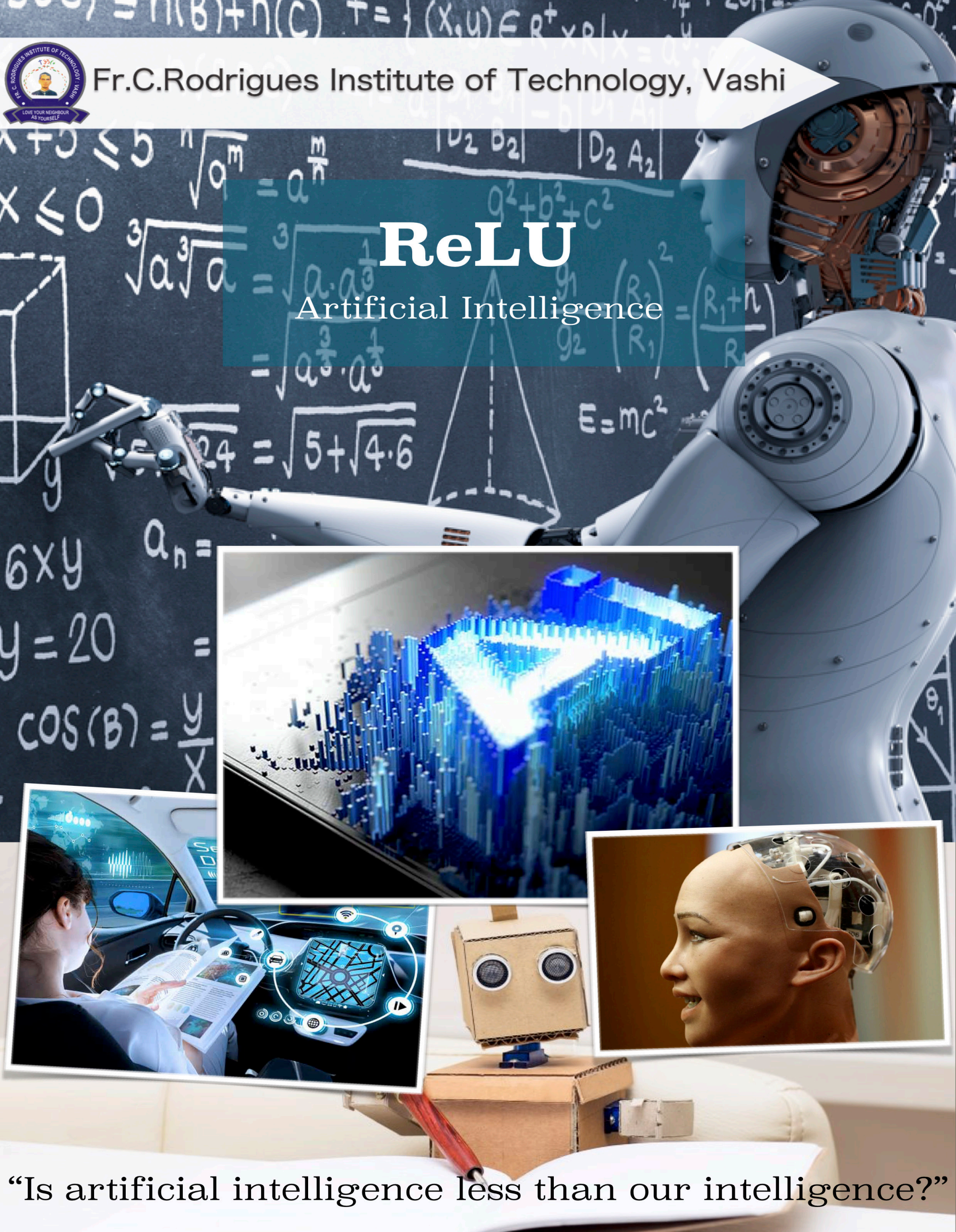
Fr.C.Rodrigues Institute of Technology, Vashi

ReLU

Artificial Intelligence



"Is artificial intelligence less than our intelligence?"

IT DEPARTMENT INFORMATION

Program Educational Objectives [PEOs]

1. Graduates will be able to develop research attitude and have fundamental knowledge to excel in higher education and life-long learning skills in the context of technological change.
2. Graduates will be able to successfully sustain in industry, grow and excel in their professional career.
3. Graduates will be able to communicate and demonstrate collaborative, entrepreneurial, leadership and ethical skills to develop solutions for societal issues.

Program Specific Outcomes[PSOs]

1. Apply knowledge of mathematics, Science and Information technology to define, analyze, build, test and integrate subsystems to provide solution of real life problems.
2. Develop self-learning and research attitude to offer IT services for sustaining as excellent professional or entrepreneur along with ethics and leadership skills.

Vision of the Institution

To evolve and flourish as a progressive center for modern technical education, stirring in every students' creativity leading to self-sustainable professional through holistic development, nurtured by strengt h and legitimate pride of India and values and ethics.

Mission of the Institution

- To provide industry oriented quality education
- To provide holistic environment for overall personal development
- To foster relationship with other institute of repute, alumni and industry

Vision of IT department

To become a leading center of excellence for quality education, advance research and development in the field of Information Technology for self-sustaining professionals.

Mission of IT department

- To provide industry oriented quality education and training to students related to cutting edge technologies in the field of information technology.
- To promote multidisciplinary activities that inspires students to serve society through innovative applications.
- To promote entrepreneurship skills in students with overall personality development.

MESSAGE FROM HOD

With fast changing world, certain changes are essential, considering these aspects the Department of Information Technology aims at training the students to adapt themselves to the fast changing technology. Our Department strives for enhancing critical thinking, ability to change information into knowledge and to increase the power of information analysis. Special emphasis is also laid on connecting the student to the subject to comprehend and apply rather than simply read and remember. The department lays great focus on providing a digitally enabled learning environment which ensures that learning takes place effectively.

"Enjoying success requires the ability to adapt. Only by being open to change will you have a true opportunity to get the most from your talent."
-Nolan Ryan

The skilled faculties in the department are committed to prepare the students to meet tomorrow's challenges, research opportunities and a world of new possibilities. In the view of futuristic explosive growth in artificial intelligence and machine learning this periodical is dedicated to explore the same.

- DR. H. K. CHAVAN

Message From Coordinator

Our World is moving fast and new technologies are coming up everyday. We need to be proactive and enthusiastic in learning about the cutting edge tools and research. Considering these aspects the department of Information Technology aims at training the students to adapt themselves to the fast changing technology.

The department has flourished due to collective efforts of the skilled staff and an efficient student's base. The staff and students work hard to sustain excellence in teaching, learning and research.

The IT magazine provides a platform for the professional growth of students by providing opportunity to match advancement in technology and globalization. Along with technical aspect, it helps to develop the overall personality of the student by boosting the confidence, developing leadership skills and team spirit.

I wish good luck to all the students and the entire team of IT magazine.

Ms. Dhanashree Hadsul
IT Coordinator

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MESSAGE FROM MAGAZINE TEAM

It has been rightly said by Alfred Mercier, "What we learn with pleasure, we never forget." Keeping this in mind, we present to you this edition of ReLU which showcases the activities, both academic and extra-curricular, conducted by the IT department throughout the academic year in a way that will pique the interest of the students. Our theme this year is "Artificial Intelligence and Deep Learning" which are the trending areas of developing technology in the industry. Bringing ReLU to life has taken a great amount of effort on the part of the magazine team, students of all semesters as well as the faculty of the department and we are extremely grateful for the guidance and support given to us. It has been a wonderful experience working together to achieve this goal and we sincerely hope you enjoy this edition of ReLU. Happy reading!

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Human Computer Interaction Present & Future Trends

- Dhanashree Hadshul

Computer Interaction can be viewed as two powerful information processors, which are computer and human, that attempting to communicate with each other through a narrow-bandwidth, highly constrained interface. Human-computer interaction (HCI) is the study of how people design, implement, and use Interactive computer systems and how computers affect individuals, organisations, and society. This encompasses not only ease of use but also new interaction techniques for supporting user tasks, providing better access to information, and creating more powerful forms of communication.

Human Computer Interaction can be implemented with distinctive importance are mentioned below –

- Computer Science – For application d sign and engineering.
- Psychology – For application of theories and analytical purpose.
- Sociology – For interaction between technology and organisation.
- industrial Design – For interactive pro ucts like mobile phones, microwave oven, etc.

1. Screen and Keyboard, Text-bases UI computers.This is the very first generation of this kind of machines, which is familiar by most people. Through monitors, people can read the outputs from computers. The input is captured by keyboards, which is the only way. And the "Computers" act in the middle to carry out calculation or simply do the tasks given. Maybe due to the "ugly" appearance, people hardly treat it as a nice "friend" rather than a machine.

2. Mouse, GUI computers. We must admit it is a great invention to have "mouse" in humans' history. What accompanies that is the "lovely" Graphical User Interface. By then, we can say computers have really put on a nice "mask" to act as humans' friend. Thisis also when computers really took off as a popular technology and came into our daily life.

3. Human Body as a controller Gone will be days when you moved that mouse when playing an online game. The idea today is to let the player engage in the game with her entire body and direct on-screen motion with actual physical movement. Microsoft Kinect (Kinect - Windows app development) was a breakthrough in this regard. Leap Motion with its extensive list of hardware and software devices, sensors is contributing to hand

4. Virtual Reality: VR and AVR are everywhere these days, and their applications in marketing, product design and development, simulation etc. are unlimited. Examples: a) Hyundai's mass rally with simulated driving to give customers an experience. b) A company called Quantas is working on virtual reality goggles for first class passengers on flights to visit virtual destinations.

5. Eye Tracking, good-bye mouse The idea is to let your eyes make choices of movements and clicks on screen as opposed to your hand/fingers. Just wait and see where marketers take this (I'd be very annoyed if I was staring at a random ad and it opened unnecessarily!)

1.HAPTIC RETARGETING The problem: In VR, objects might look real, but they don't feel real. So Microsoft Research came up with a system using a very limited number of physical props to take the place of a nearly infinite number of virtual objects. They call it "haptic retargeting," and it works by tricking a VR user into thinking they aren't interacting with the same prop over and

over again. It does this by skewing a user's virtual vision so the object they think they are reaching for in-game is the physical prop they already interacted with in meatspace.

