Words From the Director

~DR. RUPESH VASANI

"

I am pleased to congratulate Computer Engineering Department for issuing first issue of Departmental eNewsletter "FUZZY TO CRISP". Huge congrats to the editorial team. A wide number of readers are welcomed by the newsletter "FUZZY TO CRISP" perspectives from the Department of Computer Engineering. The faculty's job is to develop students' talents and skills for their future. Let this be a forum for professors and students to show their creative abilities and revolutionary ideas.The outside world will come to know about the achievements and extraordinary performances of the students and faculties through this online medium. My best wishes will always be with this type of good efforts of the Computer Engineering Department.

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(Director)

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HOD'S DESK

~ASST. PROF. VIDHI KHANDUJA

'

GREETINGS !

Dear Readers,

"We are all born with a divine fire in us. Our efforts should be to give wings to this fire and fill the world with the glow of its goodness."... Dr. APJ Abdul Kalam.

Our young generation of today is full of energy and is impatient to succeed. It is very important for us to channelize their energies and provide them a right platform to learn and prepare for the future. Leaving you at this thought, I feel immense pleasure to proudly present the first issue of Computer Engineering Department's e-Newsletter

"FTC: Fuzzy to Crisp". The newsletter will mainly cover the tech articles, literary work, and the activities in and around the campus. The aim is to imbibe a spirit of professionalism and make the young minds aware of the latest technologies in order to attain complete and correct vision.

"FTC" is an initiative by our young and enthusiastic students of III semester under the club "BLUWINGS' . This club is initiated by students, managed by students, participated by students and of course benefitted by students. This is one initiative, which I feel will give wings to all my students to gain new tech horizons. This would not have been possible without the support of the respected Ms.Neelima Shah Ma'am and Director sir, "Prof.Dr. Rupesh Vasani". We sincerely thank them for being our motivation and source of inspiration. Further, I extend my deep gratitude to all the members who are directly or indirectly involved in this small voyage.Hoping an active participation from all students and faculty members in our future endeavors!!

Vision and Mission of the Institute

Vision:

SAL Education aims at developing young creative thinkers in a learning environment of high academic ambience by collaborating values, professional and technical competence with the vision to be a prominent centre of learning with significant international impact and local commitment and thus producing leaders with the global views and Indian ethos.

Mission:

- To endlessly strive for the complete development of the learners by educating learners in a state-of-art technology.
- Helping them to imbibe professional ethics and social commitments, so that they emerge as competent professionals to meet with the global challenges.
- To contribute to shaping a better future for humankind by developing effective and socially responsible individuals and organizations..

Vision and Mission of the Department

Department Vision:

To produce skillful and socially responsible Computer Engineers, innovators, researchers and entrepreneurs contributing to the development of society.

Department Mission:

1. To impart quality and skilled technical education with effective teaching learning process.
2. To provide well-equipped infrastructure for molding young minds towards innovation, research and life-long learning.
3. To foster institute industry collaborations and develop the essence of team work, communication skills, leadership, working ethics and entrepreneurship.
4. To develop professionally and ethically responsible citizens working for the betterment of society.

Program Educational Objectives:

PEO-I The graduate will be able to employ their skilful knowledge expertise to solve various industrial and real world problems.

PEO-II The graduate will exhibit professionalism,ethicalattitude, communication skills and practice their profession with legal and societal responsibilities.
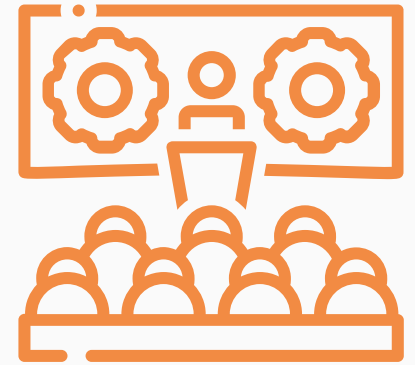
PEO-III The graduates will excel in their professions as good leaders, innovators, researchers and entrepreneurs

PEO-IV The graduate will be engaged in continuous education and lifelong learning with post-graduation, certification courses and research activities.

