DEPERTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Tele Electro

NEWSLETTER

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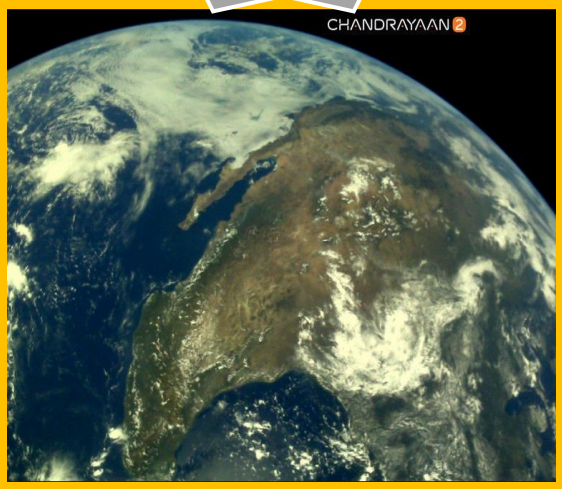
2019-20



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DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY::GANGURU

Institute Vision

Pioneering Professional Education through Quality.

Institute Mission

1. Quality Education through state-of-art infrastructure, laboratories and committed staff.
2. Moulding Students as proficient, competent, and socially responsible engineering personnel with ingenious intellect.
3. Involving faculty members and students in research and development works for betterment of society.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Vision

Pioneering Electronics and Communication Engineering Education & Research to Elevate Rural Community

Mission

- Imparting professional education endowed with ethics and human values to transform students to be competent and committed electronics engineers.
- Adopting best pedagogical methods to maximize knowledge transfer.
- Having adequate mechanisms to enhance understanding of theoretical concepts through practice.
- Establishing an environment conducive for lifelong learning and entrepreneurship development.
- To train as effective innovators and deploy new technologies for service of society.

Principal's Message

Dear Parents and Students,

It is with great pleasure that I welcome you to our College (DIET) Newsletter.

As Principal I am hugely impressed by the commitment of the college and the staff in providing an excellent all-round education for our students with our state of the art facilities. We as a team working together, strongly promote the zeal towards academic achievement among our students. The cultural, sports and other successes of all our students and staff are also proudly celebrated together. I congratulate the staff and students who brought latest technologies and concepts onto the day to day teaching learning platform. As long as our ideas are expressed and thoughts kindled, we can be sure of learning, as everything begins with an idea.

I appreciate every student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to curriculum. That little extra we do, is the icing on the cake. 'Do more than belong – participate. Do more than care – help. Do more than believe – practice. Do more than be fair – be kind. Do more than forgive – forget. Do more than dream – work.'

With a long and rewarding history of achievement in education behind us, our DIET community continues to move forward together with confidence, pride and enthusiasm.

I hope you enjoy your visit to the website, and should you wish to contact us, please find details at the www.diet.ac.in/

Yours in Education,

Dr.Ravi Kadiyala
Principal

HOD's Message

The Department of Electronics & Communication Engineering (ECE) has consistently maintained an exemplary academic record. The greatest asset of the department is its highly motivated and learned faculty. The available diversity of expertise of the faculty with the support of the other staff prepares the students to work in global multicultural environment. The graduates of the Electronics & Communication Stream have been selected by some of the world's leading corporations & as well as by most of the leading Indian counter parts. We hope that we will continue to deliver our best to serve the society and mankind. It is also expected that our students will continue to pass-on the skills which they have developed during their stay at this department to whole of the world for a better society.

Dr.G.L.Madhumati

Professor & HOD

Dept.of ECE

Dhanekula Institute of Engineering & Technology

Editor's Note

Dear Readers,

It gives us great pleasure to bring you the first issue of **Tele-Electro** for the academic year 2019-20, the Department newsletter of Dhanekula Institute of Engineering & Technology, Ganguru.

The name and fame of an institute depends on the caliber and achievements of the students and teachers. The role of a teacher is to be a facilitator in nurturing the skills and talents of students.

This Newsletter is a platform to exhibit the literary skills and innovative ideas of teachers and students. **Tele-Electro** presents the achievements of students and contributions of teachers.

We profusely thank the management for giving support and encouragement and a free hand in this endeavor. Last but not the least we are thankful to all the authors who have sent their articles. We truly hope that the pages that follow will make an interesting read.

Mr.S.Chandrasekhar
Coordinator
G.U.Maheswara Reddy
Student Coordinator
G.Nagaraju
Student Coordinator

FACULTY ARTICLES

ISRO: Chandrayaan-2

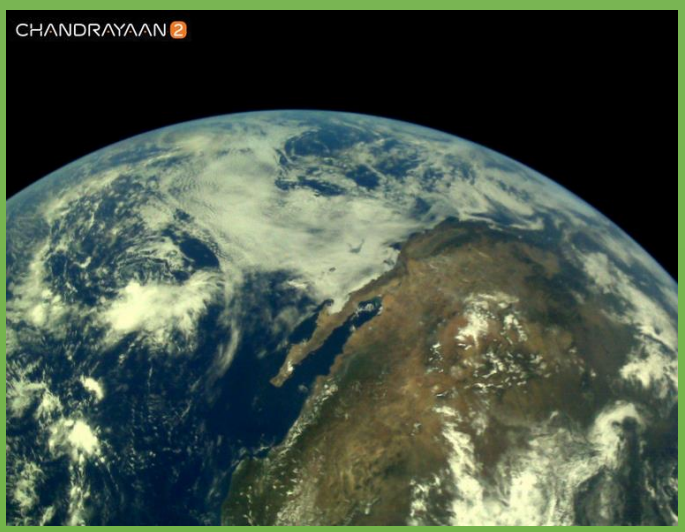
After the launch of Chandrayaan-2, there were several pictures which were claimed to have been taken by it. However, the space agency had denied these claims. India's second moon mission seeking to explore the unchartered Lunar south pole by landing a rover, was launched on July 22. Chandrayaan-2 comes 11 years after ISRO's successful first lunar mission Chandrayaan-1, which scripted history by making more than 3,400 orbits around the moon and was operational for 312 days till August 29, 2009.