2. DEXTA HAPTIC GLOVES Speaking of haptics, another company with a very different plan for allowing people to "feel" virtual reality is Dexta Robotics, which has come up with a set of exoskeletonstyle gloves that lets VR push back. Upon entering virtual reality, Dexta's Dexmo Gloves simulate feedback by locking and unlocking finger joints when you try to touch digital objects with varying degrees of force. Using this relatively simple technique, the gloves can simulate haptic sensations such as hardness, springiness, softness,and more.

3. PRE-TOUCH What if your smartphone could read your mind? That's what Microsoft Research is trying to do with "pre-touch sensing." It showed off a new type of smartphone that can detect how it's being gripped, and also detect when a finger is approaching the screen. This could open up some amazing new UI possibilities in mobile by improving the precision of tapping on small on-screen elements,anddynamically adjustingwhat on-screen interface a user sees according to how they're holding their device–or if a finger is approaching the screen.

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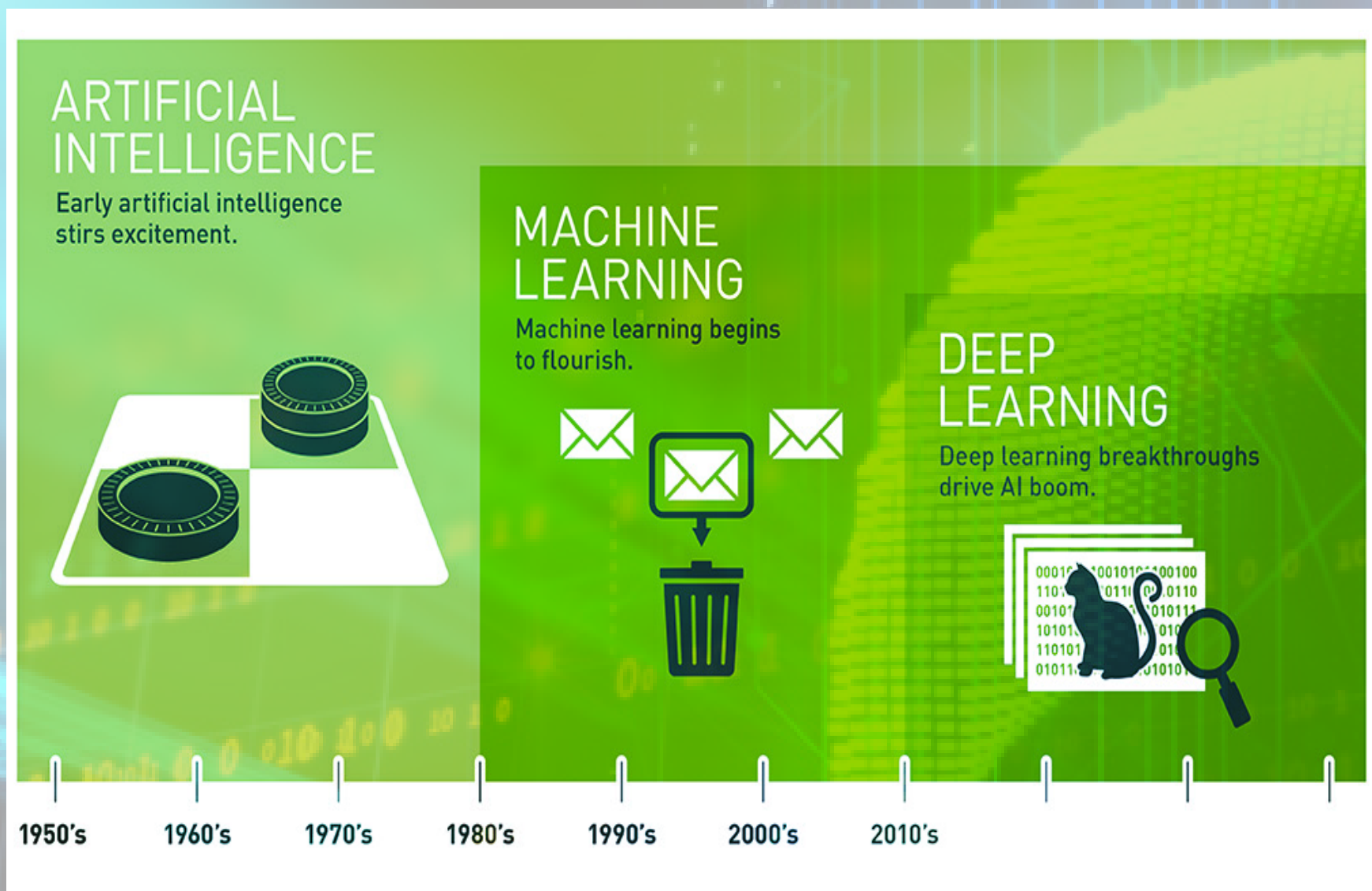
4. PAPERID What if paper could be just as interactive as a touchscreen? Researchers from the University of Washington,ADisney Research, and CarnegieA Mellon University have figured out how to do that, giving a piece of paper the ability to sense its surroundings and respond to gesture commands, as well as connect to the Internet of Things. It's called PaperID, and it uses a printable antenna. Imagine a page of sheet music that can detect the motion of a conductoAr's wand being waved over it.

5. SKINTRACK A smartwatch screen just isn't big enough to allow many interactions. You have room to tap or swipe the screen, but that's pretty much it. SkinTrack is a new technology developed by the Human-Computer Interaction Institute's Future Interfaces Group, which expands your smartwatch's "touchscreen" over your entire hand and arm–just by wearing aspecially designed ring.

6. MATERIABLE Materiable is the latest incarnation of Inform, a physical interface of moving "pixels" developed by MIT's Tangible Media Group in 2013. Materiable gives this existing Inform display the ability to mimic the tactile qualities of real-world materials, like rubber, water, sand, and more. Depending on the settings, flicking the surface of an Inform might make all of its pixels ripple, or quiver like jelly, or even bounce like a rubber ball.

7. HOLOFLEX Remember that bendable screen Co.Design covered a few months ago? Holoflex is the next generation of that screen: a flexible smartphone that you bend to interact with. What's groundbreaking about the Holoflex, though, is that its display is truly holographic. The Holoflex is capable of achieving this neat trick by projecting 12-pixel- wide circular "blocks" through more than 16,000 fisheye lenses.

8. SPARSELIGHT Augmented reality headsets like Microsoft's HoloLens allow wearers to see the physical and the digital at the same time, but the lenses they depend on have such small field of view that it's easy for the effect to be ruined. The same is true in VR, where the scene you're viewing often looks like it's at the end of a long tunnel. Microsoft's been thinking about this problem, and SparseLight is its solution. The idea is that you can augment the field of view in headmounted displays by putting cheap grids of LEDs in the peripheral of a user's vision. SparseLight technology can be applied to both virtual reality headsets and augmented reality headsets to increase immersion.



ARTIFICIAL INTELLIGENCE (AI), MACHINE LEARNING, DEEP LEARNING, AND COGNITIVE COMPUTING MEANT THE SAME THING ?

No, In actuality, consensus suggests that only two of those terms — AI and cognitive computing — are synonyms.

AI (and cognitive computing) is a broad category that involves teaching computers to think the way people think.

Deep learning is a specialized type of machine learning that uses a hierarchical approach. It's a set of algorithms — math — that has proven particularly good at solving certain types of computing problems that are difficult to define with explicit programming.

Machine learning is the subcategory of AI that involves teaching computers to get better at various tasks without being explicitly programmed; essentially, it enables computers to improve their performance without humans telling them what to do.

The name "deep learning" refers to the way in which these algorithms work, which is to process data through many layers. They take an input, create an output, and then use that output as the input for the next layer of learning.

Basically, deep learning mimics the way our brain functions i.e. it learns from experience. As you know, our brain is made up of billions of neurons that allows us to do amazing things. Even the brain of a one-year-old kid can solve complex problems which are very difficult to solve even using super-computers. For example:

• Recognize the face of their parents and different objects as well.

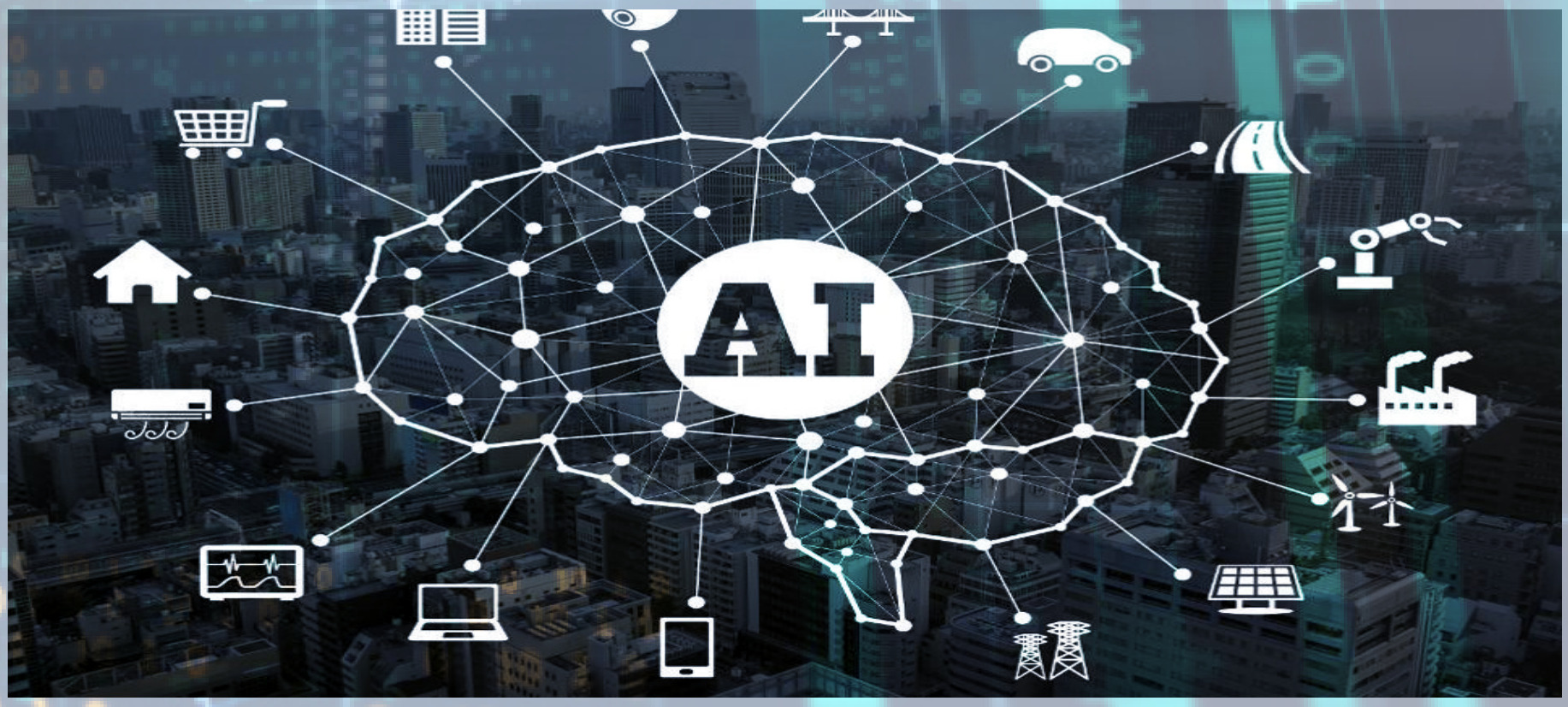
• Discriminate different voices and can even recognize a particular person based on his/her voice.

