine. I am extremely pleased with this issue and I look forward to be a part of the magazines published in the future that cover all the areas of interest of the department.*

*With Best Wishes*  
**Prof. Apeksha Chavan**  
*ETSA Coordinator*



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# SONGDO- THE CITY OF THE FUTURE

*Songdo International Business District (Songdo IBD) is a smart city built on 600 hectares of land along Incheon waterfront, which is 65 kilometres southwest of Seoul, South Korea. This is a 10-year development project which is estimated to cost more than \$40 billion. This would make it one of the most expensive development projects ever undertaken. It will have around 106 buildings with a 22 million sq ft. of LEED-certified space and would make upto 40% of all LEED-certified space in South Korea.*

*Songdo IBD is being developed as a sustainable city with more than 40% of its area reserved for green space, including the park of 40 hectares, 26 kilometres of bicycling lanes, numerous charging stations for electric vehicles and a waste collection system that eliminates the need for trash trucks. Also, it is the second city in the world to have all of its major buildings in par or beyond LEED's requirements.*

*Songdo IBD utilizes a pneumatic waste disposal system. This means no garbage cans on street corners, and no garbage trucks. Instead, garbage is thrown into pipes that will suck the garbage underground, disposing of waste, and recycling what can be recycled.*



*Songdo IBD was designed to be a "ubiquitous city", or a smart city. What is "ubiquitous" is the technology, i.e. computers are built into the buildings and streets. For example, Songdo IBD residents can video-conference with their neighbours, or even attend classes remotely. They can control lighting, heating, air conditioning and more, all with the push of a button on a control panel.*



# SONGDO- THE CITY OF FUTURE

*Computers have been built into the houses, streets, and offices as part of a wide area network. Sensors gather information on things like traffic flow and energy use. This kind of information can be converted into alerts that tell citizens when a bus will arrive, or notify the authorities when a crime is taking place. The water pipes are designed to prevent drinkable water from being wasted in showers and toilets.*

*In October 2012 Songdo IBD was selected to become the home to the United Nations Green Climate Fund (GCF). A main reason for its selection is the fact that environmental-friendly practices and sustainability were incorporated into the city's foundation.*

*Songdo IBD has atypically wide roads and has a higher number of bicycle paths and walkways. In combination with various green management systems, Songdo already provides its residents with so-called 'smart services' such as effective traffic management, smart health care or smart home management – which means that citizens can easily connect to the city government, schools, universities, hospitals and more from the comfort of their home via tele-presence, at the press of a button .*

*Songdo in partnership with Cisco is wired up with sensors to monitor and manage the city's infrastructure. Sensors are embedded in streets and buildings to monitor everything from temperature to road conditions to help the city run efficiently and react to problems quicker than normal. For transport and traffic management, RFID (radio frequency identification) tags are on the cars that send data to a central hub identifying black spots and tweaking signals to ease congestion.*

*The homes will be connected to service providers to monitor the use of electrical appliances such as microwaves to better understand how residents use energy and set the grid to adapt.*

*The overall energy use in Songdo IBD is up to 40% less per person than an average existing city due to the use of insulation, high-performance glass, high-tech equipment for lighting, heating and air conditioning; the technology infrastructure linking all the building subsystems and other measures. The result is a significantly reduced carbon footprint for an urban development. All Songdo IBD residences are equipped with U.Life Solutions' HomeNet home-automation system that enables residents, from a digital control panel, to monitor their energy use and compare it to others on the grid. As a result, residents significantly reduce their energy consumption. In addition to that, Myriad sensors placed throughout the city enable citizen information services including constantly updated environment/air pollution monitoring, wayfinding, safety and security.*



# HOME AUTOMATION

Home automation is building automation for a home which might also be called as a smart home. It relates to the control and automation of lighting, heating ( smart thermostats), ventilation, air conditioning and security, as well as home appliances such as washer/dryers, ovens or refrigerators/freezers. Wi-Fi is often used for remote monitoring and control. Home devices, when remotely monitored and controlled via the Internet, are an important constituent of the IoT. Modern systems generally consist of switches and sensors connected to a central hub sometimes called a "gateway" from which the system is controlled with a user interface that is interacted either with a wall-mounted terminal, mobile phone software, tablet computer or a web interface.

Home automation system integrates all electrical devices and allows users to use those devices via smartphones or tablets from anywhere. For example, lights can be turned on or off automatically or your coffee can start brewing as soon as your alarm clock starts ringing or you can give someone access to your home while you're away just through the click of a button.

While there are many competing vendors, there are very few worldwide accepted industry standards in the smart home space. Some of the most popular communications protocol for products include X10, Ethernet, RS-485, 6LoWPAN, Bluetooth LE (BLE), ZigBee and Z-Wave.

In 2013, the home automation market was worth US\$5.77 billion and it is predicted to reach a market value of US\$12.81 billion by the year 2020.

By 2012, in the United States, according to ABI Research, 1.5 million home automation systems were installed.





# HOME AUTOMATION

*There are three generations of home automation:*

- 1. First generation - wireless technology with proxy server, e.g. Zigbee automation;*
- 2. Second generation - artificial intelligence, controls and electrical devices, e.g. Amazon Echo;*
- 3. Third generation – A robot which interacts with humans, e.g. Rovio, Roomba*

## *APPLICATIONS:*

- Heating, ventilation and air conditioning (HVAC): it is possible to have remote control of all home energy monitors over the internet incorporating a simple and friendly user interface..*
- Lighting control system*
- Occupancy-aware control system: it is possible to sense the occupancy of the home using smart meters and environmental sensors like CO2 sensors, which can be integrated into the building automation system to trigger automatic responses for energy efficiency and building comfort applications..*
- Appliance control and integration with the smart grid and a smart meter, taking advantage, for instance, of high solar panel output in the middle of the day to run washing machines.*
- Security: a household security system integrated with a home automation system can provide additional services such as remote surveillance of security cameras over the Internet, or central locking of all perimeter doors and windows.*
- Leak detection, smoke and CO detectors*
- Indoor positioning systems*
- Home automation for the elderly and disabled*
- Pet Care, for example tracking the pets movements and controlling access rights*



# INTERNET OF THINGS

*The Internet of things (IoT) is the network of physical devices, vehicles, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to collect and exchange data.*

*IoT permits objects to be sensed or controlled remotely across an existing network. It creates opportunities for direct integration of the physical world into the digital spectrum which would eventually result in improved efficiency, accuracy and economic benefit with the addition of minimal human intervention. When IoT is augmented with sensors and actuators, it becomes an instance of a simple class of cyber-physical systems, which also includes technologies such as smart grids, virtual power plants, smart homes, intelligent transportation and smart cities. Each thing can be identified uniquely through its embedded computing system and is also able to interoperate within the existing Internet infrastructure. The “Things” in IoT can be associated with a wide variety of devices such as heart monitoring implants, biochip transponders, cameras streaming live feeds, automobiles with built-in sensors, DNA analysis devices for food/environmental/pathogen monitoring.*

*These devices can collect useful data with the help of various existing technologies and then individually flow the data in a system consisting of a bunch of devices. Examples of IoT include home automation such as the control and automation of lighting, heating (like smart thermostat), ventilation and air conditioning (HVAC) systems, appliances such as washer/dryers, robotic vacuums, air purifiers, or refrigerators/freezers that use Wi-Fi for remote monitoring. It also include smart cities, wearables like Apple watch, Fitbits for entertainment, fitness and health monitoring etc.*

*IoT finds applications in nearly every field as it has the ability to network embedded devices with limited CPU, memory and power resources. IoT products can be classified broadly into five different categories based on the application domain. They are: smart wearable, smart home, smart city, smart environment, and smart enterprise. In addition to that, IoT finds applications in a wide variety of sectors and some of the major ones include media, environmental monitoring, infrastructure management, manufacturing, agriculture, energy management, medical and healthcare, home automation, and transportation.*

*Around the world, there are several planned or ongoing large-scale deployments of the IoT for the betterment of the management systems of cities and systems. An example of that is a city named Songdo in South Korea, the first of its kind fully equipped and wired smart city, which is now in a near completion stage. Almost everything in this city is planned to be wired, connected and turned into a constant stream of data that would be monitored and analyzed by an array of computers with minimal or entirely no human intervention.*

*A French company named Sigfox commenced building an ultra-narrowband wireless data network in the San Francisco Bay Area in 2014. It is the first business to achieve such a deployment in the U.S and it subsequently announced that it would set up a total of 4000 base stations to cover a total of 30 cities in the U.S. by the end of 2016. Technically it would make it the largest IoT network coverage provider in the country.*