Chandrayaan-2, comprising an orbiter, lander and rover, is slated to land on the Moon, by the first week of September. Scientists would make a soft landing of the lander in the South Pole region of the moon, where no country has gone so far. Billed as the most complex and prestigious mission undertaken by the ISRO since its inception, Chandrayaan-2 will make India the fourth country to soft land a rover on the lunar surface after Russia, the US and China. Space agency ISRO released the first set of pictures of the earth captured by Chandrayaan-2, the country's second moon mission launched a fortnight ago.

The pictures were captured by the L 14 camera on board Chandrayaan-2. The pictures show the earth in different hues.

#ISRO Earth as viewed by #Chandrayaan2 LI4 Camera on August 3, 2019 17:37 UT

Earth as viewed by #Chandrayaan2 LI4 Camera on August 3, 2019 17:34 UT



Earth as viewed by #Chandrayaan2 LI4 Camera on August 3, 2019 17:32 UT

Earth as viewed by #Chandrayaan2 LI4 Camera on August 3, 2019 17:29 UT

Article By:

Mr.S. Chandrasekhar, Asst.Professor

Electronic design automation(EDA):Integrated Circuits Design[2]

Electronic design automation (**EDA**), also referred to as **electronic computer-aided design** (**ECAD**), is a category of software tools for designing electronic systems such as integrated circuits and printed circuit boards. The tools work together in a design flow that chip designers use to design and analyze entire semiconductor chips. Since a modern semiconductor chip can have billions of components, EDA tools are essential for their design.

Early days

Before EDA, integrated circuits were designed by hand, and manually laid out. Some advanced shops used geometric software to generate the tapes for the Gerber photoplotter, but even those copied digital recordings of mechanically drawn components. The process was fundamentally graphic, with the translation from electronics to graphics done manually. The best known company from this era was Calma, whose GDSII format survives.

By the mid-1970s, developers started to automate the design along with the drafting. The first placement and routing tools were developed. The proceedings of the Design Automation Conference cover much of this era.

The next era began about the time of the publication of "Introduction to VLSI Systems" by Carver Mead and Lynn Conway in 1980. This ground-breaking text advocated chip design with programming languages that compiled to silicon. The immediate result was a considerable increase in the complexity of the chips that could be designed, with improved access to design verification tools that used logic simulation. Often the chips were easier to lay out and more likely to function correctly, since their designs could be simulated more thoroughly prior to construction. Although the languages and tools have evolved, this general approach of specifying the desired behavior in a textual programming language and letting the tools derive the detailed physical design remains the basis of digital IC design today.

The earliest EDA tools were produced academically. One of the most famous was the "Berkeley VLSI Tools Tarball", a set of UNIX utilities used to design early VLSI systems. Still widely used are the Espresso heuristic logic minimizer and Magic. Another crucial development was the formation of MOSIS, a consortium of universities and fabricators that developed an inexpensive way to train student chip designers by producing real integrated circuits. The basic concept was to use reliable, low-cost, relatively low-technology IC processes, and pack a large number of projects per wafer, with just a few copies of each projects' chips. Cooperating fabricators either donated the processed wafers, or sold them at cost, seeing the program as helpful to their own long-term growth.

Birth of commercial EDA

1981 marks the beginning of EDA as an industry. For many years, the larger electronic companies, such as Hewlett Packard, Tektronix, and Intel, had pursued EDA internally. In 1981, managers and developers spun out of these companies to concentrate on EDA as a business. Daisy Systems, Mentor Graphics, and Valid Logic Systems were all founded around this time, and collectively referred to as **DMV**. Within a few years there were many companies specializing in EDA, each with a slightly different emphasis. The first trade show for EDA was held at the Design Automation Conference in 1984.

In 1981, the U.S. Department of Defense began funding of VHDL as a hardware description language. In 1986, Verilog, another popular high-level design language, was first introduced as a hardware description language by Gateway Design Automation. Simulators quickly followed these introductions, permitting direct simulation of chip designs: executable specifications. In a few more years, back-ends were developed to perform logic synthesis.

Current status

Current digital flows are extremely modular (*Integrated circuit design, Design closure, and Design flow*). The front ends produce standardized design descriptions that compile into invocations of "cells,", without regard to the cell technology. Cells implement logic or other electronic functions using an integrated circuit technology. Fabricators generally provide libraries of components for their production processes, with simulation models that fit standard simulation tools. Analog EDA tools are far less modular, since many more functions are required, they interact more strongly, and the components are (in general) less ideal.

EDA for electronics has rapidly increased in importance with the continuous scaling of semiconductor technology. Some users are foundry operators, who operate the semiconductor fabrication facilities, or "fabs", and design-service companies who use EDA software to evaluate an incoming design for manufacturing readiness. EDA tools are also used for programming design functionality into FPGAs.

Article By:

Mr.S. Chandrasekhar, Asst.Professor

STUDENT CORNER

Google's Fuchsia OS: Everything you need to know[1]

Google's next-gen operating system, Fuchsia, will have Android app support

Android and Chrome OS may be Google's best-known software ventures, but the company is actually working on a third operating system. It's called Fuchsia, and when it was first discovered in 2017, it only popped up as a single command line. Now, however, we know a lot more about the operating system. Fuchsia looks totally different than any other mobile operating system we've seen, including Android, but that could be the point. The fact is that there's currently a ton of mystery surrounding the operating system. We don't know what it's for, if it's aimed at eventually replacing Android, if it's just an experiment by Google, or when we should expect to see the new OS at Google I/O.