• Draw inference from facial gestures of other persons and many more.

Deep learning is "artificial neural network," or ANN. As the name suggests, these are computer systems that are roughly patterned after the human brain. The brain has lots of interconnected neurons that transmit signals to one another, and artificial neural networks have lots of interconnected nodes, also called neurons, that transmit data to one another. In the case of deep learning, those nodes are arranged in layers, with neurons passing information from one layer to another

The deep learning is used in natural speech processing, game playing, translation, recommendation engines, text mining, forecasting, and analytics.

-Poonam B. & Mukta N.



MOODLE

"User-friendly and secure open source e-learning platform"

- Mrs. Mukta Nivelkar & Mrs. Poonam Bari

ENJOY YOUR MOODLE Teaching Learning!!!Update yourself with new standard of Learning!!!!!!"

MOODLE (MODULAR OBJECT-ORIENTED Dynamic Learning Environment) is the most widely used free open-source learning management system in the world today. Moodle LMS serves hundreds of millions of educators and learning and development professionals to create and deliver online learning. So we have decided to customize Moodle- platform in our college to welcome and upgrade new era in teaching-learning process and also to bridge the technology gap between students and teachers.

OPEN SOURCE MOODLE SOFTWARE

Moodle is the open source LMS which the educational institutions, organizations use for providing online teaching-learning to the Users. Also Moodle LMS can conduct courses online, while providing teaching, learning and training. Moodle has varied usage in blended learning, distance education, flipped classroom and other e-learning projects in education and other sectors as well.

MOODLE SUPPORTS PLUGINS

Moodle Learning management system has over 500 plugins that can bring about social and collaborative learning. Plugins are nothing but a set of flexible tools, that allows the Moodle users to extend the core functionality of the software. All these plugins are maintained in the Moodle plugins directory for the Moodle user to use it as per his needs. Whenever there is an upgrade to the plugins, or there are some newly released plugins, RSS feed are set up for the users to regularly receive feeds on it. The plugins

are usually set up for new activities, new quiz question types, new reports, integrations with other systems and many more.

MOODLE UI IS SUPER EASY

The best part is you don't need to be a programmer to use Moodle LMS. No matter you are an administrator, course creator, educator or learner, using Moodle LMS will be easy experience for you. With its intuitive dashboard and a graphical user interface, teaching, learning and using Moodle LMS becomes easy. It's the consistency and coherent nature of the Moodle LMS UI that makes it Moodlish, while making it better than any other UI built for the same purpose.

FCRIT Moodle looks like following UI. Even we can think for more and better themes for Moodlein future.

MOODLE SUPPORTS E-LEARNING

Moodle LMS is SCORM 1.2 compliant. SCORM is essentially a set of e-learning standards that defines the way communication occurs between the content and the learning management system. It also paves a way that shows how courses outside the LMS should be authored for them to be able to talk to the LMS properly. Besides, Moodle learning management system version 2.1 and later versions also supports AICC content packages. IMS content packages can be exported and imported into Moodle. Lastly, Moodle LMS uses the External Tool activity to act as an 'LTI consumer', while can act as an 'LTI provider' using a plugin.

MOBILE COMPATIBILITY OF MOODLE

Moodle offers support to any handheld device which will gives comfort zone to learner to get access of their study material. The offering of mobile-based e-Learning by Moodle learning management system, makes learning-on-the-go easier for the users.

MOODLE EXTRA FEATURES

Moodle LMS comes with an array of resources, features and activities. Block elements like calendar, student activities and text activities like chat, forum and wikis, help learners socialize. Moodle LMS version 2.8 flaunts all the robust features like a new user interface that helps access the pages a user wants or needs quickly and efficiently. Besides, the user gets the provision to email documents and other important correspondence with an attachment directly to themselves.

ROBUST REPORTING AND ANALYTICS

Moodle LMS now helps the user keep track of all their upcoming events and appointments with detailed logging features. This feature also helps make the grade tracking process incredibly simple. The simplicity extends to the reporting feature in terms of organizing and averaging of the reports as specified and needed. The analytics feature of Moodle learning management system helps the admin get an insight into the progress of the learners, by ensuring that the objectives are being met. Through analytics, one can view trends of participation, submissions and other data, which can eventually assist educators to improve the e-learning experience. This would help vastly in increasing the learner information retention rates and thereby their successes.

MOODLE SUPPORTS INTEGRATIONS

To cite a few examples, Moodle integrates with video conferencing software like GoTo,Webex, Adobe Connect, CMSs like Joomla, Drupal, WordPress, CRMs like Salesforce, SugarCRM, Microsoft Dynamics, ecommerce portals like Shopify, collaborative tools like OneDrive and Dropbox. These integrations brings together Moodle LMS with other programs, so they function together as a system. Moodle learning management system can be integrated with endless varieties of programs/software to meet customized needs of the training department.

MOODLE SUPPORTS SCORM

Moodle learning management system can easily decode various SCORM learning objects. So, the next question that arises is, whether the LMS admin should design the courses to make it SCORM compliant or use Moodle's features for the same. The answer would depend on the how the LMS admin intends to use the courses. If his ultimate aim is to export the courses from Moodle LMS and use them in another LMS, then going the SCORM way would make things easier.

DEVELOPER COMMUNITY FOR MOODLE

Programmers and developers around the world are available that continuously work to improve the user experience for Moodlers.

"Enjoy Your Moodle Teaching Learning!!!Update yourself with new standard of Learning!!!!!!"

Why are phones moving-towards bezel-less?

- SACHIN GAIKWAD (sem 7)

A bezel is the name of the frame around displays, like your TV or smartphone. TV and computer monitor manufacturers have long been shaving down these edges to offer frame-less designs, and it looks like the smartphone bezel may soon become an endangered component as well. In the quest to give us bigger and better screens without creating clownishly huge phones, manufacturers have the bezel firmly in their sights.the screen-to-body ratio has been steadily climbing in many of the top new releases.

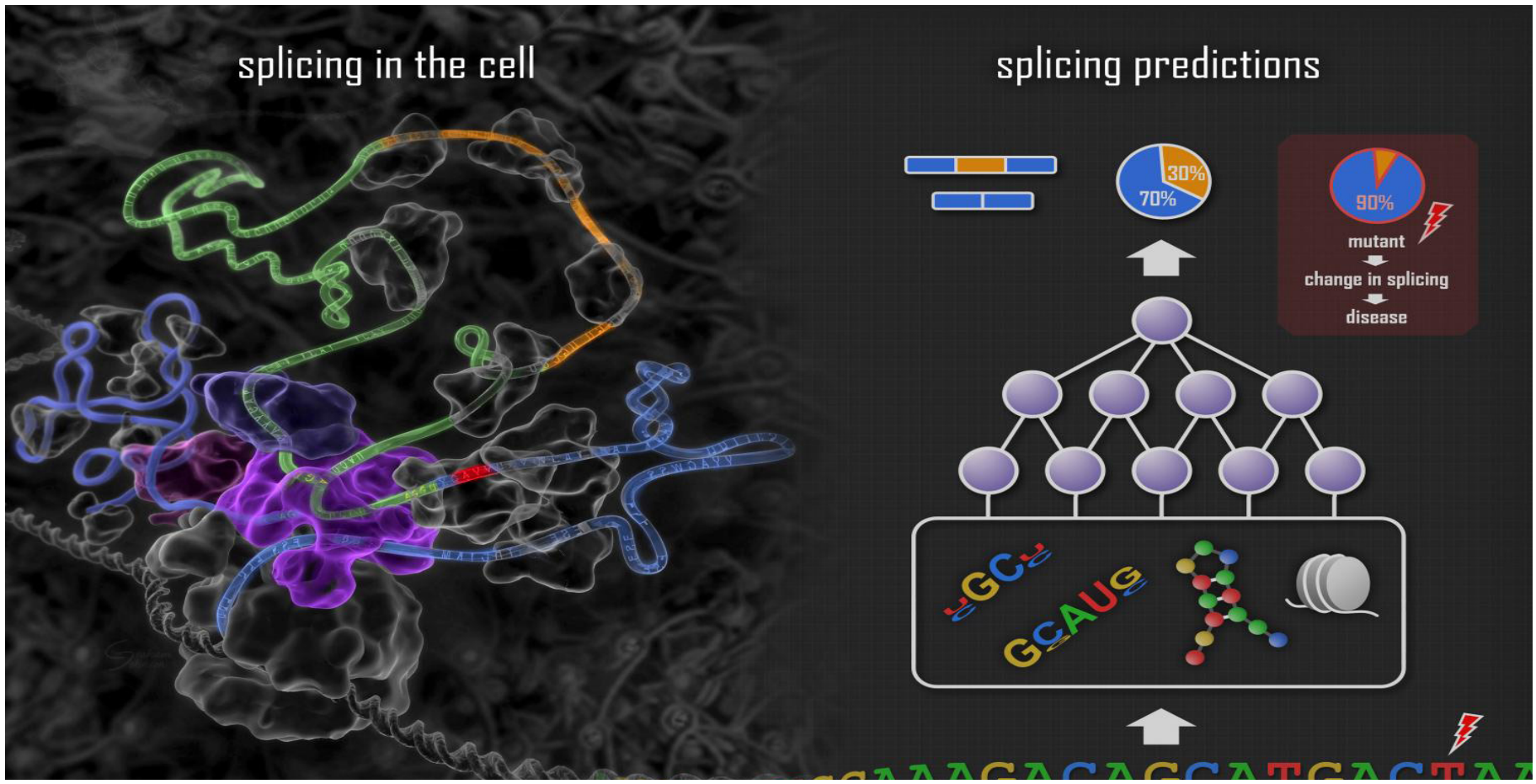
The idea of a bezel-less phone has been around in concept form for years, but it is only relatively recently that we've seen mass-market devices heading in this direction. The general trend towards bigger displays and smaller bodies.