# INTERNET OF THINGS

*Integration with the Internet implies that devices will use an IP address as a unique identifier. Due to the limited address space of IPv4 (which allows for 4.3 billion unique addresses), objects in the IoT will have to use the next generation of the Internet protocol (IPv6) to scale to the extremely large address space required. Also, to a large extent, the future of the IoT will not be possible without the support of IPv6 and consequently the global adoption of IPv6 in the coming years will be critical for the successful development of the IoT in the future. The Internet of things requires huge scalability in the network space to handle the surge of devices. IETF 6LoWPAN would be used to connect devices to IP networks. With billions of devices being added to the Internet space, IPv6 will play a major role in handling the network layer scalability. IETF's Constrained Application Protocol, ZeroMQ, and MQTT would provide lightweight data transport.*

*Experts estimate that the IoT will consist of about 30 billion objects by 2020 and there will be nearly 20.8 billion devices on the Internet of things by 2020. The IoT would encode 50 to 100 trillion objects and will be able to follow the movement of those objects. At present, human beings in surveyed urban environments are each surrounded by 1000 to 5000 trackable objects and according to some estimates the commercial opportunity for "connected products ranging from cars to household goods" is expected to be a \$USD 19 trillion.*

*One of the many questions which is still unanswered is how do the manufacturers plan to have a single control device for a user who would like to control a lot of devices which operate on different interfaces. This problem is also referred to as the "basket of remotes" problem which refers to the fact that different devices need a different remote control. Even though some suggest that a universal remote control might solve the problem to an extent, practically it might not be as effective. For example, a remote control requires a user to be around the devices he needs to access and so it completely nullifies the factor of wireless connectivity over long range and user friendliness which ought to be the USP of the IoT system which manufacturers would promote in the future.*

*As of now, no one really knows as to what extent the IoT will help in the revolution of the urban setup of cities but all prospects look hugely promising. The problems associated with such a system are bound to be overshadowed by the effectiveness and productivity provided by the system. In terms of finances this would possibly be the next big thing in the market in the coming years with almost all technological giants slated to compete in an effort to outdo each other's efforts. But whatever the future holds, one thing that's for sure is that no matter which company wins the race to be the next giant of such a platform, the average urban consumer would largely benefit by the IoT and its subsidiaries.*



# 5G SPECTRUM

*The global terrestrial mobile broadband data traffic is expected to grow at an annual rate of 45% in the coming years which represents a rapid increase between 2018 & 2022. This increase is driven largely by the adoption of mobile video streaming. The internet of Things (IoT) is an upcoming reality. The 29 billion devices connected by 2020 are expected to include 18 billion IoT or machine-to-machine (M2M) devices.*

*GAS member companies are spending a lot on research and development in relation to 5G technologies and network. Output from their efforts are appreciated globally. Therefore it is regarded as essential for policy makers to lay down rules which support early access to radio frequency spectrum resource with the aim of providing necessary clarity for the developments of terrestrial 5G systems which are already on the way in some countries and are emerging in others.*

*Availability of spectrum is an essential for testing and early 5G development before 2020.*

*In Europe, Germany and France have recently signaled in their public consultations their willingness to auction this spectrum for 5G. In Ireland, ComReg published an Information Memorandum for the forthcoming award of spectrum rights of use for the 3.4 to 3.8 GHz frequency band. In Italy, the telecom regulator has published their proposed auction rules for the 3.6 to 3.8 GHz band and in Spain the regulator has provided information on their refarming activity regarding the 3.6 to 3.8 GHz band and their intention to tender it for MFCN according to market and operators' needs.*

*Higher 5G bands for early deployments:*

*Spectrum harmonization remains important for the development of 5G, and even more important for higher frequencies in order to support the development of a new ecosystem as well as the deployment of very advanced antenna systems.*

*Korea is introducing the prospect of an early pre-commercial 5G trial during the PyeongChang 2018 winter Olympic games. This activity is ongoing in preparation for an early 5G demonstrator in PyeongChang, Seoul and in other Korean locations.*

*The USA has adopted new rules to enable rapid development and deployment of next generation 5G technologies and services in licensed spectrum in the band 28 GHz, but also in the range of 38 GHz.*

*Japan will be deploying its first commercial 5G network to meet agreed international technical specifications for the 2020 summer Olympic games in Tokyo with a larger-scale field trial through 2018 and 2019*

*China is also targeting to deploy commercial 5G networks to meet the demands for the extremely high peak data rates in the ranges 26 GHz and 42 GHz.*



# 5G SPECTRUM

*In Europe the range 26 GHz has been identified as a 5G pioneer band and work is well underway in order to harmonize the band in Europe for 5G before WRC-19 through adoption of a harmonization decision and to promote this band for worldwide use.*

*Potential first deployments of higher 5G bands*

*USA: 27.5 - 28.35 GHz and 37-40 GHz pre-commercial deployments in 2018*

*Korea: 26 - 27.5 GHz trials in 2018 and commercial deployments in 2019*

*Japan: 27.5 - 28.5 GHz trials planned from 2017 and potentially commercial deployments in 2020*

*China: Focusing on 24.25-27.5 GHz and 37 -40 GHz studies*

*Sweden: 26.5-27.5GHz awarding trial licenses for use in 2018 and onwards*

*EU: 24.25-27.5 GHz for commercial deployments from 2020*

*Notably the range 24.25-27.5 GHz (26 GHz) is overlapping with the band 26.5-29.5 GHz (28 GHz), which suggests that countries supporting 26 GHz may also benefit from early ecosystem development for the 28 GHz band in other Regions.*

*Other bands of interest:*

*In addition, the bands 600 MHz, 700 MHz, 800 MHz, 900 MHz, 1.5 GHz, 2.1 GHz, 2.3 GHz and 2.6 GHz may be of particular interest for both traditional and new non-traditional applications and are key to deliver necessary 5G broadband coverage for applications such as internet of things (IoT), industry automation, and business critical use cases.*



# COURSES FOR AN EXTC/ETRX UNDERGRAD

*There are many courses that an electronics and telecommunication engineer may opt for. Like doing master's in various field of electronics or in telecom in India or abroad is one of the option which provides knowledge and holds the key to a better future for the society as well.*

## ARTIFICIAL INTELLIGENCE

*Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning and self-correction. Particular applications of AI include expert systems, speech recognition and machine vision.*

*AI can perform tasks such as identifying patterns in the data more efficiently than humans, enabling businesses to gain more insight out of their data. In the twenty-first century, AI techniques have experienced a resurgence following concurrent advances in computer power, large amounts of data, and theoretical understanding; and AI techniques have become an essential part of the technology industry, helping to solve many challenging problems in computer science.*

## ROBOTICS

*Robotics is a field of engineering that deals with design and application of robots and the use of computer for their manipulation and processing. These technologies are used to develop machines that can substitute for humans and replicate human actions. Robots can be used in any situation and for any purpose, but today many are used in dangerous environments including bomb detection and de-activation, manufacturing processes, or where humans cannot survive.*

## MACHINE LEARNING

*Machine learning is a branch of artificial intelligence based on the idea that machines should be able to learn and adapt through experience. The iterative aspect of machine learning is important because as models are exposed to new data, they are able to independently adapt. They learn from previous computations to produce reliable, repeatable decisions and results. In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome. It's a science that's not new but one that has gained fresh momentum.*



# COURSES FOR AN EXTC/ETRX UNDERGRAD

## DEEP LEARNING

*Deep learning is a machine learning technique that teaches computers to do what comes naturally to humans: learn by example. In deep learning, a computer model learns to perform classification tasks directly from images, text, or sound. Deep learning models can achieve state-of-the-art accuracy, sometimes exceeding human-level performance. Models are trained by using a large set of labeled data and neural network architectures that contain many layers. Deep learning models are loosely related to information processing and communication patterns in a biological nervous system, such as neural coding that attempts to define a relationship between various stimuli and associated neuronal responses in the brain.*

## MEMS

*Micro-electromechanical systems (MEMS) is a process technology used to create tiny integrated devices or systems that combine mechanical and electrical components. They are fabricated using integrated circuit (IC) batch processing techniques and can range in size from a few micrometers to millimetres. Micro-electronic components are prevalent and can be found in almost everything from computers, tablets, mobile phones to vehicles and many other devices and systems which require or make use of electronics.*

*The types of MEMS devices can vary from relatively simple structures having no moving elements, to extremely complex electromechanical systems with multiple moving elements under the control of integrated microelectronics. The vision of MEMS technology wherein microsensors, microactuators and microelectronics and other technologies, can be integrated onto a single microchip is expected to be one of the most important technological breakthroughs of the future.*

## NANO TECHNOLOGY

*Nanotechnology is a branch of engineering that deals with the design and manufacture of extremely small electronic circuits and mechanical devices built at the molecular level of matter. Traditionally, circuits have been etched onto chips by removing material in small regions. However, it is also possible in theory to build chips up, one atom at a time, to obtain devices much smaller than those that can be manufactured by etching. With this approach, there would be no superfluous atoms. Electrical conductors, called nanowires, would be only one atom thick. A logic gate would require only a few atoms. A data bit could be represented by the presence or absence of a single electron.*