UPDATES

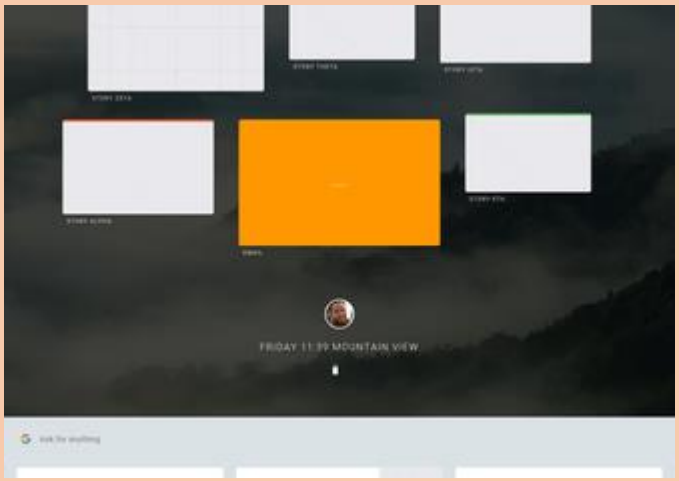
Here you'll find the latest news on Fuschia OS. If you're after a more general overview of Google's developing OS, then skip down.

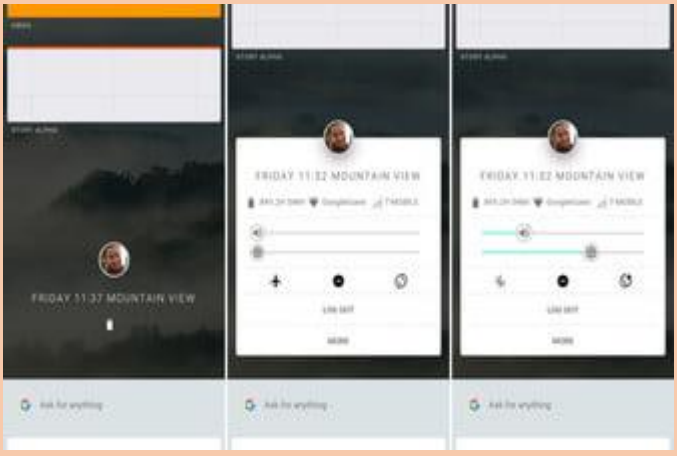
Fuschia confirmed to support Android apps

"What will happen to Android?" is one of the major questions asked of Google's Fuschia. It's entirely possible Google intends for Fuschia to replace Android — and that seems even more likely now, as it's seemingly been confirmed Fuschia will support Android apps. The news comes courtesy of news sites that noticed a new file had been added to the Android Open Source Project. The file concerns the addition of a special version of ART to Fuschia. ART — or Android Runtime — would essentially allow Fuschia to run Android apps, making a theoretical swap over to Fuschia from Android rather more painless.

WHAT EXACTLY IS FUCHSIA?

Fuchsia is a little different from Android and Chrome OS in that it's not based on Linux. Instead, it's based on a new Google-developed kernel called Magenta. According to Google, Magenta is aimed at "modern phones and modern personal computers," so it wouldn't be surprising to one day see Fuchsia appear on our smartphones. Not only that, but Google has even added Apple's programming language, Swift, to the operating system — though we don't know why just yet. Because Fuchsia is written using the Flutter SDK, which runs on Android, chunks of Fuchsia can be run on an Android device. This version of Fuchsia appears to be called Armadillo, and it completely reimagines the home screen. The screen, according to testing by Ars Technica, is basically presented as a big scrolling list, with a profile picture, the date, your city, and a battery icon all placed at the center. Above that, you'll find "Story" cards, or a list of recent apps. Below, you'll see a list of suggestions for you, which acts kind of like Google Now.





You can also drag recent apps around and drop them where you choose to organize and personalize the home screen. If you drop one app on top of another, you'll enter a split-screen mode with up to three apps.According to Hacker News, Travis Geiselbrech, who worked on NewOS, BeOS, Danger, Palm's WebOS, and iOS, and Brian Swetland, who also worked on BeOS and Android, are involved in this project.

WHAT IS FUCHSIA FOR?

The fact is that we just don't know what Fuchsia is being built for just yet. The latest report from Bloomberg posits that Fuchsia is a new attempt to unite the entire Google ecosphere under a single operating system, with the goal for Fuchsia being to run smartphones, smart speakers, laptops — anything that could possibly fit under Google's tech umbrella. According to a certain source, the plan is to have Fuchsia up and running on smart speakers and other smart home devices within the next three years, and then move on to larger devices like laptops, before eventually superseding Android as the world's largest mobile OS.

The idea that Fuchsia would replace Android is one that's been around for a while, and Ars Technica has an interesting take on this. As it notes, Android was built long before the iPhone was released, and was originally intended as an operating system for digital cameras. After the launch of the iPhone, Android was re-purposed for phones, but Google is still stuck to commitments it made with Android many years ago. The company faces a lot of challenges with Android — for example, it struggles to get updates rolled out across the entire ecosystem of devices — and it's possible that Fuchsia would help to solve some of these issues. However, it's likely that abandoning Android is a long way off yet — if it happens at all. Google CEO Sundar Pichai and deputy Hiroshi Lockheimer have yet to sign off on any sort of future plan for Fuchsia, and it's clear that such a change would be an enormous undertaking. Many huge manufacturers like Samsung, HTC, and LG depend on Android for their phones, making this sort of undertaking exceptionally difficult. However, if Google managed to switch to Fuchsia, the move could be huge for the smartphone world. The Flutter SDK used to code Fuchsia has been able to produce code for Android and iOS apps, so developers could build apps in Flutter to work across all smartphone operating systems.

Chances are we won't find out anything new for a while since Fuchsia OS is early in development. Google has tested the new OS on phones, and we know that it's now also testing it on the Pixelbook too and other laptops too. We'll update this article as we hear more.

RUMORED FUCHSIA FEATURES

What advantages could moving to Fuchsia have for Google? Many, as it turns out. As we've already mentioned, Android was originally built to power digital cameras, before being adapted into an OS for touchscreen phones. As a result, much of Android doesn't fit into the future Google sees for smart devices, with voice interaction being particularly important. Fuchsia would solve many of those issues while opening up more opportunities for Google as a result.