The 'Narrow bezel' or 'Bezel Less' is widely used in Meizu and its Chinese competitors, includes Xiaomi, Oppo and Huawei. Since the strong growth of smartphone market in China, Apple starts make thinner bezel to tout as cutting-edge innovation and thus maintain sales volumes.

Oppo Find X

The huge 6.42-inch SAMOLED screen has virtually no bezels, just a slim chin at the bottom and the back is a shiny expanse with no camera bump in sight. It has the world's first stealth 3D cameras with Artificial Intelligence (AI) infused into it and a sliding structure that nearly mirrors the way a semi-DSLR camera works. you have a 25- megapixel front-facing camera and the unfortunately named O-Face facial recognition system facing you and a dual 16-megapixel and 20-megapixel rear camera. Under the hood, the Find X brings with it flagship level hardware including a Snapdragon 845 chipset, 8GB of RAM and 256GB of internal storage. The company has also announced a special Lamborghini edition model of the phone with 512GB of storage. Keeping the lights on the device is a 3,730 mAh battery with support for VOOC fast charging. It's an innovative approach that allows for a very minimalist design. Oppo promises the mechanism is hardy, but we do expect it to collect grime and it also means the phone isn't water resistant.

Launched at a price of Rs 59,990, the device announced for the Indian market today will be available for purchase starting August 3. However, for those looking to purchase it through Flipkart, they can pre-order it from the e-commerce website starting July 25.



DEEP LEARNING FOR CANCER DIAGNOSIS

- Ashi parihar (sem - 5)

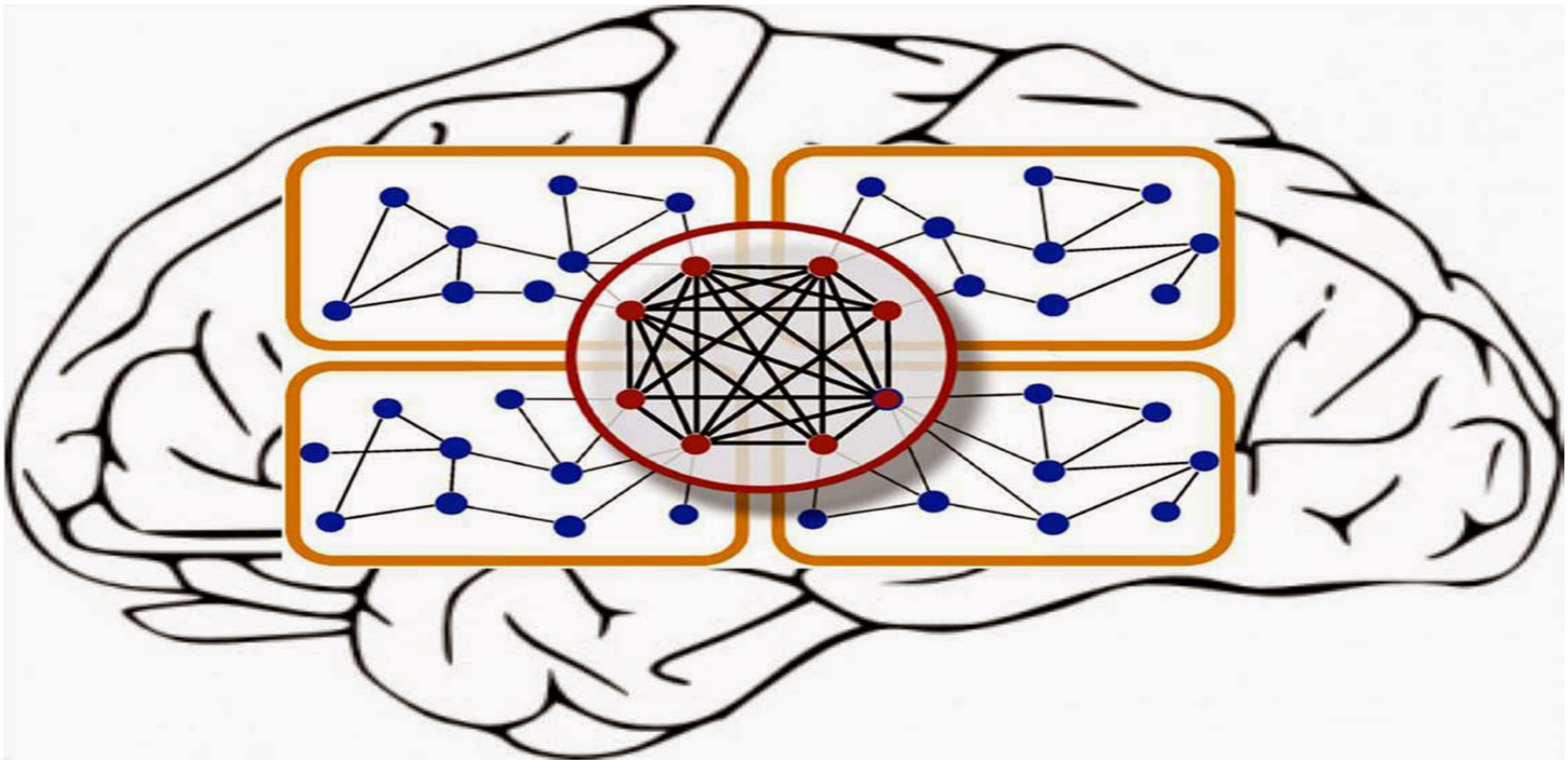
A team from Harvard Medical School's Beth Israel Deaconess Medical Center noticed a 2.9 percent error rate with the AI model and a 3.5 percent errorrate with pathologists forbreast cancer diagnosis. Interestingly, the pairing of "deep learning with pathologist" showed a 0.5 percent error rate, which is an 85 percent drop. Cancer is a leading cause of death and affects millions of lives every year. Its early detection could help to increase the survival of many lives in addition to saving billions of dollars.Deep learning (DL) is a member of the larger machine learning (ML) and artificial intelligence (AI) family. Deep learning has the potential to achieve good accuracy for the diagnosis of various types of cancers, such as breast, colon, cervical, and lung cancer. It builds an efficient algorithm based on multiple processing layers of neurons. However, the output (i.e. accuracy) of any deep learning model depends on multiple factors including, but not limited to, data type (numeric, text, image, sound, video), data size, architecture, and data ETL (extract, transform, load) and so on.

DETECTION OF LUNG CANCER AT MUCH FASTER RATE

"AI is suited for detecting cancers because there has been a vast amount of data being produced," said Dashan Gao, co-founder and CTO of 12 Sigma. 12 Sigma's technology is being tested in at least 35 hospitals in China, where doctors typically take a first pass on CT images using their eyes, then run them through the 12 Sigma algorithm. They often find cancer nodules that they missed during the eye test, resulting in doctors making quicker decisions to remove malignant nodules.

INCORPORATION OF DEEP LEARNING AND MEDICAL SCIENCE

Deep learning has a great potential to help medical and paramedical practitioners by Reducing the human error rate and the workload. Helping in diagnosis and the prognosis of disease. Analysis of complex data and further building a report.



ARTIFICIAL NEURAL NETWORK (ANN)

- AZHAR KHAN & CHANDRASHEKHAR PATIL

The first step towardsartificial neural networkscame in 1943 when Warren McCulloch, aneurophysiologist, and a young mathematician, Walter Pitts, wrote a paper on how neurons might work.They modelled a simple neural network with electrical circuits.

Computers would be so much more useful if they could do things that we don't exactly know how to do. Neural networks process information in a similar way the human brain does. The network is composed of a large number of highly interconnected processing elements (neurons) working in parallel to solve a specific problem. They cannot be programmed to perform a specific task.

Basic Structure of ANN:

The idea of ANNs is based on the belief that working of human brain by making the right connections, can be imitated using silicon and wires as living neurons and dendr ites The human brain is composed of 86 billion nerve cells called neurons. ANN is composed of multiple nodes, which imitate biological neurons of the human brain. The neurons are connected by links and they interact with each other. The nodes can take input dataand perform simple o perations on the data. The result of these operations is passed to other neurons. The output at each node is called its activation or node value. Each link is associated with weight. ANNs are capable of learning, which takes place by altering weight values.

ANNs might, in the future, allow: robots that can see, feel, and predict the world around them improved stock prediction common usage of selfdriving cars the composition of music self-diagnosis of medical problems using neural networks, etc.

Advantages

- High Accuracy: Neuralnetworks are able to approximate complex nonlinear mappings
- Noise Tolerance: Neuralnetworks are very flexible with respect to, incomplete, missing and noisy data
- Ease of maintenance: Neural networks can be updated with fresh data, making them useful for dynamic environments

Disadvantages

- Poor Transparency: Neural networks operate as "blackboxes". Trial-and-error
- design: The selection of the hidden nodes and training parameters is heuristic.
- Neural networks lack classical statistical properties.