*Nanotechnology engineers may also choose to work in the medical field creating new gadgets that can fix problems on a scale as small as the molecular level, thus changing the face of medicine forever. Those involved with bio-systems will create ways to store the tiniest amounts of DNA or other biological fragments for testing and manipulation. Nanotechnology engineers that work with nanoelectronics will create smaller, more efficient chips, cards, and even smaller computer parts to make products that can do as much as bigger products without so much electronic waste.*



# THE MASSPEC PEN



*The war against cancer will now be aided by a pen. Yes you read it right “A pen”. So you know that it’s not an ordinary pen we are talking about. The scientists have discovered that the pen can identify the infected tissues in the body within 10sec, hence the surgeries for removing tumour will be more quicker and easy. The name given by scientists to this important invention is ‘The Masspec pen’. Cancer cells have a unique metabolism. The exceptional rate of growth and spread of a cancer cell makes it different from that of a healthy tissue. The masspec pen is used to identify the presence of cancer cells, so that they can be surgically removed with more precision than before. Different tests have been conducted and are published in Science Translational Medicine which shows it is 96% accurate.*

## *HOW DOES IT WORK..?*

*The pen is kept on a suspected cell which releases a small drop of water and then it is sucked back again. This drop now contains the infected chemicals of the cells which came in contact with it. The pen is then attached to a mass spectrometer which produces a medical fingerprint which shows if the cell is cancerous cell or not.*

## *HOW WILL IT HELP..?*

*Detecting where cancer cells end and healthy tissue starts is a tough task. For some tumours, it is easy to detect but however in some cases it is extremely challenging for the surgeons to detect. This device should be able to detect in those tight spots and make sure that none of the cancerous cells are left after the surgery.*

## *MAKING IT MORE REFINED*

*The Masspec pen now analysis a patch of the tissue 1.5mm(0.06in) across but soon there will be changes which will be able to analyze a finer patch of tissue i.e. just 0.6mm across. This technology have been tested on 253 samples during the study and the researchers have kept on testing it, to refine it further before the operation trials.*



# Know Your Faculty

- Q. Can you tell us the most special memory from your school year.  
A. My selection in the basketball team. It is a bittersweet memory as my team lost awfully in my very first match.

-PROF. ANUP VANAGE

- Q. One thing that the students would be surprised to know about you.  
A. During my college years, I participated in a fashion show, where Sonu Sood was my senior.

-PROF. PADMAJA BANGDE

- Q. If not for teaching, what is that one thing that you would like to do the rest of your life?  
A. Travel. I like to travel a lot. In fact, I take trips abroad every summer and a trip anywhere in India during winter.

-PROF. SNEHA CHIKODI

- Q. One place where you would like to take the students on a field trip.  
A. The Everest Base camp. I think that's one place where students will learn a lot of things that will help them become a better person. Things that they will never learn while being confined within four walls.

-PROF. DINESH TIWARI

- Q. If not a teacher, in what field would you like to have a career in?  
A. Journalism. I'd like to become a journalist and find out stories no one ever would.

-PROF. TUSHARIKA BANERJEE

- Q. Can you tell us one of your hidden talents?  
A. Well, I used to play table tennis during my college years.

-PROF. SUMAN WADKAR

- Q. The last movie that had you rolling in your chair with laughter.  
A. Sonu ki Titu ki Sweeti.

-PROF. MANISHA SINGH

- Q. One song that you know complete lyrics of.  
A. Mere khabo me jo aye. It's a song from Dilwale Dulhania Le Jayenge.

-PROF. SWATI PATIL

- Q. The worst thing you have eaten from the cafeteria.  
A. Dal Pav Bhaji. Apparently, we had ordered Pav Bhaji, but the cafeteria was out of bhaji. So they served us dal mixed with pav bhaji masala under the name.

-PROF. FLORENCE SIMON

- Q. What is the best thing about teaching?  
A. It's a two-way process. Not only do you teach others something, but in return you also learn something.

-PROF. JAYSHREE BHOSALE



# YOUNG SCIENTIST

*Elizabeth Nance is an alumnus of Johns Hopkins Medical Institutions where she was a postdoctoral fellow in anesthesiology and critical care medicine. Her work integrates engineering, neuroscience, and medicines develop translational nanotechnology platforms for use in brain disorders. This is done by taking advantage of the properties of various nanotechnology platforms in order to assess the healthy brain microenvironment, and how that changes in response to disease. The nanoparticles are used as biophysical probes and imaging biomarkers, by which any in vivo barriers can then be determined and overcome, preventing the effective delivery of therapeutics. She developed the first nanoparticles that could both penetrate and move within the brain, to improve imaging and treatment of brain ailments such as cancer, autism, stroke and cerebral palsy. Elizabeth was named one of Forbes 30 under 30 in Science and Medicine as one of the "most disruptive, game-changing and innovative young personalities in science." She received a Burroughs Wellcome Career Award, a Hartwell Foundation fellowship and has won awards from the Society of Critical Care Medicine and the Journal of Controlled Release.*



*Nevada Sanchez, 26, is yet another a scientist who wanted to change the world using technology and science so as to make the world a better place for the upcoming generation. He decided this at a tender age ten and that he would attend MIT, and he got there at 18. Sanchez, mature beyond his years and already married, started working in the laboratory of Max Tegmark, the famous cosmologist. When genomics entrepreneur Jonathan Rothberg approached Tegmark about using radio telescope technology to turn ultrasound into a more accurate imaging tool and even to use the sound waves to conduct some types of surgery, both of them, without any hesitation knew that Sanchez was the right man to serve as co-founder and the employee #1. "The opportunity was there and I thought I would go for it," Sanchez says. He became employee number one at Butterfly Network which is currently developing an ultrasound imaging scanner which is affordable and accessible to every healthcare institution. Butterfly Network has raised \$100 million in seed funding*



# CONTEMPORARY SCIENTIST

*Jayant Vishnu Narlikar was born on 19th July 1938, in Kolhapur, India in a Karhade family. He's an Indian Astrophysicist. Narlikar received his Bachelor degree from Banaras Hindu University in 1957. He then began his studies at Cambridge University. He developed with Sir Fred Hoyle the Conformal Gravity theory, known as Hoyle- Narlikar theory which synthesizes the Albert Einstein's Theory of Relativity and Mach's Principle. It states that, the inertial mass of a particle is a function of the masses of all other particles, multiplied by a coupling constant, which is a function of cosmic epoch. His research work also involved Mach's Principle, Quantum Cosmology, and Action-at-a-Distance physics. Narlikar is known for his work in cosmology, especially in championing models alternative to the popular Big Bang model. Apart from his scientific research, Narlikar has been well known as a communicator of science through his books, articles & various programs. Narlikar has received several national and international awards and honorary doctorates. Few of the awards include, India's second highest civilian honor, Padma Vibhushan, which was awarded to him in the year 2004 for his research work and the Indira Gandhi Award of the Indian National Science Academy in 1990.*



*Ennackal Chandy George Sudarshan also known as E. C. G. Sudarshan was born on 16th September 1931 in Pallam, Kerala, India. He studied at CMS College Kottayam, and graduated with honors from the Madras Christian College in 1951. He is an Indian theoretical physicist. He has been credited with numerous contributions to the field of theoretical Physics including Optical Coherence, Sudarshan- Glauber representation, V-A theory, Tachyons, Quantum Zeno effect, Open quantum system, Spin-statistics theorem, non-invariance groups, positive maps of density matrices, quantum computation among others, also relations between east and west, philosophy and religion. Sudarshan was the originator (with Robert Marshak) of the V-A theory of the weak force, which eventually paved the way for the electroweak theory. He also developed a quantum representation of coherent light later known as Sudarshan-Glauber representation. He also contributed in the field of Quantum Optics. The theorem makes use of the Sudarshan representation. This representation also predicts optical effects that are purely quantum, and cannot be explained classically.*



# DIFFBLUE

*Diffblue is a University of Oxford spinout that is applying artificial intelligence to software development. It was launched in 2016 by Daniel Kroening. The core technology, CMBC, was developed over 10 years and today is used throughout embedded software industry. It was founded with a goal of automating all traditional coding tasks like bug fixing, test writing, finding and fixing exploits, refactoring code, crating original code to fix specifications and translating from one language to another.*

*The Diffblue's core is able to build an exact mathematical model of any code base, with just few examples provided. The resulting model then allows a deep semantic understanding of what a computer program is trying to do, from which a number of aspects of software development can be automated. Initially, Diffblue are working on three products built on core AI engine*

*Diffblue help you code more sufficiently .It takes your source code and the previous test and calculates the existing coverage and generates the missing codes. It also generates the missing test too, after spotting the bugs in your source code. It also acts as a wall of security for your website. Diffblue can find a weakness in your source code before it can be exploited and can even refactor the code as required to keep your website from harm's way.*

*The CEO, Daniel Kroening has said that Diffblue might someday become smart enough to write entire computer programs on its own, just by giving few examples of desired outcomes.*