Fuchsia would also have a more robust set of security features than Android, with encrypted user keys being built into the software to tighten security. Fuchsia would also be better than Android at adapting to various different sizes of screen, building toward an interlinked smart future in which Fuchsia powers everything from your doorbell to your toaster. By moving towards Fuchsia, Google can also dump Java and the issues it's had surrounding the legal use of Java. It would also mean that Google could ditch the Linux kernel at the center of Android. Of course, Fuchsia is still deep in early development, and don't be surprised if some of these details change over time. According to Bloomberg's report, there have already been conflicts within Google over Fuchsia's security measures, as they would make it harder for Google's advertising.

TRY OUT FUCHSIA FOR YOURSELF

As of early May, you can actually try out Fuchsia for yourself. SlashGear, in partnership with HotFix Computer Repair, has put together a downloadable Android Package Kit (APK) that you can install on your phone to check out the OS. The APK is kind of like a preview version of a launcher of the alpha version of what's currently dubbed Armadillo. Armadillo is basically the version code name for Fuchsia, which is the operating system — kind of like Nougat, which is the version name, for the OS known as Android.

Head over to HotFixIt to download it for yourself, but before you do keep a few things in mind. Fuchsia is currently in its *very* early days, and as such don't expect to be able to use it as your daily OS. While it should be relatively safe to use on most Android phones, you should generally only download the highly experimental software if you know what you're doing.

Article by Mohammad Ashfaq
IV B.Tech, Sec-B

Neuralink Is Impressive. But How Ethical Is It?[2]

Imagine having the option to stroll into a strip shopping center and have a huge number of infinitesimally fine anodes embedded into your brain, all embedded as fast and as effectively as though you were having LASIK eye medical procedure, and intended to support your mind from a basic cell phone application. Until this week, this was the stuff of sci-fi. However at a launch event recently, the organization Neuralink — established by Elon Musk — asserted they were on track to accomplish this and increasingly throughout the following couple of years. Neuralink's mind-machine interface innovation is profoundly amazing. Utilizing Musk's presently recognizable model of uniting new ability from various fields to quicken the pace of mechanical advancement, the organization has made huge walks in what is attainable. In any case, in spite of the specialized guarantee of remote read-compose mind-machine interfaces, organizations like Neuralink are in threat of getting so enveloped with what they can do, that they dismiss the morals behind what they ought to do

The Ethics of Neurotechnology

As for Musk's making of a neural trim, a term that originates from the sci-fi of Iain M. Banks and depicts a future mind PC interface. Yet, since what's to come is somewhat nearer there are some more considerations on the potential dangers and moral issues encompassing Neuralink. Despite the fact that regardless we're finding how significant our entire body is in impacting our identity, despite everything we think about our cerebrum as the organ that at last characterizes us. This is the place the foundations of our feeling of self and personality lie, where we get and process information, where our astuteness and reason are situated, and where our most profound emotions and desires dwell. This is, to a limited extent, why ethics are so significant in the advancement of capable neurotechnologies. Be that as it may, these advancements additionally accompany social dangers, which further entangles matters. At the point when another innovation can possibly change aggregate conduct, disturb social standards, or undermine set up qualities, there are more extensive moral inquiries around where the limits between "can" and "should" lie. Until this previous week, these were to a great extent hypothetical inquiries. Essential neurotechnologies have been around for some time — including innovations like cochlear inserts and profound mind incitement and progressively convoluted cerebrum PC interfaces. They are adequately fundamental that they've permitted breathing space for going with discussions around their moral advancement and use.

However, with Neuralink's launch event and going with paper on their basic innovation, these and bigger moral inquiries have taken on another level.

Pushing the Limits of What's Possible

What makes Neuralink's advances so conceivably problematic are their innovative practicality. This isn't vaporware — the tech the organization is chipping away at gives off an impression of being grounded in strong science and building. While the present cutting edge enables constrained quantities of rough anodes to be designed into basic pieces of the brain, Neuralink is creating incorporated arrangements where a huge number of ultrafine, adaptable, read-compose cathodes can be unequivocally embedded into the mind. These are put utilizing bleeding edge exactness apply autonomy, and will, in the end, be remotely controlled from a cell phone application to a battle neurological issue. This, be that as it may, is only a desire for what's waiting to be dealt with. Utilizing the stages they've built up, Neuralink's long haul goals are to upgrade how our minds work by including a third fake preparing layer to them, a simple medical procedure that may take just a couple of hours. In view of current advancement, this aspiration is well inside the limits of plausibility. However, as the late Stan Lee may have watched, with extraordinary power comes incredible duty. Also, this is the place Neuralink and others in the field should ponder how to improve both mindfully and morally.

Ethical Difficulties

As usual, there's a threat of loss of motion by examination when anybody raises the morals of trendsetting innovations like cerebrum machine interfaces. We would all be able to theorize about the potential mental damages of cutting edge brain-computer interfaces, or the risks of brain hacking or mind-jacking. What's more, it's anything but difficult to envision tragic dreams of a future where social conduct is constrained by machines, as we penance self-rule for neural ribbon accommodation.

However, this kind of hypothesis is seldom useful when attempting to explore the scene between an incredible mechanical capacity and its moral and socially capable

advancement. Rather, regardless of the impulse to sensationalize and even fictionalize potential dangers, there's an earnest requirement for educated contemplating conceivable issues, and how to explore them. Also, on account of Neuralink, this implies pondering three explicit zones of moral and mindful advancement

Article by:

Gudivendi Uma Maheswara Reddy.
II ECE-B , 188T1A0477

"AI" Is A Tool. The Choice About How Gets Deployed Is Ours[3]

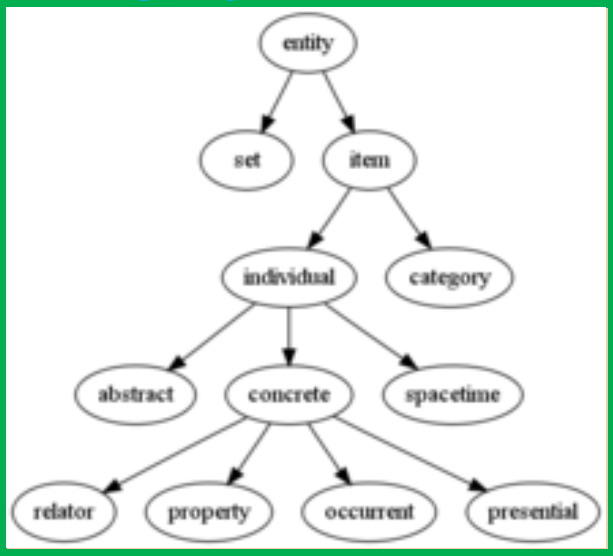
Computer science defines AI research as the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of successfully achieving its goals. A more elaborate definition characterizes AI as "a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation."