FINTECH

- Geo Mukkath(IT-7)

" You don't have a clue where your money is. See, once upon a time, you could walk into your bank, and then they'd open the vault and point to a gold brick. Not anymore. Your money is nothing more than a few photons of energy travelling through a massive network of fiber optic cables. Why'd we do it ? We did it to make it go faster. Because your money better be fast. Faster than the other guys"

Banking is one of the key institutions of our society. Yet how many of us really enjoy our banking experience? When was the last time you went to your bank and felt innovation in the services they provide? In-fact,the only breakthrough in the world of Finance as far as technology isconcerned was the invention of the ATM and probably the debit/credit cards. Banking experience is mundane and very much mainstream for most of us. Yes, there are various technologies in thebackground, yet only a few grabouratten tion. Somewhere around 2016 the NPCI (National Payments Corporation of India) launched the BHIM UPI, which has is one of the major public financial technology platforms.

The fintech start-up space is re-engineering the way we think about money. Some of the most innovative start-ups include Sofi, Wealthfront, Robinhood etc. India too is emerging as a market for fintech start-ups, some of them include Zerodha, Fyers, FreeCharge etc. Almost every single service that banks come with is made online. All of these services make banking and handling finances accessible to the general public.

We have created many financial products and we have been successful in integrating each with technology. We haveconverted entire banks to an app on the phone. We have made financial markets ac Billions of dollars are transacted everyday across the globe and national currency are exchanged with virtual ones, millions of times. The good old Excel is still a popular tool among financers. With the dawn of the smart phone, anyone anywhere can invest or apply for loans. The way we manage and exchange money is changing at a lightning-bolt rate. Companies are adapting to the changing environments in the finance sector. Cashless economy is a reality in China and I don't see that as a distant future in India. So get your phonesready, scan and pay !

TECH & TRENDS IN 2018

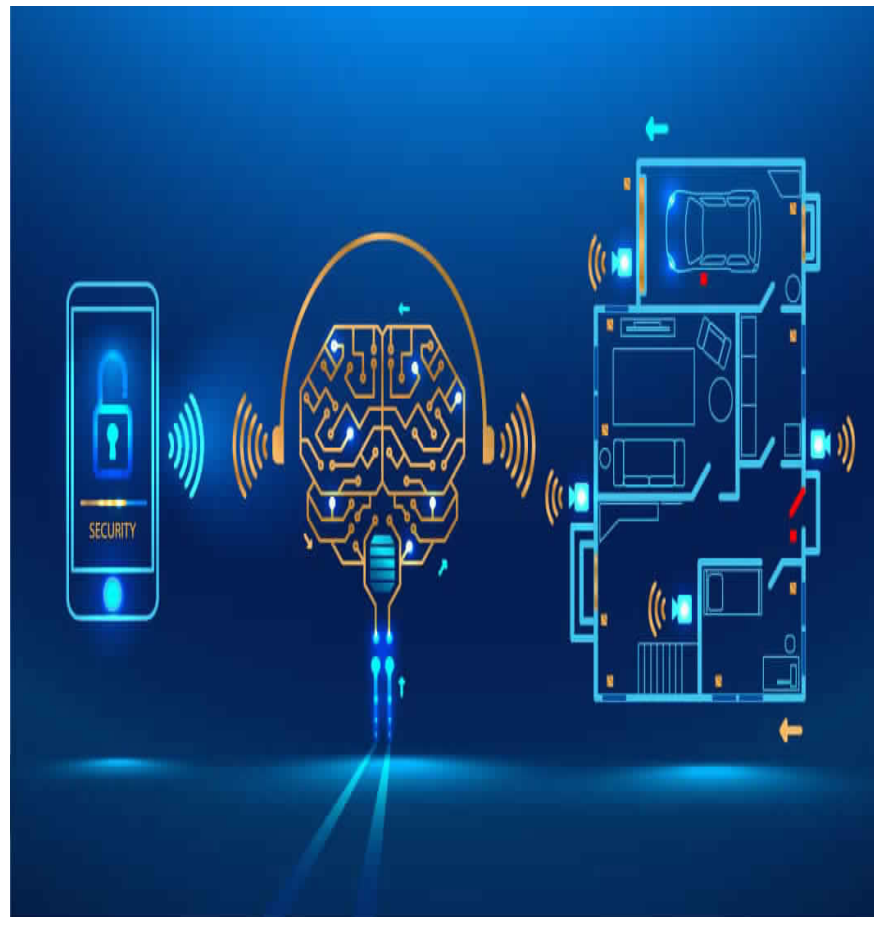
- Kasturi Kadam & Jane Gabrielle (sem 5)

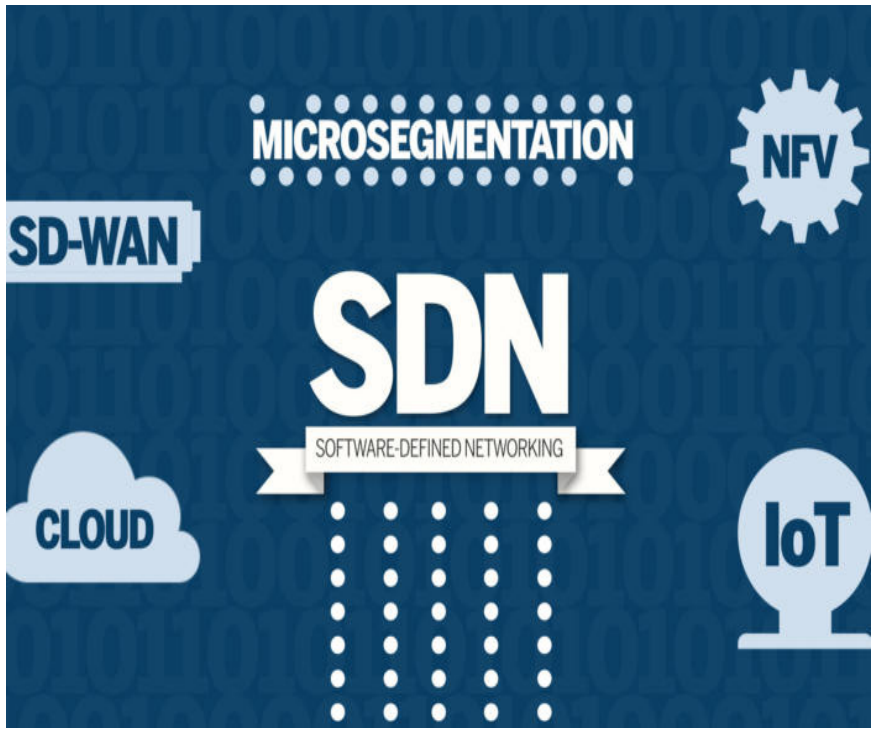
"Enterprise IT undergoes a transformation with the integration of futuristic technologies like IoT and AI. The article talks about the top five tech trends that are going to shape enterprise IT in the year 2018."

1.IoT will get AI and Robotics Advantage

AI and machine learning, after passing through various stages of evolution, are ready to drive innovation across various industry sectors and IT arena. As per reports, it is said that by 2021 infrastructure would use cognitive development and AI in one or the other form to improve productivity at a reduced cost.

IoT will play a major role in the organization in 2018. Now, the challenge is to integrate the device management into the existing IT infrastructure without causing disruption. Here AI and robotics come into the picture. Both these technologies would offer intelligent automation to manage IoT devices efficiently.





2.Software Defined Networking (SDN) is Ready to take off

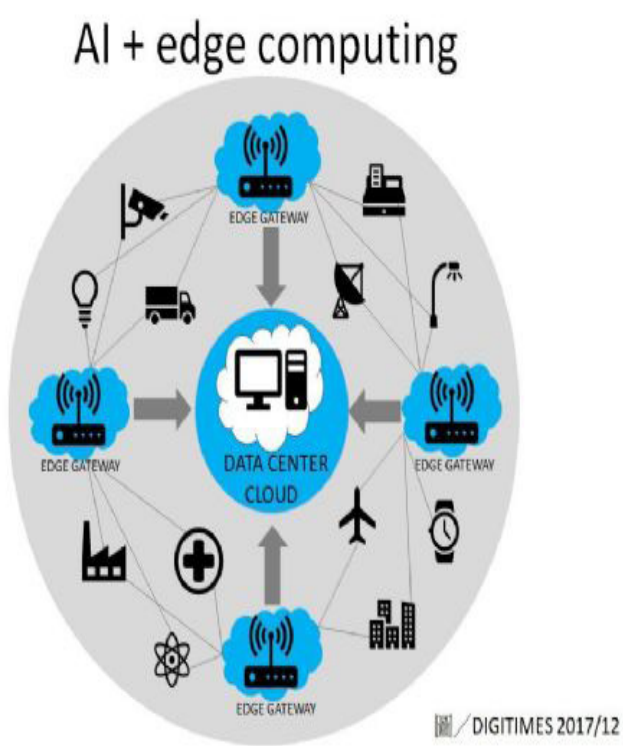
As the SDN advances, companies around the globe have started exploring the possibilities of virtual network services. We can see the broader adoption of SDN in the near future. The software defined model will take charge of entire IT infrastructure soon. Also, the application aware networking concept will play a major role in managing the performance, functionalities and security of apps in the complex digital world.

When the cloud, 5G and IoT technologies will converge, they will give rise to both machine learning and SDN solutions. They will improve the overall experience of consumers and enable expansion of B2B model.

3.DevSecOps Approach will Prevail

Security concerns loom larger than before due to increasing incidences of cyber attacks. Companies may need to consider the security while adopting the DevSecOps approach in IT approach operations. The DevSecOps approach addresses this requirement and will gain strength in 2018. There is no exaggeration in predicting 2018 as the year of DevSecOps because security teams, which are equipped with the next-gen IT security tools, rely heavily on the insertion of security in the development.