DEPARTMENT ACTIVITY SEMINAR/WORKSHOP ORGANISED

ABROAD EDUCATION & VERBAL ACTIVTY

Seminar on Abroad Education & Verbal ability was held on 24/01/2018 by Mr Prabhash Kaushik & Chandramauli Bhatt at SALITER. Faculty from SALITER and Computer Engineering Student were present during 9:00am to 10:00am.
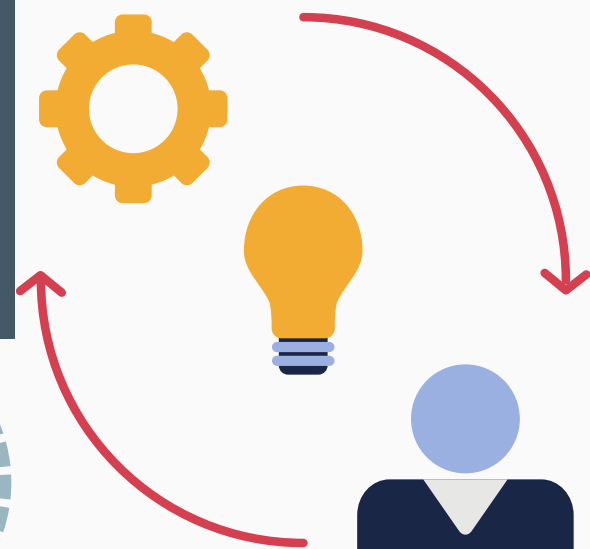
ONE DAY WORKSHOP ON CISCO NETWORKING, IOT & CYBER SECURITY

One Day workshop on CISCO Networking, IoT & Cyber Security was held on 30/01/2018 by Harish Luhar at B1, Safal Profitaier,Opp. Ramada, near Prahlad Nagar. Faculty from SALITER and Computer Engineering Student of Sem IV were present during 10:00am to 3:00pm.

DEPARTMENT ACTIVITY SEMINAR/WORKSHOP ORGANISED

STRUCTURE ON SEMANTIC WEB APPPLICATION

Mr.Abhishek Poojara and his team members from sky 9 .I.T.Craft conducted an expert session on 22nd march y 2018 on "Seminar on Advance structure on Semantic web appplication" at Sal Institute Of Technology and Engineering Research. The session was conducted for 50+ B.E. Computer Engineering Students from SALITER.

SEMINAR ON IOT

Seminar on IoT was held on 17/04/2018 by Prabhjot Singh BakshiDirector- Grazing Goats Edutech Private Limited.in Room No.210 at SALITER. Faculty from SALITER, SETI and students were present during 11:00 a.m-12:00 noon.

SEMINAR ON IOT

Seminar taken by Prabhjot SinghBakshi on HoloLens testing.

Holo Lens tested by Dr.S.G.Desai and Dr.Vidhi Khanduja

DEPARTMENT ACTIVITY SEMINAR/WORKSHOP ORGANISED

TODAY'S STRENGTH & FUTURE DEMAND ON IT SECTOR (PASSIM TECHNOLAB)

Seminar on Today's Strength & Future demand on IT Sector (PASSIM TECHNOLAB)   By Mr. Ankit Nayak was held on 28/06/2018 at SALITER. Faculty from SALITER and Computer Engineering Student were present during 9:30am to 10:30am.

MQTT PROTOCOL IN IOT(PCCUBE SOFTTECH)

Pccube Softtech is one of the most prominent companies of Ahmedabad,India offering digital solutions in web development & design, mobile app development and embedded solutions since 2012. We have worked for many different industries, organizations & government as well. We know that people are becoming digital day by day and therefore we work in providing digital solutions for enhancing productivity & task easiness.
To overcome the gap between Industries and College level studies we arrange seminars, Workshops and expert sessions for EC, CE and IT students. As per our telephonic discussion hereby I mention the detail of
Seminar.

DEPARTMENT ACTIVITY SEMINAR/WORKSHOP ORGANISED

CODE RIGHT(SUNDAY PYJAMAS PVT.LTD)

Seminar on Code Right was Taken By Mr. Girish Ramnani held on 24/07/2018 at SALITER. Faculty from SALITER and Computer Engineering Student were present during 11:00 am to 12:30 pm.

FACULTY ACTIVITY SEMINAR/WORKSHOP/STTP/FDP/WEBINAR ATTENDED

Asst. Prof. Jalpa Patel attended Seminar on 'Science and Technology for Sustainable Future' held on 30/8/2018

Asst. Prof. Nidhi Patel attended Seminar on 'Science and Technology for Sustainable Future' on 30/8/2018 .