# TENSOR FLOW

*TensorFlow is an open-source software library developed by Google Brain for machine learning across a range of tasks. It was released on 9th November 2015 with the aim of catering to the needs of their machine learning systems which were capable of building and training neural networks. The software was meant to help such systems to learn and reason and learn like human beings. It is used for both production and research at Google and often replaces its predecessor, DistBelief. Tensorflow is written in the python and C++ languages and support Mac, Linux and Windows and was launched under the Apache 2.0 license, where it made it open for anyone to use and provided everyone an opportunity to work on their own artificial intelligence (AI) based projects.*

*This software basically allows machine learning researcher to experiment with deep neural nets more easily. This means that it takes less time to construct artificial neural networks, less time to train them and less time to deploy them. Using TensorFlow to train your system comes with a few added benefits. Visualizing learning. No matter what you hear or read, it is only when you visually see something that the concept stays in your mind. The easiest way to understand the computational graph is, of course, to understand it pictorially. A utility called TensorBoard can display this very picture. The representation is very similar to a flow or a block diagram.*

*TensorFlow offers powerful support for implementing and training deep neural networks, owing to its highly-efficient C++ backend. The support this software offers has acted as the foundation stone for many other developmental projects. DeepDream is an automated image-captioning software based on TensorFlow. Another application is RankBrain, which was built to replace and supplement static algorithm based search query results. RankBrain is the brainchild of Google. They also went on to build Tensor Processing Unit, a custom application-specific integrated circuit for machine learning. The unit is a programmable accelerator for AI based projects and is tailored for TensorFlow.*





# IOS 11

iOS 11, the latest major operating system update from Apple was rolled out officially on September 19, 2017. As compared to the iOS 10, the new OS has some big changes to it which also includes support for Augmented Reality apps. Let's have a detailed look on the new iOS 11.

## CONTROL CENTRE:

iOS 11 comes with a completely revamped Control Center. The center redesign unifies its pages and allows users to 3D Touch buttons for more options. Sliders adjust volume and brightness. The Control Center is customizable via the Settings app, and allows more settings to be shown, including cellular service, Low Power Mode, and a shortcut to the Notes app. In overall, it guarantees a clean and smooth experience.

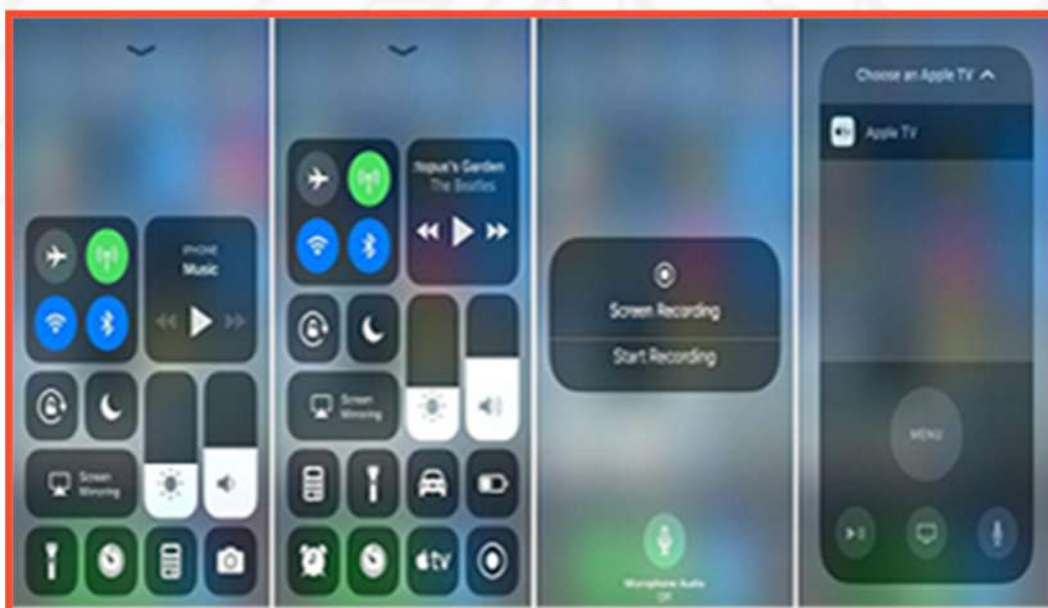
## SIRI:

Apple's own personal assistant "Siri" is now even more smarter and has a more human voice and support language translation, with English, Chinese, French, German, Italian and Spanish currently. It also supports follow-up questions by users. Users will also be able to type to Siri.

## SETTINGS:

Some of the controls in the settings too have been tweaked while some new features are added.

A new "Do Not Disturb While Driving" mode lets users block unnecessary notifications as long as their iPhone is connected to a vehicle through Bluetooth. Users get expanded control over apps' location usage, with every app featuring a "While Using the App" location toggle in Settings. Users can remove rarely-used apps without losing the app's data using the "Offload App" button. This allows for a later re-installation of the app (if available on the App Store), in which data returns and usage can continue.

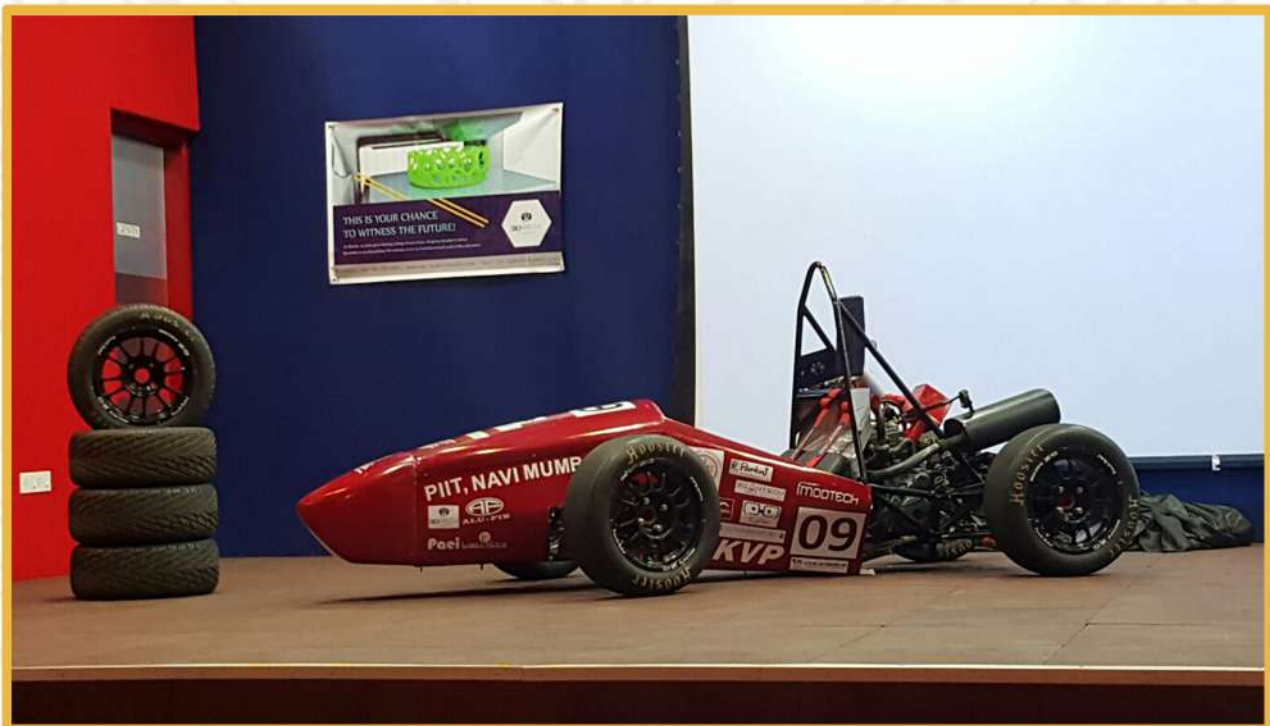




# HYPERION RACING TEAM

*Hyperion Racing is the registered Formula Student team of Pillai College of Engineering located in New Panvel. The team was created by a group of likeminded students in the year 2014, with the aim of applying the knowledge gained in classrooms to design and manufacture a car that is capable of competing in Formula Student events across the world.*

*Formula Student is a competition held by the Society of Automobile Engineers or SAE for short. It consists of various stages that are designed to test the knowledge of automobiles and problem solving capabilities of participating students to the limit. It encourages students to think outside the box while remaining within the legal constraints specified in the official rulebook supplied at the start of the year.*



*Ever since its inception in 2014, Team Hyperion Racing has had a fair share of success. The team has participated in Formula Student events that have been held in India and Germany. In 2014, the team participated in Formula Student Germany where they were the lightest first year car from India and also cleared the all important technical inspection in their first attempt. In the year 2015, the team participated in the Formula Design Challenge which was held in India. The team had an overall rank of 10th while coming 9th in the cost event and 1st in the real case scenario event. The team last participated in the Formula Student India event of 2016 where they had an overall position of 18th. The team is currently working towards building its 3rd car which they hope to participate with in Formula Student Bharat and Formula Student Germany in the year 2019.*