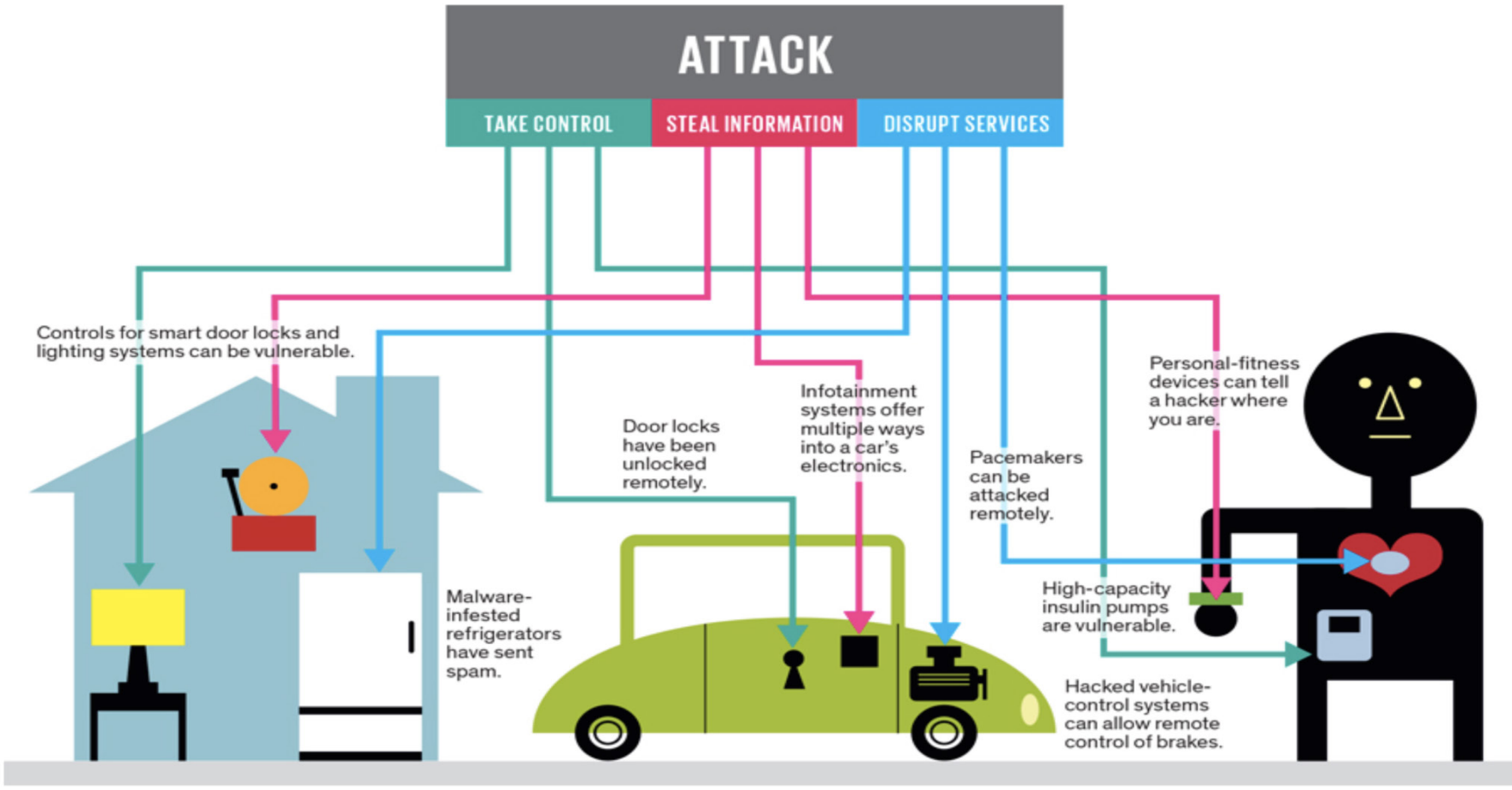
As we attempt to prevent high profile data breaches and malware attacks on the business IT system, the nascent DevSecOps approach will become more important in the near future.



5.Edge Computing is Here to Stay

Low latency and high throughput are much in demand for high-end, edge applications. It gives rise to edge computing. Let's take an example of a self-driving car to understand the importance of edge computing. A self -driving car may need a real time computation to take direction -based judgements. It is only possible when a car can access a server and the computation completes in milliseconds. This type of latency requires edge computing architecture.

We can apply the same principle to enhance the workload management capabilities at the workplace. Companies can leverage the highly distributed edge computing network in 2018 and beyond to increase scalability and productivity.



ARE IOT DEVICES SECURE?

- RANJAY BOSE(IT-5)

"Security issues may represent the greatest obstacle to growth of the Internet of Things"

IOT (Internet Of Things) is a term used to describe the millions of devices that have sensing capabilities and are also able to transfer data over a network. It includes everything from fitness bands and smartphones to smart home appliances, factory control devices, medical devices and even automobiles. A lot of discussion has taken place regarding the hacking of these IoT devices and how they can be made immune to external attacks. Unfortunately, a lot of these devices are still vulnerable to cyber attacks and data theft. Many of these devices are shipped with outdated firmware. Failure to build in security can have broader consequences, for example, consider the Dyn cyberattack which made many popular websites like Netflix, Reddit, etc For over 25 years, cybersecurity has been a critical focus for large enterprises, where it has only recently become a focus for most engineers building embedded computing devices. "Experience is the best teacher, but the tuition is high", or so goes the saying. Rather than learn all the lessons by experience, embedded engineers can take a page from the enterprise security playbook. Anyway, IoT companies need to seriously work towards making their devices more secure. As consumers, we too should educate ourselves about IoT devices and take advantage of any security protection the products may offer. Security must be considered early in the design of a new device or system. Support for secure boot or device tamper detection requires specific hardware capabilities, so this capability must be considered prior to that decision. Since many embedded devices are deployed outside of the standard enterprise security perimeter, it is critical that security be included in the device itself.

E-WASTE: TACKLING INDIA'S NEXT BIG WASTE

- SERVINA BARDESKAR (SEM 5)

HIGHLIGHTS

- India generates about 1.85 million tonnes of e-waste annually
- India ranks fifth in the world among top e-waste producing countries
- 95 per cent of India's e-waste comes from the unorganised sector

"The unorganised sector accounts for handling over 95 per cent of e-waste generated in India and it is not surprising that they are not very adept at it. Most of the waste is dumped in rivers, lakes or canals, causing irreparable damage to the envi-

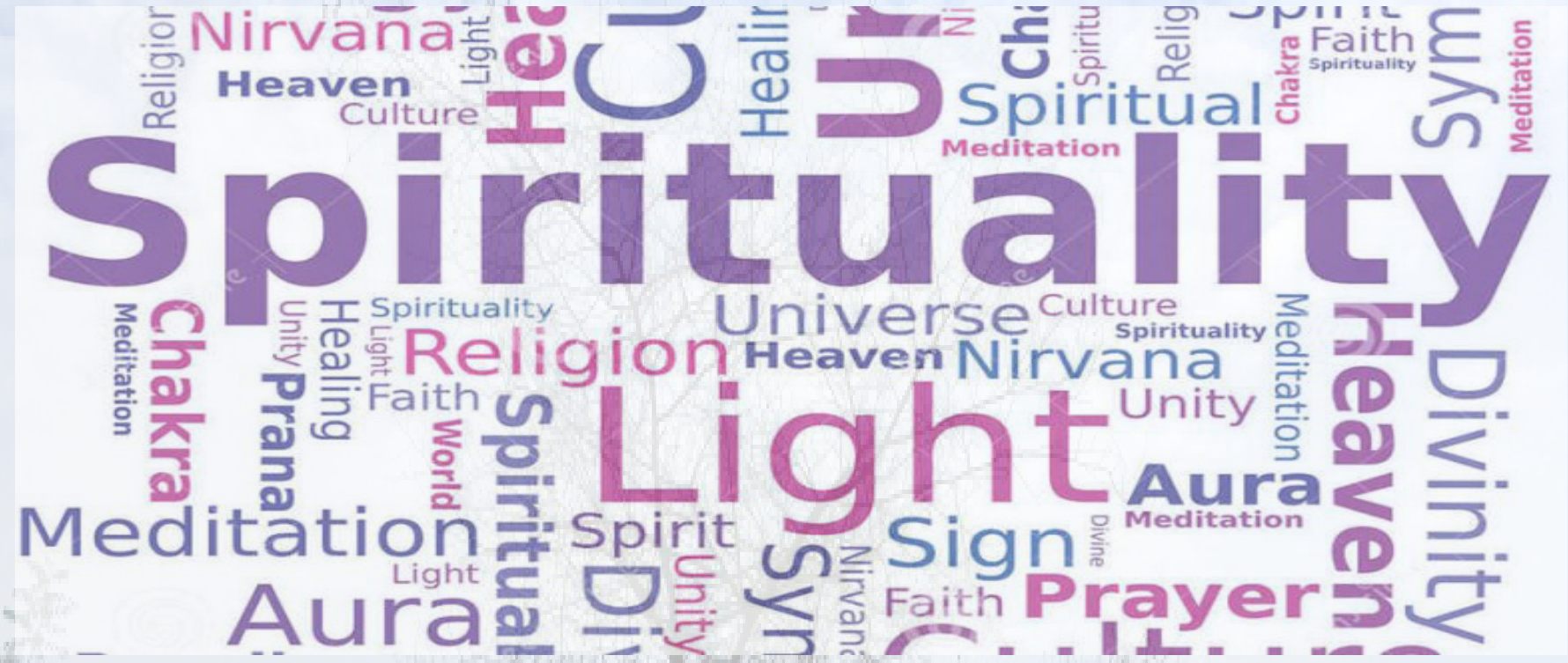
"E-waste is also sold in the market to scrap dealers who dismantle it instead of recycling. Dismantling e-waste products releases further toxic emissions in the air, causing further pollution"

"E-waste recycling is a concept barely existent in India. As a result, the waste generated is often dumped in rivers or dump yards without proper recycling or treatment. This is hazardous on various levels for both the environment and personal health"

"E-waste recycling is a concept barely existent in India. As a result, the waste generated is often dumped in rivers or dump yards without proper recycling or treatment. This is hazardous on various levels for both the environment and personal health"

A CONVERSATION BETWEEN MASTER AND DISCIPLE ON SPIRITUALITY AND MATERIALISM

- MR. SURAJ KHANDARE



Spiritual Master said to his disciples, "All of you will write your desires on a piece of paper and keep it in a piece of cloth."

Everyone wrote their desires and then the master asked them to read them aloud and then offer them to the Divine.

Someone said, "I desire World Peace". Someone said, "I desire the well-being of Mother Earth". Someone said, "I desire Peace and Spiritual Freedom" and so on. However, there was one disciple who said, "I want to be a multibillionaire."
As he read his desire, the disciple felt embarrassed as his desire was materialistic as compared to world peace, well-being of mother earth and spiritual liberation.