Asst. Prof. Mahipalsinh Zala attended workshop on Artificial Intelligence during 24th – 29th December, 2018 organized by Silver Oak Group of Institutes, Ahmedabad

Asst. Prof. Miki Patel attended "Recent Trends in computer science" during 3/8/18-4/8/18

STATIC ANALYSIS-BASED APPROACHES FOR SECURE SOFTWARE DEVELOPMENT

Asst. Prof. Harsha Padheriya has publisheda paper on Static Analysis-Based Approaches for Secure Software Development , International Journal of MultiDisciplinary(hesma), UGC Approved, ISSN 2319-5959,OCT-DEC 2018

REVIEW ON STATIC ANALYSIS AND RUNTIME MONITORING TO COUNTER SQL-INJECTION ATTACKS

Asst. Prof. Harsha Padheriya has publisheda paper on Static Analysis-Based Approaches for Secure Software Development , International Journal of MultiDisciplinary(hesma), UGC Approved, ISSN 2348-6292, Year of Publication : 2018

AN INVESTIGATION ON STATIC ANALYSIS WITH OTHER ALGORITHMS TO DETECT CROSS SITE SCRIPTING: WEB APPLICATION SECURITY.

Asst. Prof. Harsha Padheriya has publisheda paper on SAn Investigation on Static Analysis with other Algorithms to Detect Cross Site Scripting: Web Application Security. , International Journal of MultiDisciplinary(hesma), UGC Approved, ISSN 2348-6292, Year of Publication : 2018

MACHINE LEARNING IN HEALTH CARE CENTRE

ASST. PROF. HEMALI SHAH

In our day-to-day life, we use lots of machine learning (ML) techniques and applications for farming, Medical care, Products Recommendations, stock marketing, Social Media (Facebook, LinkedIn), Traffic flow Alerts (Maps), Transportation, and Commuting (Uber, OLA), etc.

Machine learning is a type of learning in which the machine learns by itself without explicitly programmed it. The classic definition of machine learning is "The computer program is said to learn from experience E for some class of tasks T and performance measure P, if its performance at tasks in T, as measured by P, improves with experience E". This is the type of application of artificial intelligence that provides the system with the facility so that they can spontaneously learn and develop from their understanding.As Thomas H. Davenport writes in the Wall Street Journal, "Humans can typically create one or two good models a week (while) machine learning can create thousands of models a week".

Machine learning vast filed that has its roots in statistics, algebra, data processing, and knowledge analytics, etc. that makes it tough to return up with a novel definition . ML is defined as a set of methods that can automatically show patterns in data and then use uncovered patterns to forecast future data or to do other kinds of decision-making under uncertainty.

ML is based on the development of computing programs that can retrieve data and learn for themselves. This is highly effective in healthcare as there is an enormous amount of data and if this is properly fed to the intelligent system and trained so, the resulting prediction the model will be unparalleled and free from human errors and cut the time required for diagnostics.
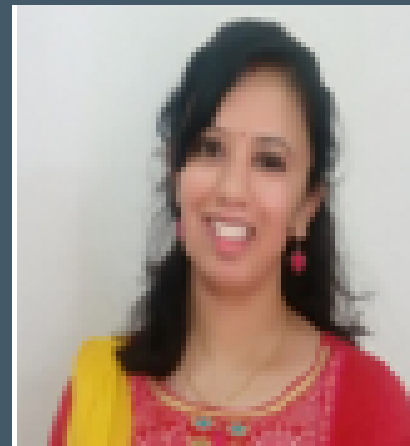
For the past decade, numerous healthcare centres are ongoing accepting a patient records system that holds patient files like patient schedul es, treatments, and out-patient flow. ML in healthcare has greatly saved medical resources and providing a new approach for people to see a doctor and help people's lives. The main workout is that all the data of a patient are given to the model and it use the different machine algorithms to predict the disease.

ML methodologies are intended to find out the chance to optimize the decisions, based on the predictive value of large-scale data sets. It is evidencing to be effective at handling predictive tasks including defining which behaviors have the largest tendency to drive preferred outcomes. Here we discusses about the potential of applying machine learning skills in the medical sector. ML is organized in mainly four learning forms. Supervised learning contains labelled information when unsupervised learning contains unlabeled data. Semi-supervised learning is a combination of supervised and unsupervised learning.