The overall research goal of artificial intelligence is to create technology that allows computers and machines to function in an intelligent manner. The general problem of simulating (or creating) intelligence has been broken down into sub-problems. These consist of particular traits or capabilities that researchers expect an intelligent system to display. The traits described below have received the most attention.

Reasoning, problem solving

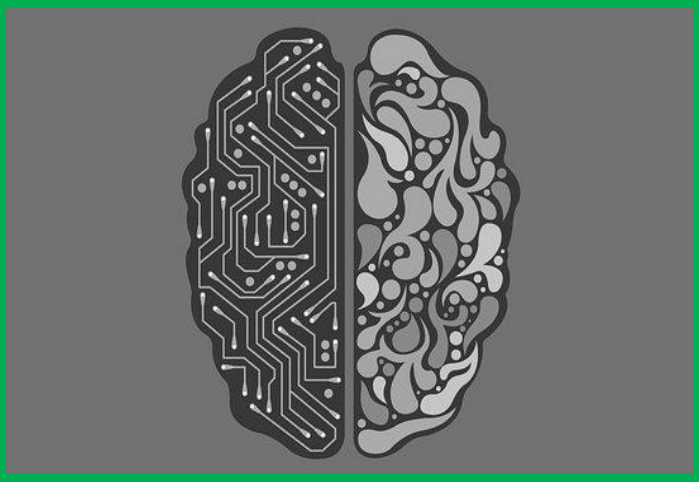
Early researchers developed algorithms that imitated step-by-step reasoning that humans use when they solve puzzles or make logical deductions.[By the late 1980s and 1990s, AI research had developed methods for dealing with uncertain or incomplete information, employing concepts from probability and economics. These algorithms proved to be insufficient for solving large reasoning problems, because they experienced a "combinatorial explosion": they became exponentially slower as the problems grew larger. In fact, even humans rarely use the step-by-step deduction that early AI research was able to model. They solve most of their problems using fast, intuitive judgements.

Knowledge representation



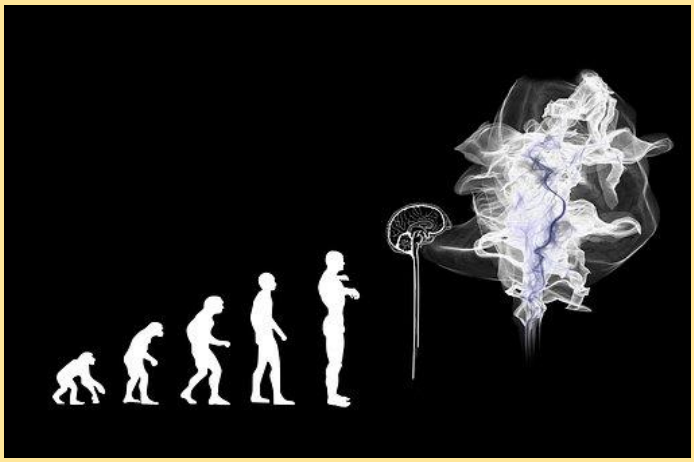
An ontology represents knowledge as a set of concepts within a domain and the relationships between those concepts. *Knowledge representation and Common-sense knowledge*

Knowledge representation and knowledge engineering are central to classical AI research. Some "expert systems" attempt to gather together explicit knowledge possessed by experts in some narrow domain. In addition, some projects attempt to gather the "commonsense knowledge" known to the average person into a database containing extensive knowledge about the world. Among the things a comprehensive commonsense knowledge base would contain are: objects, properties, categories and relations between objects; situations, events, states and time; causes and effects; knowledge about knowledge (what we know about what other people know); and many other, less well researched domains. A representation of "what exists" is an ontology: the set of



objects, relations, concepts, and properties formally described so that software agents can interpret them. The semantics of these are captured as description

logic concepts, roles, and individuals, and typically implemented as classes, properties, and individuals in the Web Ontology Language. The most general ontologies are called upper ontologies, which attempt to provide a foundation for all other knowledge by acting as mediators between domain ontologies that cover specific knowledge about a particular knowledge domain (field of interest or area of concern). Such formal knowledge representations can be used in content-based indexing and retrieval, scene interpretation, clinical decisions.



Probabilistic methods for uncertain reasoning

Expectation-maximization clustering of Old Faithful eruption data starts from a random guess but then successfully converges on an accurate clustering of the two physically distinct modes of eruption. Many problems in AI (in reasoning, planning, learning, perception, and robotics) require the agent to operate with incomplete or uncertain information. AI researchers have devised a number of powerful tools to solve these problems using methods from probability theory and economics. Bayesian networks are a very general tool that can be used for a large number of problems, reasoning which is usingthe Bayesian inference algorithm, learning which is using the expectation maximizationalgorithm, planning (using decisionnetwo rks) and perception (using dynamic Bayesian networks). Probabilistic algorithms can also be used for filtering, prediction, smoothing and finding explanations for streams of data, helping perception systems to analyze processes that occur over time (e.g., hidden Markov models or Kalman filters). Compared with symbolic logic, formal Bayesian inference is computationally expensive. For inference to be tractable, most observations must be conditionally independent of one another.

Article by :
Ajay Kona, II ECE A

Foldable Phones-the future smartphone[4]

Foldable phones might be the strangest and most revolutionary tech of 2019. But how do these things work, and when will we get the chance to buy them?