He said to the Master, "I don't feel good. I don't belong here. I still have material desires. Isn't spirituality the opposite of materialism?"
The Master replied, "We live in a material world. The human form is as material as it gets. We survive on material elements, and when material elements are abundant and pure we increase our chances of survival and spiritual evolution. When the human body suffers, we dim our chances of spiritual empowerment. Renunciation was a spiritual journey of different era. In today's times, to even keep your body in a 'spiritually receptive' form, you need knowledge, healthy food, comfortable living and a negativity-free environment. In our times, all this is no longer free.
The disciple said, "There are many ashrams in India where one can give up worldly ways of living and lead a life of service." To this the Master replied: "And who do you think brings food to the ashram? How does the electricity light up the ashram in the night? And what about the other necessities? Someone is paying for all those, isn't it? So there is someone whose prayer of being a millionaire answers the disciples' prayer of serving his Master and the Lord!"From this story, we can learn that: Spirituality and materialism both seek happiness. Spirituality seeks happiness within; Materialism seeks happiness without.

Spirituality teaches us to aspire for a better life, a more illumined life. Materialism teaches us to desire more material goods and material wealth.

Spirituality teaches us to love our fellow men. Materialism teaches us to love our material wealth.

Spirituality does not compare. Materialism is subject to constant comparison.

Spirituality takes the help of material progress but is never feverish about materialistic desires.

IF FCRIT WAS HOGWARTS

- SAUMYA PUROHIT (sem 3)

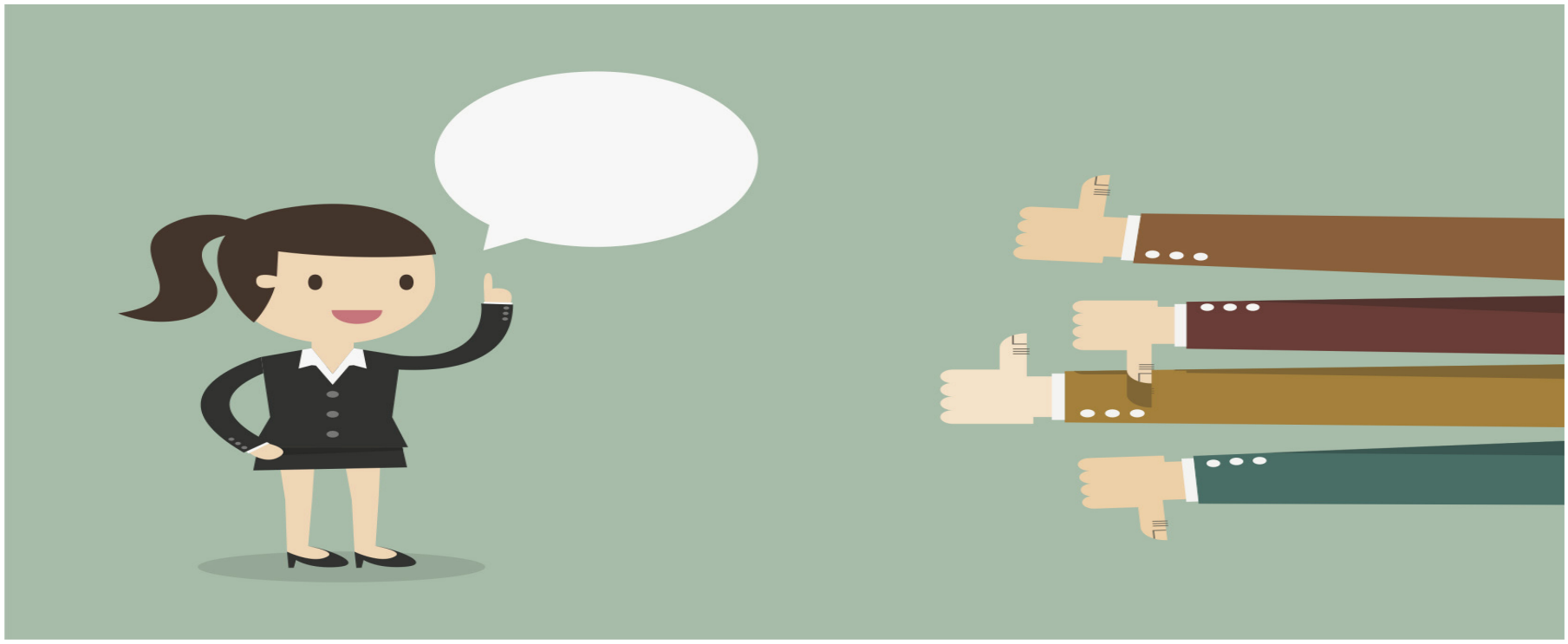
They would say what is it so remarkable about a story that makes it as true as anything real for its believers. Misty dreams often turn into distinct stories. A great story drives people to live better. Regular disappointments given by high hopes are retaliated by the vagaries of fiction. Some would even forechoose being alive in the bits of tales forever than to be actually living briefly. Who doesn't anticipate a heroic life sojourned with a passionate friendship, true love, tough sacrifices, and the freedom to live fiddle-footed. Such an elysian story was actualised by JK Rowling, imprinting our robust imagination with exactly what it needed to feel this right. She surely did win millions of hearts.

The story managed to put the unsatisfying real life at hindsight while we were just kids and again, rescuing the adolescents, making them dream of waking up one day to innumerable owls forcing the Hogwart's acceptance letter through every nook and corner of their houses. After all the wild dreams who would be satisfied with a normal college life? The dull and boring day of orientation reflected the future of rest of the days that were to come. Coming to the college with ID proofs hung round the neck could have been Gryffindor's password "Caput Draconis" which was to be told to the fat lady who would forcefully entertain with death growls. Malfunctioned mikes used for making announcements in the morning assembly would have been replaced by wands resting on the announcer's neck amplifying their feeble voices.

The moving staircases would have been a great excuse for losing track to the classroom and being late. Projectors would have been replaced by Professor Dumbledore's "Pensieve" where you could just swim through the professor's wisdom and get the best out of it playfully. Instead of spending ages fastening the thread to lodge the journal sheets to the hardbound properly, using a spell like "its not as easy as eating bread, so please tie the thread" would have completed the task in the blink of an eye."Wingardium Leviosa" could have made so much easier for the humanities' professors to confiscate cellphones being used by students in middle of a lecture. The college events "FACES" and "ETAMAX" would have been replaced by thrilling near death "Goblet of fire " having tournaments demanding the participants to steal a fire breathing dragon's egg.

The football matches would have had "Quidditch" in place with "bludgers" bewitched to fly around and try to knock the players off their brooms and match ending with the seeker finding the beautiful "golden snitch" worth 150 points. Just to hope the victory cup shouldn't be a portkey to "The One Who Should Not Be Named". The dining cafeteria with a leaking roof and a gloomy dark ambience would have been a roof spelled to imitate a sky full of stars with floating candles all the way down. With a quick round of claps by the headmaster delicious food would be adorned on the tables.

Dormitories with fireplaces to keep one warm during snowing winters is another fancy thing. Punishment for breaking the rules would have been searching for a dead unicorn in dark woods at midnight far more thrilling than solving previous year's MU question papers five times. Struggling to find a place to stand in Mumbai locals let aside for sitting everyday would have been less challenging with "Platform 9 ¾". The philosophical quote "Help will always be given at FCRIT to those who ask for it" would have made so much easier to get through KTs and finding a campus placement. The "Hogwart's School Of Witchcraft And Wizardy" will always influence the way we want our lives to be. Thanks for exhilarating our imagination and showing us the power of love.



THE JOY OF GETTING PLACED IN A DREAM COMPANY

-CARISSA DSOUZA (sem 7)

The past few days have been a blur with the abundance of congratulations, good wishes and blessings from teachers, friends, family and loved ones. Getting placed at Shell, Bangalore with a package of 10 LPA, feels like a dream come true! To know, in that one moment when your name is called out from the list of selected candidates, that you have made every person who has guided and moulded you proud is a feeling so amazing that it cannot be put into words. Moreover, I wish that everyone I know gets a chance to taste success like this at some point in their lives.

Keeping this in mind, I would like to share with you a few pointers given to me by teachers and friends as well as those learned by experience, on doing well in the interview round:

Prepare well for the interview. Write down and practice saying the answers of certain questions, for example: Tell me about yourself. Do a lot of research on the company that is interviewing you and prepare thoroughly for the technical interview. Most importantly, do not be late.

Dress your best (formal attire). This is essential as you will be judged on your appearance and the way you carry yourself right from the moment you walk in.

Keep calm. This may be your first interview but it definitely won't be your last. If you find yourself too overwhelmed, imagine it to be a viva exam or a mock interview. Keeping a relaxed, calm mind will help you do your best.

Know your resume. Your resume is said to be the 'question paper' for your interview. You must be able to answer any questions asked with respect to the same. Understand the question well. Request for a clarification, if the question is not clear to you. Think before you answer. Whether the question asked is technical or nontechnical, request the interviewer for a few seconds to think of the best possible answer, if you aren't too sure.

Admit it if you do not know something. One does not have to know everything to clear the interview round. Tell the interviewer politely that you do not know the answer of the question asked. Do not attempt to make up answers on the spot.

Check your tone of voice and body language. Keep your tone low and humble and sit comfortably. You may gesture by hand as you speak but do not overdo it.

Answer precisely and to the point. Quality is better than quantity, when it comes to impressing the interviewer. Always make eye contact. This will make the interviewer realise that you are alert and paying close attention to everything that is going on at that point of time.

Stick to your ethics. The interviewer may test your ethics by giving you various possible situations that arise in the corporate world. Always give answers that seem ethically correct to you.

If the interview does not go well, it is not the end of the world! Understand what went wrong and learn from the experience. If possible, practice interviewing your friends and vice versa prior to the interview to gain a better understanding of the same. Do not be disheartened and remember, what's meant for you will always come to you!

"All the best for a bright, successful career and a happy future!"