# HYPERION RACING TEAM



*Hyperion Racing Team currently consists of 30 dedicated students who are united by the common thought of building the best car possible with the resources at their disposal. The team has 7 departments namely chassis and bodyworks, vehicle dynamics, admin and marketing, drivetrain, engine, braking and electronics. Each department focuses and specialises in developing a certain part of the car while working hand in hand with other departments making sure that the car comes together as planned. This needs to be done while sticking to a strict time schedule as the smallest delay could have massive repercussions in the long run.*

*In the world of motorsport, every gram matters. Having a powerful car that is light is better than having the same amount of power in a car that is heavier. To make sure that the car is as light and efficient as possible, each department works towards manufacturing its components by performing a number of tests. The designs are first made on modelling software such as Solidworks or Catia where compatibility of the part with the rest of the car is verified. Simulations are run on the part by altering the various forces the component is expected to face over its lifetime. A sample of the component is then manufactured and put through its paces in the testing machines to verify the simulated data. Only after this is any component manufactured and fit on the car.*

*Over the years the team has faced many problems and challenges but has always come out on top stronger than before. The team was set up as a platform where students could learn more about engineering practices. Even today, after almost 5 years since its inception, the team continues to learn and improve. Each time innovating or building something new and unique along the way.*





# VANGUARD RACING TEAM

*Baja SAE is a collegiate design competition run by the Society of Automotive Engineers (SAE). The concept is to design, build, develop, promote and race a prototype, single seat off-road vehicle that can withstand the punishment of the toughest racing environments. An additional goal of the SAE series is to generate financial support through sponsors, all while maintaining our individual academic excellence. This series simulates real-world scenario of bringing a completely new product to the market, exposing the team members to possible situations we could face in our post-collegiate Careers.*

*The Vanguard Racing Team is a group of undergraduate students committed to engineering excellence and achieving groundbreaking success. It's a diverse group of students all working towards a successful season made up of designing, building, racing, and presenting an off-road vehicle as if we were a true engineering company. The experience gained through the Baja SAE competition is not available in the classroom environment. Being part of the team is completely voluntary and allows members to apply concepts taught in the classroom to tangible challenges. Because the team is not part of a class, each student gets to be hands on for multiple aspects of the car, throughout design, the build, testing, and even the business side of the team.*

I



" Vanguard RACING team of Pillai College Of Engineering is proud to announce that it participated and secured 5th position in BAJA South Africa 2017! Stay tuned for more ! "

*In the year February 2016, The Vanguard Racing Team has secured 5th Position in the Baja SAE South Africa event being a first year team which is great step towards successful years ahead. We are planning to compete a huge race which will be held in South Africa by SAE Baja in the year 2018 and in India in 2019 again and this time we aim for a higher position. With the increasing competition and colleges competing more and more, our new team has earned great recognition and hence our aims keep growing higher and higher with the team's astonishing journey.*





# VANGUARD RACING TEAM



*Designing, developing and racing our vehicle is a passion for a team like VRT. It defines what engineering is all about and even keeps us going for constant learning and improvements towards team and journey. Experience and guidance from the senior team, working under their solid leadership is a privilege for the team's new members. This is how Vanguard Racing Team moved ahead.*

*As our team members finish their degree and enter the professional world, they will have the ability to take initiative and apply theories and ideas to real, open-ended problems. While having a small team does create challenges, it also allows for more opportunities for each member to learn and gain valuable experience. We take pride in our close knit team along with the strong bonds of friendship we build that last after college and go on to help us form a network of friends and colleges for business later in life. By further diversifying our team we are able to continue to come up with new and innovative idea, as well as take different approaches to problem solving. We also take pride in our ability to further the excitement of science, technology, engineering and mathematics to both fellow students as well as the community through our outreach programs and events we partake in.*



# SPARK RACING TEAM

## **ABSTRACT:**

*Due to the problems caused by the gasoline engine on the environment and the people the automotive industry is turning its way towards non-conventional fuelled vehicles. The report explains how Spark Racing Team is taking steps to work on renewable fuelled cars (solar, electric). The report also provides the technical specifications about the solar car and the new vision of the team.*

## **INTRODUCTION:**

*Electric cars run at least partially on electricity. Unlike conventional vehicles that use a gasoline or diesel-powered engine, electric cars and trucks use an electric motor powered by electricity from batteries or a fuel cell.*

## **OBJECTIVES:**

- *To design , fabricate and race a formula styled electric car.*
- *To work for a greener tomorrow.*
- *Motivating students to gain necessary experience to become future entrepreneur.*

## **TECHNICAL SPECIFICATIONS:**

*The Spark Racing Team was established for a solar car competition organized by ESVC( Electric Solar Vehicle Championship). The event saw a healthy competition between 132 teams where more than 1000 enthusiastic engineers from all over India participated. Spark Racing Team was Pillai College of Engineering official team to participate in this competition. It highly motivated students worked day and night to give Pillai College of Engineering its first ever solar car. The car had its technical features as follows:*

**BATTERY:** 48V , 40Amps Lead Acid Battery.

- **MOTOR:** BLDC Hub motor of 1KW
- Solar panels were fabricated using Sun Power solar cells.
- Total weight of the panels were 15 kg.
- Total solar output generated from the cells was 576 watts.

*With its rookie attempt the students managed to design, construct, fabricate and race the solar car. Their hard work paid off with the following achievements.*

- **Highest ever solar output (576 watts) in history of ESVC competition across India .**
- **2nd position in sub events such as Design report.**
- 3rd position in weight test (143 kg)
- **9th position in endurance** out of 132 teams.
- Managed to secure **13th position in overall competition** out of 132 teams. (including IITs and NITs)

## **FUTURE GOES ELECTRIC.....**

*The Spark Racing Team have set their eyes on designing and manufacturing a formula styled electric vehicle . For which students are working day and night . The work is in progress with proper designing and analysis in different softwares such as:*

- SolidWorks
- Ansys
- Adams
- Matlab
- OptimumLap

*We are doing our best to accomplish our goals and we will achieve with support of our college.*



# GADGETS

## LeEco Smartbikes

Watching the bicyclists speeding New York Street which seeing gattheir phones in scary and dangerous enough.Designing a 4-inch Android touch screen into the bicycle for navigation, musicplay back and walk-talkie taking to other people not watching where they're going, as LeEco has done is just asking for trouble but veryuseful. Available in the US in the spring.



## eSight 3.

The eSight is an over-eye visor that helps legally blind people to navigate via a combined high-definition camera & video display. Showing a live feed on a pair of OLED displays placed in front of the wearer's eyes,the light-weight,hands free device do everything from reading to provide directions.ESight is a true augmented reality headset.



## Amazon echo

The Amazon echo is a connectivity power house that recognize dasapremium 360 degree wireless speaker.It will play your favorites on gs ready out here ws and control your compatible appliance among other things





# Know Your Faculty

Q. What would the students be surprised to know about you?

A. Well, before coming into the profession of teaching, I worked in the Indian Ordnance Factory Service (IOFS). Worked there for 34 years.

– PROF. HARIHARAN B.

Q. One quote that you live your life by.

A. "A ship is safe in the harbour but it is not for what it's made". It basically means that one should always test their abilities outside their comfort zone. That is when they will know how good they really are.

– PROF. YOGESH KENE

Q. What is your dream vacation destination?

A. I'd really love to visit Tuscany one day. It's a place situated in Italy and is home to some of the world's most recognizable renaissance and architecture.

– PROF. LIRIL CHIRAMEL

Q. One thing about you that the students would be surprised to know.

A. I am a state level kabaddi player.

– PROF. ABOLI KHEDKAR

Q. What difference do you see in your morning lectures and afternoon lectures?

A. In both the classes there are people who sleep, but the one who is interested in the lecture will be attentive irrespective of the time.

– PROF. AJIT SARAF

Q. What is a typical Saturday night for you?

A. I spend my Saturday night by hanging out and catching up with my friends.

– PROF. ISHMEET SINGH RIAR

Q. One thing students would be surprised to know about you?

A. I am trained in classical singing and used to sing during my college years.

– PROF. SEEMA MISHRA

Q. Do you enjoy reading? Who are your favourite writers?

A. Yes I like to read. My favourite writers are Frederick Forsyth and Robin Cook.

– PROF. MONIKA BHAGWAT

Q. What are some traditions or superstitions you have for the First Day of college?

A. I thought my first marker and duster were lucky for me. Even though they are not usable now, I still have them.

– PROF. RUCHIRA PATOLE

Q. One thing the students would be surprised to know about you?

A. I used to play cricket and trust me I am a good player

– PROF. HARSHA SHARMA



# ETSA EVENTS

## WORKSHOPS

ETSA committee organized the following workshops for the students of Electronics, Electronics and Telecommunication. These events were made successful by contribution and hard work of the committee members and were done under the leadership of Vishwanath Pillai who is the president of ETSA. These events would not have been possible without the guidance and encouragement by the faculty and staff members.