What Makes These Phones Foldable?

Sure, we had flip phones that were folding back in the ’90s and 2000s. But we’re in the age of smartphones now, and if you tried to fold your smartphone in half, you’d end up with a broken phone. That is unless your smartphone has a flexible OLED display, a polymer screen, specialized components, and a jointed case. Foldable phones are filled with a ton of revolutionary tech, but the most ground-breaking component that you’ll see is the famous, flexible OLED display.

These beautiful, flexible displays are primarily manufactured by Samsung, and they’re already in a host of products with which you may be familiar. The Galaxy S7 Edge has a curved OLED display. The iPhone X contains a Samsung OLED display. Sonyhas put out some OLED TV’s, and LG produces a line of Signature OLED TV’s that are paper-thin and slightly flexible. Manufacturers like Samsung and Royole have been developing OLED displays since about 2011, and these displays have already found their way into a lot of consumer-grade products. Why has it taken so long for foldable phones to become a thing? Well, businesses have had to figure out how to make all of the other components in a phone flexible, too. Glass isn’t very flexible, in case you were wondering. As a result, manufacturers have had to develop bendy polymer screens for flexible phones. Powered circuitry andlithium-ion batteries can catch on fire if you flex them back and forth, so manufacturers have had to find a solution for that. Aluminum and plastic phone cases are technically *bendable*, but they’ll snap after a couple of folds. See where this is going? Everything that you’d expect to find in a cellphone has to be revolutionized for use in a foldable phone.

Manufacturers like Samsung and Royole have figured out how to make the components in a phone more flexible. Otherwise, they wouldn't be releasing foldable phones. But the technology is still in its early stages. That being said, it's going to take a few years for these devices to become affordable and commonplace. In the meantime, we can only hope that manufacturers come up with a better name for foldable phones. People will inevitably start calling them "phondables" or "flexiphones," and that's just no good.

Foldable Phones Offer Endless Possibilities

So, what are we going to do with foldable phones? It's kind of hard to figure out where this trend is going because manufacturers have already taken the tech down a variety of unique paths. We know that some devices, like the Samsung Galaxy F and the Royole FlexPai, can expand into tablet-sized smartphones, and that's pretty cool. You can use these like regular smartphones when you're walking around, or you can fold them out into tablets when you want to video-chat a friend or get some work done. Phones that double as a tablet could change how we consume media, and they could make it even easier to do work on the go. There are also devices, like the Motorola RAZR 4, that take foldable technology in the other direction.

The Tech Can Get Bent Out of Shape

A lot of the problems with traditional smartphones have been worked out. Their screens are durable, they have tolerable battery life, and they're relatively easy for people to use. But foldable phones will set us back a bit. They have larger screens that require more battery power, they're made of materials that aren't very durable, and they will work differently from the average smartphone. The biggest complaint that you'll hear about these phones is probably going to be their plastic screens. No, they won't shatter like glass, and companies like Royole have gone out of their way to wave around slogans like "say goodbye to broken screens," but that idea is a bit misleading. Remember how iPods had plastic screens that would get scratched and scuffed in your pocket? Yeah, foldable phones are going to have the same problem. And since these phones are foldable, you're not going to have a lot of luck finding a screen protector.

But the screen isn't the only fragile part of a foldable phone. Manufacturers are going to have to stray away from hard metal or plastic phone cases in favor of materials that can handle being bent hundreds of times a day. The hinges on these foldable phones are going to be serious weak points (they were on flip phones too) because they'll mostly be made from plastic and light metals. The OLED displays on these devices will also be an issue because OLED's can suffer burn-in over time (like a TV), and the organic material that they're made from is very vulnerable to moisture. Battery life, software compatibility, circuitry, and ease-of-use will also be hurdles for these phones. But some people may not be too worried about these smaller issues, and they'll be resolved long before foldable phones reach a consumer-friendly price. If you happen to get your hands on a foldable phone in 2019, then you're going to be shelling out a lot of money for a device that's fragile, clunky, dim, and power-hungry. Remember how wonky the 1st generation iPad was? Yeah, it'll be a little bit like that. But competition promotes technological progress, and these foldable devices (if they become popular) should become comfortable and durable in less than a decade.

You'll Have A Foldable Phone…Eventually

As of this very moment, the only foldable phone that you can buy is the Royole FlexPai, and it costs $1,318. A lot of companies seem to be pushing their flexible phones to the market as fast as possible (alongside 5G), and some companies will set release dates at MWC 2019 on February 25th. It's safe to assume that that the Samsung Galaxy F will come out this year, but we'll know for sure when Samsung holds a press release on February 20th.

Judging by the FlexPai's $1,318 price tag, you aren't going to find any budget foldable phones in 2019. And frankly, the FlexPai doesn't look like a super high-quality device. Videos from CES 2019 show that the FlexPai's screen doesn't fit flush to its body, its plastic-y case doesn't fold flat, and its Water OS awkwardly flips and stutters when the device opens and closes. There's a good chance that a high-quality, flexible phone from a popular manufacturer will run for more than $2000.

We may expect these foldable phones from every mobile brand by the end of this year.

Article By:
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188T1A0476
II ECE-B

Artificial Intelligence[5]

The modern definition of artificial intelligence (or AI) is "the study and design of intelligent agents" where an intelligent agent is a system that perceives its environment and takes actions which maximizes its chances of success. John McCarthy, who coined the term in 1956, defines it as "the science and engineering of making intelligent machines."