Programming Terms

E	C	D	E	V	R	E	S	E	R	N	T	C	C
N	I	S	L	A	N	O	I	T	I	D	N	O	C
R	L	G	T	T	C	T	B	P	Y	T	H	O	N
S	T	A	T	I	C	M	N	F	L	O	A	T	I
N	G	T	S	B	G	H	D	E	C	I	M	A	L
O	N	H	S	O	O	T	I	I	I	T	O	U	R
I	I	I	E	R	T	I	S	M	I	N	U	N	U
T	T	N	C	C	I	R	L	G	L	I	S	T	L
C	N	K	O	I	N	O	E	O	E	J	P	I	E
N	E	I	R	M	P	G	N	N	O	R	A	L	S
U	M	N	P	E	U	L	R	I	I	P	I	V	O
F	M	G	A	S	T	A	E	N	T	L	S	T	A
R	O	P	O	O	L	E	T	I	N	I	F	N	I
I	C	E	O	N	F	E	G	A	U	G	N	A	L

INFINITE LOOP
PROCESS
STATIC
RULES
INPUT
LANGUAGE
DECIMAL
JAVA
ALGORITHM
CONDITIONAL
RESERVED
UNTIL
COMMENTING
FUNCTION
THINKING
PYTHON
LOOPS
MICROBIT
PRINT
FLOAT

SUDOKU

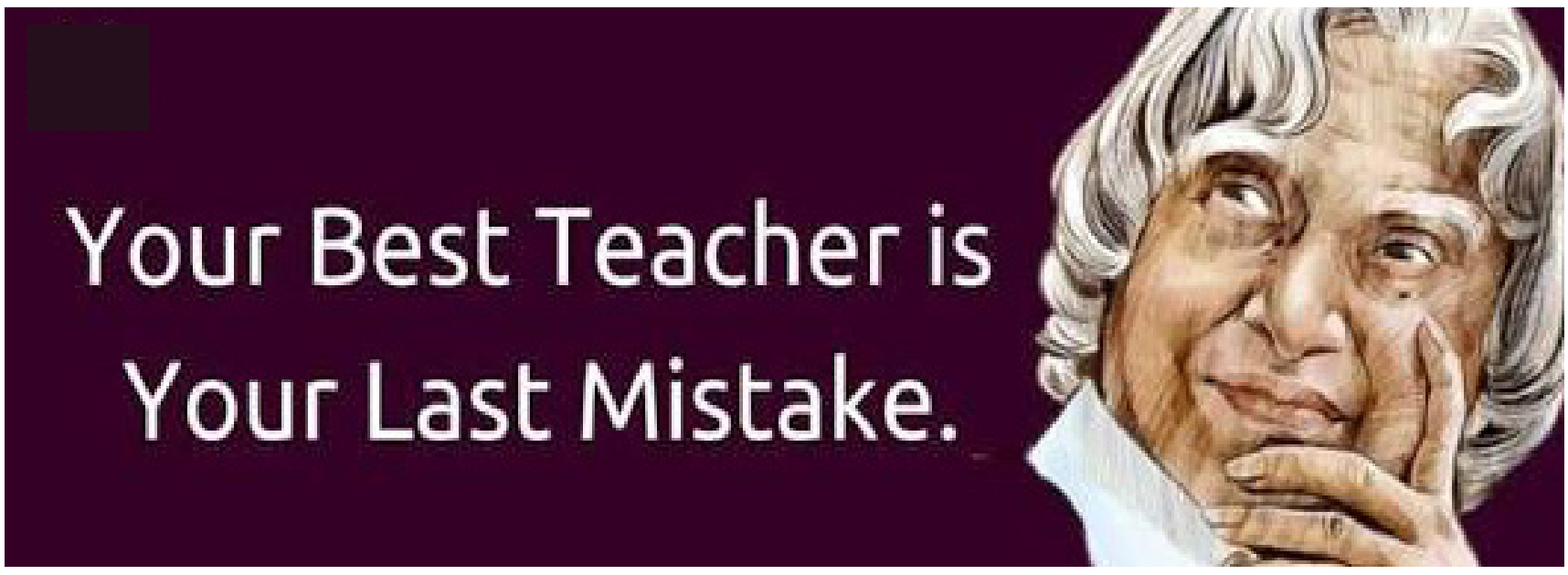
6	5	9		1		2	8	
1				5			3	
2			8				1	
			1	3	5		7	
8			9					2
		3		7	8	6	4	
3		2			9			4
					1	8		
		8	7	6				

6	5	9	3	1	4	2	8	7
1	8	7	6	5	2	4	3	9
2	3	4	8	9	7	5	1	6
4	2	6	1	3	5	9	7	8
8	7	1	9	4	6	3	5	2
5	9	3	2	7	8	6	4	1
3	1	2	5	8	9	7	6	4
7	6	5	4	2	1	8	9	3
9	4	8	7	6	3	1	2	5

FACULTY ACHIEVEMENTS

PAPERS PRESENTED / PUBLISHED

SR.No	NAME OF FACULTY	NO OF PUBLICATION			
		National Conference	International Conference	International Journal	Total
1	Dr. Hariram Chavan	02	11	2	15
2	Mrs. Lakshmi Gadhikar	02	08	08	18
3	Mrs. Archana Shirke	10	16	04	30
4	Mrs. Trupti Lotlikar	04	09	08	21
5	Mrs. Dhanashree Hadsul	09	08	04	21
6	Mrs. Parimita Das	04	04	04	12
7	Ms. Mukta Nivelkar	03	05	03	11
8	Mrs. Poonam Bari	01	07	02	10
9	Mr. Anand Pardeshi	01	06	05	12
10	Mrs. Kalpana Wani.	03	09	06	18
11	Mrs. Smita Rukhande	02	02	07	11
12	Mrs. Rupali Deshmukh	02	03	09	14
13	Mr. Suraj Khandare	03	01	-	04
14	Ms. Jaya Gupta	00	03	01	04



STUDENT'S ACHIEVEMENTS

Sr No.	Name of students	Nature of activities	Recognition/ Award received
1	Harshit Rai Vishwas Singh Vinay Vishwakarma	Participated in "INNOVATION 2018- National Level Project Competition", conducted at SIES Graduate School of Technology on March 16, 2018	2nd
2	Harshit Rai Vishwas Singh Vinay Vishwakarma	Participated in "Inter-Collegiate Hackathon" at Fr. CRIT, Vashi on 10th -11th February 2018.	2nd
3	Ashutosh Malla	Participated in "Code Combat" held in Technicia 2K18 at Amity University , Mumbai on 25th January 2018.	1st
4	Tanvi Zemse Pranita V. Ansel F. Alizabeth James	Participated in "1st International Conference on Recent Innovation In Engineering and Technology", held on 22nd -23rd March , 2018 at Dr. D Y Patil School of Engineering & Technology, Pune.	Best Paper Award
5	Nisarg Prachi Siddharth Jaslin	Participated in "1st International Conference on Recent Innovation In Engineering and Technology", held on 22nd -23rd March , 2018 at Dr. D Y Patil School of Engineering & Technology, Pune.	Best Paper Award
6	Vikas Maurya Ashwin Saurav Shaw Omkar Gaikar	Participated in "Inter-Collegiate Technical Paper Presentation" at Fr.CRIT,Vashi on 10th February 2018.	2nd

PLACEMENT (2017-2018)

Sr. No.	COMPANY	Eligibility Criteria	STUDENTS PLACED	PAY PACKAGE
1	TCS	>=58%(6.55)	21	3.36
2	XORIANT	>=55%(6.75)	2	4.5
3	L&T INFOTECH	>=55%(6.25)	4	3.3
4	INGRAM	>=55%(6.25)	6	3.8
5	NSEIT	>=55%(6.25)	2	3.5
6	SANKEY SOLUTIONS	>=55%(6.75)	1	3
7	HSBC	>=55%(6.75)	1	7
8	Zeus	>=55%(6.75)	1	4
TOTAL			38	4.05

YOU CAN'T HAVE A BETTER TOMORROW IF YOU'RE STILL THINKING ABOUT YESTERDAY.

TOPPERS

Papers Presented / Published By Students

Year	National	International	Journal	Total
2017-2018	5	12	1	18
2016-2017	5	11	5	21
2015-2016	1	13	1	15

SUMMER PROJECT WINNERS

Rank	Name	Topic
1	Ranjan Bose	DOS Vulnerability Tester
	Rashmi Kadwani	
	Achyut Morbekar	
	Joshua Pereira	
2	Sneha Singh	Android Application For Car Parking
	Aadya Singh	
	Mehtaab Chougle	
	Nandini Sharma	
3	Purvesh Jain	Android APP For Disable
	Saurabh Amrutkar	
	Ashwin Thomas	
	Vikas Maurya	

CIBA GRANT FOR EXPLICIT CONTENT CENSOR (ECC)

| Harshit Rai | Vishwas Singh | Vinay Vishwakarma | Lalit Sinnarkar |

The proposed software will be capable of recognizing explicit contents. This software aims to create a safe environment for kids by exposing only relevant contents and blocking any type of obscene content.

Allocated Resources :

Processor: Intel Core i7-8700
RAM: DDR4-16GB
Storage: 1TB HDD & 128GB SSD
GPU: nVIDIA 1080Ti

COLLEGE NEED BASED PROJECTS UNDER GUIDANCE OF MRS. KALPANA WANI

Student Attendance Management

Aditya Desai
Shambhavi Sant
Lasya V.
Atharva Rishi

Faculty Portal

Alex Muthu
Jayant Bhople
Harshit Rai
Rashmi Pawar
Prabha C.
Pushkar P.

Leave Management

Sanket KerKar
Shifa Shaikh
Pradnya Pandire

Termwork Calculation

Nisarg Gupta
Arjun Shreedhar
Anish Philip
Sachin Gaikwad
Shubham Parakh

CSI
COMMITTEE & SEMINARS

STTP on Cross Platfrom Mobile Application Development and IoT

BATCH OF 2017-2021

BATCH OF 2016-2020

BATCH OF 2015-2019

PCUBE WINNERS

BEST PROJECT

Shambhavi Sant
Mokshi Kachroo
Jayant Bhopale
Saurabh Tiwari

BEST POSTER

Sophia Komban
Utkarsha Talele
Priyanka Panchal
Vicky wilson

BEST PROJECT MODEL

Pratiksha Ahire
Pradnya Pandire
Shubham Patil
Trupti Niwale

TREK 2017 - 18

INDUSTRIAL VISIT TO GOA 2017 - 18

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