**LaTex:** It is a document preparation system for high-quality typesetting. It is most often used for medium-to-large technical or scientific documents. The workshop for LaTex was conducted on 13th, 14th and 18th July 2017 by Dr. Satish kumar Verma for the batch of B.E EXTC and B.E ETRX and was attended by 170 participants. On 1st February 2018, it was conducted for the branch of TE ETRX and was attended by 73 students.

**CST:** Computer Simulation Technology simulation software provides accurate 3D electromagnetic EDA solutions for the numerical solution of Maxwell's Equations, from statics up to highest frequencies. The workshop for CST was conducted by Prof. Ishmeet Singh on 13th October 2017 for the branch of SE EXTC and ETRX. 47 participants participated in the workshop.



**Python:** Python is an interpreted, object-oriented programming language similar to PERL, that has gained popularity because of its clear syntax and readability. The workshop for the same was conducted by Dr. Satish kumar Verma on January 18, 2018 for SE, TE, BE of ETRX and EXTC and has seen 39 participants.

**Machine learning:** On 17th February 2018 the workshop based on Machine Learning and Artificial Intelligence was conducted by Dr. Sanjay Shitole for the students of SE, TE and BE EXTC and ETRX. The workshop was attended by 44 students.

**MATLAB:** MATLAB (matrix laboratory) is a multi-paradigm numerical computing environment. A proprietary programming language developed by MathWorks, MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs in other programming language. This workshop was held only for TE ETRX on 13th, 15th and 23rd March by Prof. Dinesh Tiwari and was attended by 69 participants.



# ETSA EVENTS

## TREE PLANTATION

*The Electronics and Telecommunication Students' Association(ETSA)-PCE had organized a tree plantation programme on 29th July 2017 at 12:00pm. This was the first event after the organization was revived this year. Taking into consideration the climatic changes due to global warming, the thought of initiating the new journey with a social and noble cause was suggested by ETSA coordinator Prof. Apeksha Chavan. The faculty members of ETRX and EXTC department & committee members of ETSA, actively participated in the event of tree plantation and tree adoption. The event was conducted in presence of Principal Dr. R. I. K. Moorthy, HOD of ETRX Department Prof. R.H Khade and HOD of EXTC Department Dr. Avinash Vaidya. Faculty members planted saplings in New Panvel, Sector-16. After plantation, remaining saplings were adopted by members of the faculty.*



## ETSA TALK

*The Electronics and Telecommunication Students Association (ETSA)-PCE organised an interactive event, 'ETSA Talks' on 23rd August, 2017 at Dr. KM Vasudevan Pillai Campus, New Panvel from 2.00 pm to 5.00 pm. The event began on an auspicious note with the lamp lighting ceremony in the presence of honourable speakers Prof. Ankur Ganonkar, Ms. Mansi Thakkar, Mr. Victor Manickam, Prof. R.H Khade (HOD, ETRX department), Dr. Avinash Vaidya(HOD, EXTC department), Ms. Apeksha Chavan ( ETSA Coordinator) and all the faculties. This was the first major event conducted by the ETSA committee. The event was handled by the Core Committee which included Vishwanath Pillai(President), Karishma Nair(Vice President),Rajas Salunke(Secretary),Akshay Aher(Treasurer) and Sapan Agarwal(Jt. Treasurer) and the working committee. The informative sessions by the speakers left the audience entertained and gave them a way forward to improve their careers and life.The event concluded with the felicitation ceremony, announcement of a new committee for the ETSA magazine 'CIRKYTE' alongside a vote of thanks presented by Shobna Bangera.*



# ETSA EVENTS

## SOCIAL SERVICE

*"Life's most urgent question: What are you doing for others?"*

*This single quote was enough to inspire the ETSA committee to do something for others and what's better than doing social service on Republic Day. The social service event was conducted on 26th January, 2018 at Zilla Parishad School, Near Apte, Dabolwadi. ETSA Committee members along with Prof. Apeksha Chavan were welcomed with smiles and cheers at the school. The national anthem was sung followed by a speech on Republic Day for the students. 'Colouring competition', 'Statue on the beat', 'Hitting the stump', 'Passing the ball' were some of the fun filled games organized for the students. A large amount of gift hampers were made with love from donations collected by ETSA Committee from PCE students and staff. The gifts were distributed among the children and it was made sure that no one went home empty handed or without a smile. The committee was successful in bringing smiles on those innocent faces which formed the cherry on the cake of the social service event.*



## WOMEN'S DAY CELEBRATION

*International Women's Day (IWD) is celebrated on March 8 every year. As it is a focal point in the movement for women's rights, ETSA committee on behalf of Electronics, Electronics and telecommunication department organised a small event of Women's day celebration for our hard working faculties on 8th MARCH 2018. The event started at 3pm and concluded at 5.30 pm. The committee assembled the guests i.e. all the faculties of the department at 3 pm. On the commencement of the event, Anushree Dash on behalf of the committee, addressed the guests and delivered an enthusiastic speech on women empowerment. There were entertaining sessions planned by the committee where Rutuja Zingrut conducted a non-competitive kitchen quiz where the gifts were given to the one giving the correct answer. This was followed by the charade in which teachers were grouped into 2 teams and the competition started and ended beautifully in a tie hence the gifts were given to all. A special cake was cut as part of the Women's day celebrations. As the teachers were having snacks the committee arranged few performances by the students and everyone enjoyed them.*



# ETSA EVENTS

## THINK BOT - QUIZ COMPETITION

*In order to test and challenge all the sharp minds in the college, ETSA organized a quiz competition named 'Think Bot'. The event was conducted as an open competition for all branches in the college. It was held on 21st March, 2018 from 3pm to 6pm. The competition was conducted in the presence of faculty judges Prof. Rubina Shaikh, Prof. Ishmeet Singh and Prof. Florence Simon. The competition started off with introduction to the rules of the competition to the participants by the Quiz Master Omkar Chauhan followed by the felicitation of the judges by Vishwanath Pillai. The competition was conducted in three rounds - The Eliminator, The Semi final and the Final. The quiz was based on the theme of general knowledge, general sciences and thinking skills. A total of 24 groups participated in the quiz competition. The winners were felicitated with the cash prize by Dr. Avinash Vaidya, HOD of EXTC Department and Prof. Apeksha Chavan, Faculty Head of ETSA. It was a very successful competition by ETSA and received positive feedback by the participants as they were thrilled and overjoyed by the magnitude of the event.*



## SAMVAAD - DEBATE COMPETITION

*On 22nd March 2018, the Etsa committee organised a Debate Competition named 'Samvaad', as a platform where students can compete with each other to test their knowledge and speaking skills. The event was organized under the guidance of Mrs. Apeksha Chavan, ETSA coordinator. It was judged by Prof. Darshana Pachkawade and Prof. Anup Vanage. A total of 16 students participated in the event. The competition was conducted in a manner of 4 rounds. Participants were evaluated on basis of proper illustrations, use of rebuttal, body language and paralanguage. The topic of discussion for the final round was- "Which is a better investment- Gold or Bitcoin". In the end Rahul Pillai (BE-MECH) was declared the winner with Shravan Raikar (SE-MECH) missing out by a little margin to come in second. The final round was followed by the prize distribution ceremony in the presence of Dr. Avinash Vaidya, HOD of EXTC Department and Prof. R.H. Khade, HOD of ETRX Department. In the end the finalists were asked to share their experience and their mantra which they follow to speak so well in public. The event turned out to be a huge success among students and teachers alike.*



# SPORTS CORNER

## CRICKET

*We watch cricket six months in a year and talk about it for the next six months. Cricket is a sport filled with passion and obsession for its players and our Pillai College Cricket team is no different. The current PCE University team 2017-18 has Abhishek Shinde as Captain and Rohan Pullar as Vice-Captain and their team members are Vivek Sharma, Adarsh Shetty, Aditya Mhaskar, Rajesh Mayya, Sagar Ganjale, Parth Samant, Vaibhav Godse, Kalpesh Popeta, Amit Pradhan, Narayan Dwivedi, Vishant Pachpund, Ruturaj Sawant, Pravin Tambe, Shreyash Sansare .A team is not born strong, it is made strong. And to make it strong,*



*our college team sweats 3-4 hours daily in Khandeshwar ground. The current year team with Captain Abhishek Shinde qualified for the 2nd Round at University level due to their skills and practice. They won by 3 runs in their 1st match which was played in Azad Maidan. Their 2nd match was played in Kalina Sports Complex where they became the runner up team as they lost by 8 wickets. The team makes the college immensely proud and believe in their achievements. They have set up high bars of expectation and are sure to set up new records in coming times.*