Other names for the field have been proposed, such as computational intelligence, synthetic intelligence or computational rationality. The term artificial intelligence is also used to describe a property of machines or programs: the intelligence that the system demonstrates. AI research uses tools and insights from many fields, including computer science, psychology, philosophy, neuroscience, cognitive science, linguistics, operations research, economics, control theory, probability, optimization and logic.AI research also overlaps with tasks such as robotics, control systems, scheduling, data mining, logistics, speech recognition, facial recognition and many others. Computational intelligence Computational intelligence involves iterative development or learning (e.g., parameter tuning in connectionist systems).Learning is based on empirical data and is associated with non-symbolic AI, scruffy AI and soft computing. Subjects in computational intelligence as defined by IEEE Computational Intelligence Society mainly include: Neural networks: trainable systems with very strong pattern recognition capabilities. Fuzzy systems: techniques for reasoning under uncertainty, have been widely used in modern industrial and consumer product control systems; capable of working with concepts such as 'hot', 'cold', 'warm' and 'boiling'. Evolutionary computation: applies biologically inspired concepts such as populations, mutation and survival of the fittest to generate increasingly better solutions to the problem. These methods most notably divide into evolutionary algorithms (e.g., genetic algorithms) and swarm intelligence (e.g., ant algorithms). With hybrid intelligent systems, attempts are made to combine these two groups. Expert inference rules can be generated through neural network or production rules from statistical learning such as in ACT-R or CLARION. It is thought that the human brain uses multiple techniques to both formulate and cross-check results. Thus, systems integration is seen as promising and perhaps necessary for true AI, especially the integration of symbolic and connectionist models.

Article by:
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II ECE B, 188T1A0477

Parents Meet

The Department of Electronics and Communication Engineering had conducted a PARENTS MEET on 27 - 07 - 2019 for 2nd, 3rd and 4th year students of ECE. The Parents meet was conducted at the ECE department seminar hall which is started at 02:00 PM and completed by 04:30 PM. Head of the department Dr.G.L.Madhumati madam, addressed the parents about different activities, policies and procedures following in the department, Professor P. Pavithra Roy madam addressed the importance of class test conduction with four sets pattern, remedial test for betterment of students performance and text book learning, later parents interacted with the respective class in charges, counsellors and the subject teachers, later on collected suggestions as well as feedback forms from parents.

Training & Placements

1. Career guidance program organized by training placement & career guidance cell

Beneficiary : III ECE & CSE

Date: 20/07/2019

Venue : CSE Seminar hall

Resource person: Venkateshwara Rao S ,Senior Lead Engineer.

2.CRT program organized by training placement & career guidance cell

Beneficiary : IV ECE

Date: 24/06/19 to 04/07/19

Venue : ECE Seminar hall

Resource person: COIGNS ACADEMY PVT LTD

Association Activities

The association committee has conducted several programs like Paper presentation, Technical seminar, JAM and self-introduction which will help the students to enhance their academic skills to fulfil their dreams.

NSS Events

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

NSS CELL

EVENT REPORT

Date	21-06-2019
Event Name	International Yoga Day Celebrations
Venue	**AUDITORIUM**

On the eve of 5th International yoga day 21st JUN 2019, College NSS unit have organized Yoga Session at college Auditorium premisis, the session have received encouraging response from student volunteers of NSS. Almost 50 Student volunteers with NSS Program officer and staff coordinators have participated in this and made the session fruitful. The session was headed by Mrs.D.Prasuna state co-convener of Indian OAM ASPA & Mr.B.Prabakara Rao, M.Sc Yoga Retired Bank Manager (Syndicate Bank)

At the end of session student volunteers have asked the yoga remedies for their General health complaints and have learnt that doing yoga regularly improves the brain function, memory, concentration and improves blood circulation.

At the end of session

During the Yoga Practice

During the Yoga Practice

Honoring the chief Guest

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

NSS CELL

EVENT REPORT

Date	28-06-2019
Event Name	RECYCLING OF OLD BOOKS
Venue	**NSS CELL**

On as part of Environment Protection, College NSS unit have organized an event of collecting Used books from Students, Later these books will be taken by IRDA (Integrated Rural Development Association and will be recycled for later purpose.

This event was jointly organized by NSS and IRDA Representatives Mr. P.Vinay,President IRDA ,G.Sambi Reddy ,Coordinator IRDA Almost above 100 Student`s volunteers have participated in this and made this event a grand success

At the end of session student volunteers have promised that they will initiate the event every year with IRDA such that Government school Students are going to be benefited by them

NSS PO with IRDA Representatives

Head of Institution with IRDA Representatives

NSS volunteers involved in Collecting OLD Books

Mr. Kiran NSS Student Coordinator Receiving Letter of Appreciation from IRDA

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

NSS CELL

EVENT REPORT

Date	19-07-2019 &20-07-2019
Event Name	Awareness Camp on Eye
Venue	**ECE seminar Hall**

The National Service Scheme (NSS), in association with Maxvision Eye Hospital, Vijayawada have arranged a Awareness Camp on eye for Staff & B.Tech students. The event lifted with a great participation from staff & students almost 300 above have participated and haven taken medical advice from the team of Maxvision Eye Hospital, The session initially was carried by Dr Rakesh, in which he majorly concentrated on the health issues and Surgeries available on Eye such as PRK,LASER etc All the Staff & B.Tech Students participated were benefited by his session, at the end of camp Head of Institution Dr.Ravi Kadiyala on behalf of Dhanekula NSS unit have honored the guests with mementoes

Dr. Rakesh Addressing Gathering Regarding EYE

Dr.Ravi Kadiyala Principal DIET, in Camp

Students participation in camp

At The End Of Camp

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY
NSS CELL
EVENT REPORT

Date	18-07--2019
Event Name	Fund Rising Activity for Ms. N. Santhi Priya and IAB
Venue	DIET

On 18th July 2019 NSS cell of DIET have Initiated a Fund Raiser for IAB and Ms. N. Santhi Priya Admitted in Manipal Hospital Suffering from Cancer all most 200 above Students have participated in this Fund raising and an amount of Rs 20440 was collected

The collected charity amount was transferred to Account of Miss N.Santhi Priya and IAB, on the basis of 75/25 Division, Both neediest have appreciated DIET-NSS cell for their contribution towards a noble cause, College Principal Dr Ravi Kadiyala and NSS coordinator Mr. V.Subba Raju have appreciated the student volunteers who have collected the fund and helped the needy.