## BASKETBALL

*When it comes to basketball, we can't forget Neha Shahu. Being the student of First Year Engineering, she got selected in The University Women Basketball Team. The girl surely knows her strengths and is definitely using it well. She played several games in her journey and has been victorious. In Westzone Tournament held on November 2017 in Gwalior, she along with her team, played against Madhya Pradesh, Nagpur, Gujarat, Rajasthan and Satara. After achieving the 2nd position they got qualified for the All India Matches held in January 2018. There she faced the teams from Tamil Nadu, Kerala, Delhi, West Bengal, Karnataka. After losing to Karnataka, they bagged the 5th position. She follows her passion and knows her path to be a person who loves doing what they do the best. She makes us proud with her achievements and we wish her well for the future.*





# SPORTS CORNER

## FOOTBALL

*A game loved by all and played by most is not just a sport, it's an emotion which brings the world at the high end with its spirit. The PCE Football Team is not any different. Hardik Pisal as the Captain and his team Venkatesh Tolimarla(VC), Vinay Tolimarla(GK), Vighnesh Swamy(GK), Pankaj Sharma, Subodh Nikumb, Ashutosh Bisht, AyushShetty, SanilBobhate, Mahmood, PrathameshPatil, Tarun Rana, Rakshit Singh, Shreyas Nivagune,*



*Ameya Nalawade, Roshan, Saif Khan, Kushal Suvarna, Shubham Parab, Rahul Naidu had played for the college numerous times. Their journey of Mumbai University tournament ended after losing to SM Shetty College by the score of 3-2. After this they participated in Reliance Tournament where they won 3 qualifying matches and got promoted to group stages. In the group stage, they were victorious in one match of three. The team is with its great potential is bound to make the college proud in the near future.*

## BASKETBALL

*Scoring a basket is not just a player's effort, it's the combined energy of team. Not only players but also the audience feel the adrenaline coursing through them, making them support endlessly for their team. Basketball team of Pillai College leaves no stones unturned to perform their best. Being in Top 16 in University basketball is just the starting point. By being the Winner at Bedekar College, Thane '17 and as a runner-up at Amity University, the team has made its mark. Starting the year 2018 with a bang by winning Inter MES championship, the team definitely put their level up. Under Capt. Vijay Rasal, the team is sure to reach great heights. If the team continues to perform based on trust, confidence and hard work, then they are sure to thrive.*





# SPORTS CORNER

## VOLLEYBALL

*The game of volleyball needs good focus and balance between saving and gaining a point. The current PCE University team is lead by Vishal Mishra and consists of Amar Rundhal, Sourabh Khandke, Nikhil Yadav, Awaij Salati, Karan Rajput, Sharique Shaikh, Rohit Hole, Naeem Nasar, Anish Nair. The team practises every day on a scheduled time of 7:30 A.M -11:30 A.M. The team is under the guidance of Coach Mr. Padmakshan (Retired Indian Navy Officer), Director of Sports for Mahatma Education Society. The team qualified for top 16 university matches by beating its opponents. Out of 142 teams which participated in the*



*tournament, the PCE volleyball team secured 8th position in Mumbai University matches. Also they secured 1st position in Mumbai University Zone-4 volleyball matches. They were declared winners against the opponent's like KALSELKAR, VISPUTE PHARMA., B.V.C.O.E., BUNTS HIGH. EDU., A.P.SCI, SIES GST, Y.T.C.E.M., and U.P.G.D. Due to their amazing performance Vishal Mishra and Nikhil Yadav got selected for the trials of the Ashwamedh Tournament which is the next stage of the University Tournaments, however they could not get the chance to attend it due to the clash of trials date with the dates of examinations. They however didn't allow the loss of opportunity to come in the path of success. Belief and determination seem to be their motto which would surely lead them to the path of victory.*

## HANDBALL

*Handball (also known as team handball or Olympic handball) is a team sport in which two teams of seven players each (six outfield players and a goalkeeper) pass a ball using their hands with the aim of throwing it into the goal of the other team. Our college team consisting of 10 members bagged 7th place at the Mumbai University Tournament. With taking the 2nd place at MES tournament, they are willing to prove their strength, wit and power with time.*





# Engineering Leagues

## ENGINEERING FOOTBALL LEAGUE

The Engineering Football League, also known as EFL is an annual event of Pillai College of Engineering. This year too it was conducted over a span of nine days with a lot of enthusiasm and sportsmanship. Like every year this year saw a lot of players from different streams of engineering participate in the tournament and as always the whole tournament was a huge entertainer. This year EFL started on 14th of February and lasted till 23rd of February which was the day of the final. A total of 14 teams participated in the tournament and each team represented a certain international football club. Players had an initial choice of either leading a team or participating in the auction. Each captain had to bid for players with an ultimate aim of getting the best squad possible. The teams were divided into two groups with seven teams each. The tournament was played in a 5-a-side format which comprised of a league stage followed by quarter - finals, semi-finals and then the final.



The teams that participated were – Real Madrid, Juventus, Borussia Dortmund, Liverpool, Chelsea, Arsenal, AC Milan, Manchester City Manchester United, PSG, Bayern Munich, Atletico Madrid, Tottenham Hotspurs and FC Barcelona. Kushal Suvarna, Pankaj Sharma & Saif Khan got the highest bid against their name and were bought by Atletico Madrid captain Venky Torimarla, Manchester United captain Shreyas Nivagunev and Inter Milan captain Ritvik Kalivda respectively for a total amount of 10,000 each. Manchester City managed a record 8 clean sheets and topped pool B before being knocked out of the tournament. The four teams which made it to the semi-finals were – Manchester City, Borussia Dortmund, Real Madrid and Paris Saint Germain(PSG).



# Engineering Leagues

PSG and Real Madrid won in their respective semi-final clashes and reached the finals. Finally Real Madrid led by Tarun Rana of BE CS emerged victorious with the final scorecard reading 1-0. Rinkesh Yadav of SE EXTC scored the winning goal which helped Real Madrid clinch the EFL 2018 title. The winning team Real Madrid won 3 and drew 3 matches out of the six matches in their group stage before qualifying for the knockout stages. The third place match was played between Manchester City and Borussia Dortmund and in the end Manchester City emerged victorious with the scorecard reading 1-0.

*Individual Honours:*

- *Find of the Year: Rinkesh Yadav (Real Madrid).*
- *Golden Gloves: Sumit Togare (Real Madrid) & Vignesh Menon (Manchester City).*
- *Wall of PCE: Pratik Shinde (Borussia Dortmund).*
- *Best Playmaker: Subodh Nikhumbh (PSG).*
- *Golden Boot: Shubham Parab (Manchester City).*
- *Best Player: Hardik Pisal (Manchester City).*

## ENGINEERING CRICKET LEAGUE

India is a cricketing nation with millions of people who admire the game with all their heart and soul. Over the years India has provided many players who grew up to become legends of the game we love so much as a nation. This year, to keep that spirit alive and to feed the ever so cricket hungry Indian hearts Pillai College of Engineering conducted the Engineering Cricket League (ECL).

The tournament started on the 15th of March after the initial auction stage and ended on the 23rd of March, 2018. An inauguration ceremony was organised under the guidance of PCE's sports coordinator Professor Yogesh Kene in the presence of the ECL committee and all the participating teams. A total of 10 teams participated in the tournament and as expected it turned out to be a huge success. The teams that participated in the tournament were - Mumbai Indians, Chennai Super Kings, Kolkata Knight Riders, Rajasthan Royals, Trinidad and Tobago, Somerset, Delhi Daredevils, Royal Challengers Bangalore, Sunrisers Hyderabad and Kings XI Punjab. All the teams fought hard to win the tournament with individuals chipping in with wonderful contributions in every match.

In the end, it was the Abhishek Shinde led Somerset who beat Delhi Daredevils to be crowned as the champions of ECL. The third place match was played between KXIP and RR which KXIP won comfortably. The final day also saw a match between the ECL Committee and the ECL Legends which was won by the ECL Committee by a margin of 18 runs. The tournament was a treat to watch for every cricket fanatic in the Pillai's campus and everyone enjoyed it till the last day of the week long tournament.



# Engineering Leagues



## *Individual Honours:*

- 1. Orange Cap: Sushant Sawant(Somerset) with 200 runs*
- 2. Purple Cap: Abhishek Shinde(Somerset) with 13 wickets*
- 3. Best Player : Sagar Telange (KXIP) with 143 runs and 10 wickets*
- 4. Find of the Year : Shubham Ubale(KKR) with 7 wickets.*



# Know Your Faculty

Q. If not engineering, what would you have persuaded as a career?  
A. If not engineering, then definitely modelling.

-PROF. MEERA KHARAT

Q. What is the best part about teaching?  
A. The interaction with so many different students.

-PROF. RUBINA SHAIKH

Q. What are your hobbies?  
A. I love dancing, mostly in a group. As for sports, I am really fond of table tennis.

-PROF. DEEPTI NAIR

Q. What is the last movie you loved watching?  
A. The pursuit of happiness. Beautiful story.

-PROF. RAVI BIRADAR

Q. What is the first pet you owned/ would like to own?  
A. I don't believe in owing a pet. I'd rather want them to be free.

-PROF. SONALI KATHARE

Q. If not an engineer, what would you like to have a career in?  
A. A lawyer maybe. I have always been good at debates.

-PROF. UJWAL HARODE

Q. What would be your idea of a perfect party?  
A. With family or with my colleagues in T-402!

-PROF. SHWETA WAGHMARE

Q. Where would your dream vacation be?  
A. Well, I'd like to travel the North-eastern part of India with my family. Also, a visit to my old school and college with my childhood friends would also be great. Just a small trip down the memory lane.

-PROF. SANJEEVKUMAR SRIVASTAVA

Q. One thing that you can eat anytime from the cafeteria?  
A. Misal Pav.

-PROF. SUCHITRA PATIL

Q-What inspired you to choose engineering as your career?  
A. I never inspired to be an engineer and as a matter of fact i actually wanted to become a doctor. But my dad got me admitted in a diploma college and that's how it all shaped up.

-PROF. AMEET MEHTA



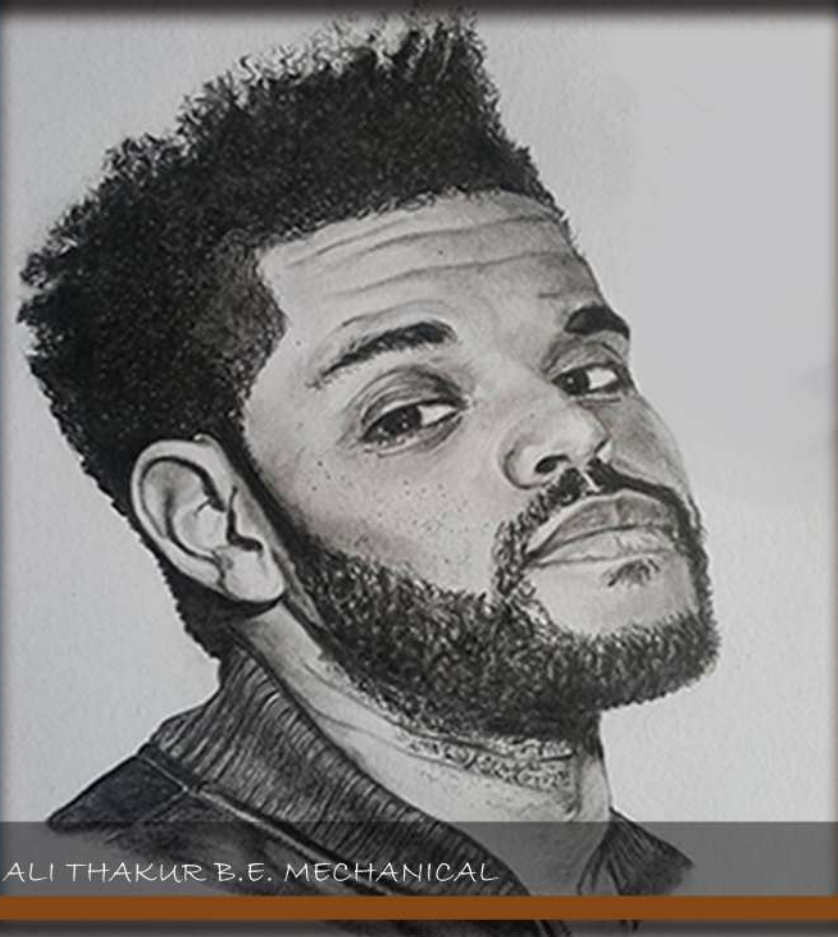
# FINE STROKES



RISHIKA KARNA B.E. COMPUTER



YAGYESHA PARAS T.E. EXTC



ALI THAKUR B.E. MECHANICAL



SURAJ SUBRAMANIAM B.E. MECHANICAL



# FINE STROKES



NIVEDITA KALE F.E. EXTC



SHERIN THOMAS EMMATTY T.E. COMPUTER



MADHURI GOSAVI S.E. INFORMATION TECHNOLOGY



NIKHIL NAIR T.E. IT



## LOST STORIES

*Breeze flows passing through you, unknowingly soothes you, makes you feel cozy and comfortable*

*In this rushing life of ours try to be the wind, the one who comforts unknowingly.....*

*Just another random guy with his earphones on under the nude sky which glows in the dark suggesting to become something which he can or cannot !*

*anyways....*

*The night has it's own magic, it makes you lonely yet brings the best out of you because no one expects the wide sky is watching you. You can be yourself, crushing the mask that you create for the world to see...but then there are people who are transparent, they are pretty because you can just see through them... Sometimes they have the worst fate awaited, people come in their life deceive them turning them into much worse just like a boat which can't find a shore and even if it does there is no way back....lost in the dark forever.*

*As everything has pros and cons, so does life, people and world....*

*So just live your life, travel, work hard, chill out, run for your passion, care for people, love them, fall in love, break rules, explore, enjoy the taste of victory and success as well as the dust of failures, be yourself and try not to wear a mask, go mad go crazy, feel the adrenaline in your veins, don't hurt, don't lose humanity because at the end you are the composer of your own symphony and you better fill it with graceful rhythm because you live many lives in many multiverses and might live more but unfortunately you remember just one timeline, so make it worth !*

*-MANTHAN GHARAT (FE IT)*

## GREEN

*I used to swing on a swing besides her  
The shadow of her hair, her rustling a lullaby  
She handpicked fruits for me but didn't give me without a decent try  
She usually brings new friends, who could fly, climb faster so I could try  
harder at every next attempt  
I mourned at her death, her death a tragic one.  
She was green,  
She was a tree*

*-SHIBNARAYAN GHOSH  
(FE EXTC)*

## SHE

*Well it can be anyone,  
Anywhere in this huge world.  
She can be someone's wife  
Someone's mother  
Someone's daughter or  
any identity she achieved  
For which she struggled really  
hard.  
Hardly receiving any gratitude.*

*While fulfilling their wishes,  
She poisoned her dreams.  
While achieving their dreams  
She killed her future.  
While making their future,  
She didn't realize when  
Her existence was about to end.*

*On her last day, she pondered  
What she has really done.  
While doing so,  
She just became a NOONE.*

*-SANDHYA RATHORE  
(BE ETRX)*

## STROLL

*Sulking in a solitary corner,  
Playfully watching my trans-  
fixed eyes rolling all over,  
Sorting out the thoughts of  
memories that are hardly  
unwound,  
I gathered my voice, the will to  
take a stroll.*

*Images of images swam through  
me as I rowed through them  
with long strides,  
And everything else flowed just  
like the flow of time.*

*With every breathful step, seed  
of ideas sowed.  
And finally, it rained, quenching  
the harvest of my thoughts.*

*-VARUN VINOD SALIAN  
(BE EXTC)*



## WORLD

By Abhishekh Pandey (BE Mechanical)

Prem ran his fingers along the edge of the book, picturing the kind of smile it would have cast on her face. The perfect gift, he thought.

"Please wrap it with a blue paper," he said, giving the book to the bookstore manager.

"Sorry, sir. We have only yellow and silver ones. I'll wrap it with a combination of both. It'll look even better," he smiled, assuring himself that he had convinced Prem.

"No. Can you keep this book aside till I return?" Prem asked.

"Sure."

"Thank you," Prem nodded briefly and walked out of the store.

When he returned, he held a roll of blue gift wrap, and a slight curve of his lips deepened his dimples.

"There you go," he said, placing the roll on the store manager's table,

"Please wrap the book with this."

"I'm curious," the manager said, unfolding the paper, "Of course if you don't mind. Why only blue?"

"I have never gifted her anything wrapped in a paper other than blue."

"But, does the colour of the wrap matter? I mean, the paper ends up into the bin, right? And isn't it the gift in itself, and the feelings attached to it that matter more?"

"She loves blue. And don't colours convey feelings too?"

Prem had hardly walked into her room, when she came out running. He lifted her up in his arms before she rummaged into his legs.

"Dadu! Show me my birthday gift!" she chirped into his ears, her hands resting on the blades of his shoulders. Prem took the book out of his khaki bag and hovered it away from her hands.

"Blue paper! You are the best Dadu in the world." she planted a peck on his cheek, and unwrapped the gift delicately, making sure the wrapper didn't crumble.

"Atlas?" she asked, her eyes skipping all over the cover of the book.

"Atlas, my dear. Come on, spell it for me."

She held the book up. It was big enough to hide her little face from Prem.

She spelled it letter by letter, "A... T... L... A... S... Atlas!

Dadu, there are so many pictures in this book. They are so colourful!"

"We can go anywhere in this world, through these pictures, Baby."

"Really? Can we go today?"

That night, she buried herself within the cup of his lap, as his fingers traced along the maps. In her atlas, she found her little world. And in her, Prem found his.



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