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY
NSS CELL
EVENT REPORT

Date	30-07-19
Event Name	150th Anniversary of Mahatma Gandhi (Essay Writing Competition)
Venue	ECE SEMINAR HALL

Dhanekula NSS unit have organized a Essay Writing Competition for which Almost above 50 NSS volunteers have show cased there talent in literary art Essay Writing on Topic Mahatma Gandhi Life. This Essay Writing have got tremendous response from NSS volunteers and almost 50 above students have exhibited their talent in literary arts The Essay Writing is on the Theme of Father of Nations life; Youth. Volunteers have got a chance in expressing their views on the above topics. At last students felt happy in talking part in this essay writing and have received their appreciation from Head of Institution

NSS PO,NSS Staff Coordinators & Student Volunteers Celebrating 150th Anniversary of Father of Nation Mahatma Gandhi

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

NSS CELL

EVENT REPORT

Date	29-07-2019
Event Name	JAL SHAKTI ABHIYAN
Venue	Edupugallu Village

An Awareness Program On Jsa(JAL SHAKTI ABHIYAN**) Is** Organized By Dhanekula Nss Unit **T**o Aware Water Conservation In Public ,The Benefit Of Water Conservation Using Soak Pits Was Demonstrated At Adopted Village Eedupugallu.

As An Initial Step Students Have Demonstrated Water Conservation At Each Door Step With Mobile Demo SAOK Pit And Later Have Digged a Live Soak Pit And Have Explained The Process Of Water Conservation To The Villagers,This Program have gained attention in public and have Received An Appreciation From Panchayat Of Edupugallu

TEAM OF VOLUNTEERS INITIATING FROM COLLEGE
Lead by Principal Dr.Ravi Kadiyala

NSS Volunteer Students Digging Soak Pit

Volunteers involving Villagers for Demonstration of Soak Pit

DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

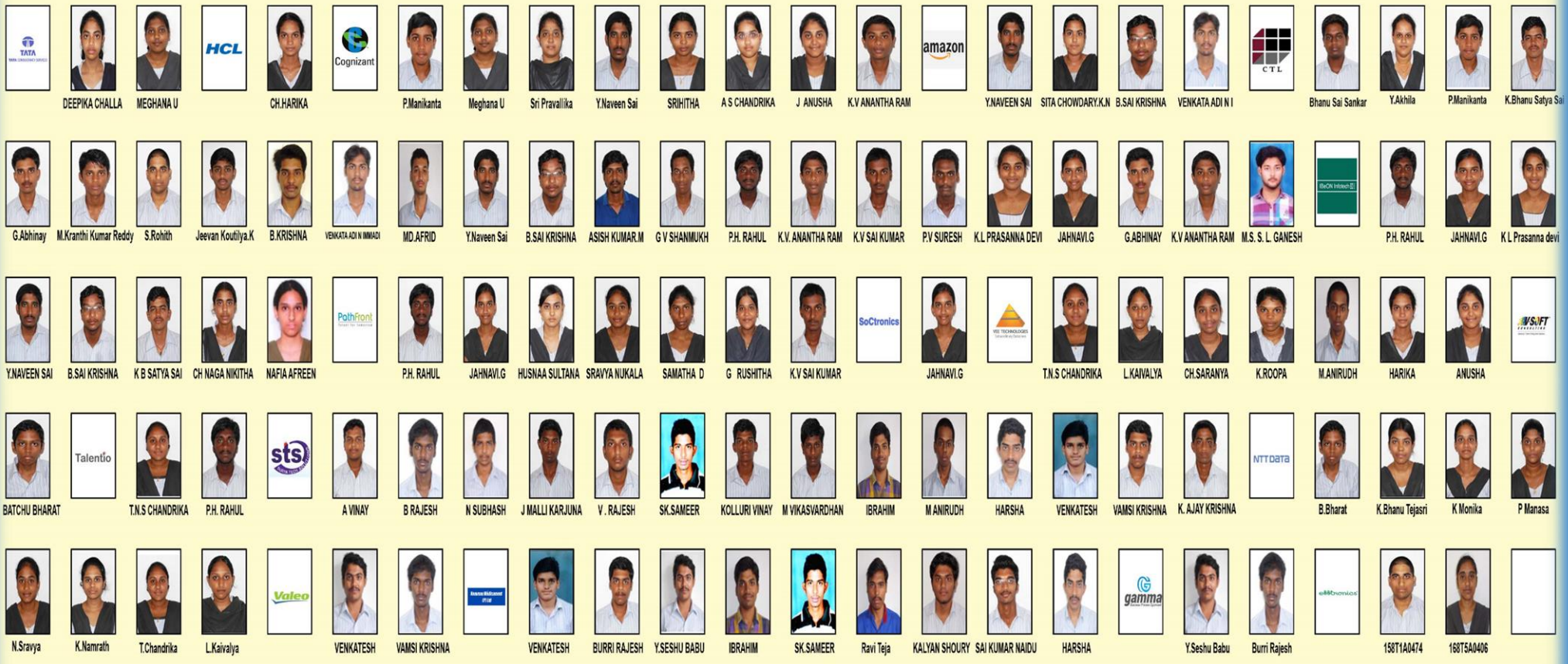
GANGURU, VIJAYAWADA – 521139

An ISO 9001-2015 Certified Institution & Accredited with NAAC & NBA

DEPARTMENT OF ECE

TRAINING, PLACEMENT & CAREER GUIDANCE CELL

WORDS REALLY FAIL TO EXPRESS OUR JOY AT THE NEWS OF YOUR SELECTION FOR THE REPUTED ORGANISATIONS RANGING FROM NATIONAL REPUTATION AND INTERNATIONAL RECOGNITION. YOUR SELECTION WAS HOWEVER, NO SURPRISE BECAUSE YOUNG AND TALENTED TECHNOCRATS OF YOUR CALIBER AND SUPERIOR INTELLIGENCE WERE BOUND TO FARE EXCELLENTLY.



DHANEKULA INSTITUTE OF ENGINEERING & TECHNOLOGY

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