Reinforcement learning is a type of learning method that works together with its environment by generating actions and at the same stage determining errors and rewards. Trial & error search and delayed reward are all the most relevant features of reinforcement learning. ML is utilized in the healthcare sector like robotic surgery, Health Imaging Analysis, Sharing Patient Data, Drug Discovery, and Medical Imaging Diagnosis. Some machine learning techniques such as K-nearest neighbor, support vector machine, random forest, a decision tree for disease prediction and disease detection. It can supports dropping the research gap between machine learning and the medical sector.
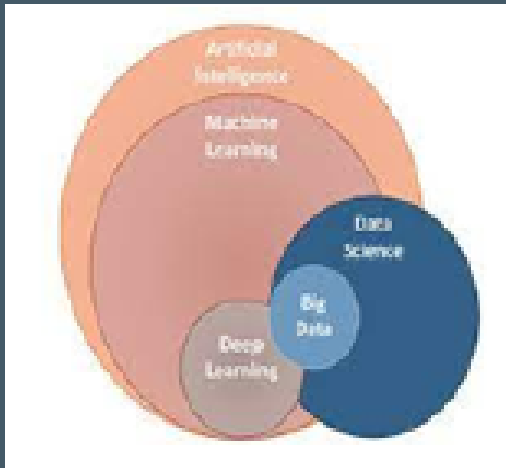
DATA SCIENCE:"IT'S NOT ONLY DATA, BUT ALSO IT INCULCATE SCIENCE"

PROF. NIDHI PATEL

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured and unstructured data .
It also apply knowledge and actionable insights from data across a broad range of application domains like data mining, machine learning and big data.
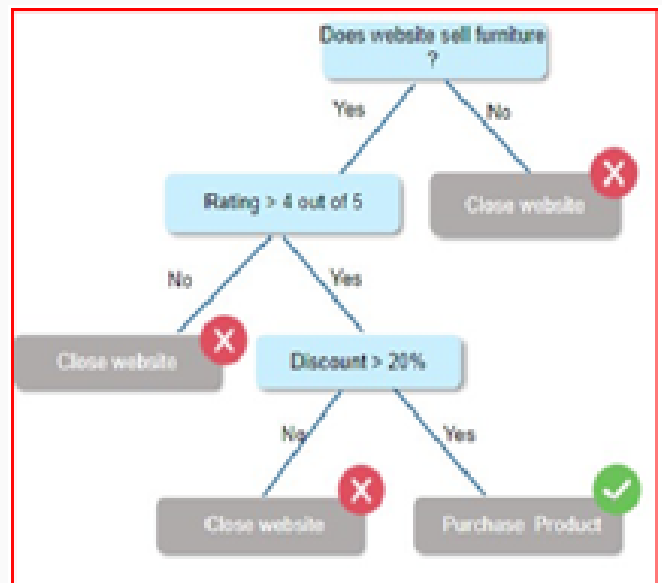
WHY DATA SCIENCE IS SO IMPORTANT?

Data science or data-driven science enables better decision making, predictive analysis, and pattern discovery.

- It lets you find the leading cause of a problem by asking the right questions.
- Perform exploratory study on the data
- Model the data using various algorithms
- Communicate and visualize the results via graphs, dashboards, etc.

For example, let's say you want to buy new furniture for your office. When looking online for the best option and deal, you should answer some critical questions before making your decision.

Using this sample decision tree, you can narrow down your selection to a few websites and, ultimately, make a more informed final decision.

DATA SCIENCE AS A CAREER

Over the last five years, the job vacancies for data science and its related roles have grown significantly. Glass door has named data scientist as the number one job in the United States as per its 2019 report. The U.S. Bureau of Labor Statistics predicts the rise of data science needs will create 11.5 million jobs by 2026.

There are several job roles that you can look for in the data science domain. Some of the important job roles are:

1)Data Scientist
2)Machine Learning Engineer
3)Data Consultant
4)Data Analyst

According to Glass door, the average salary of a data scientist in the United States is $113,000 per annum and in India, it's 9,07,000 Rupees per annum.

INDUSTRIAL VISIT AT I-MEDITA LEARNING SOLUTIONS

Industrial visit 2018 was arranged at I-Medita Learning Solutions on 19th September 2018. @ 12.30 P.M. Mr.Piyush Kumar -Executive | Training and Development- accompanied with 70 students visited the Company. Introduction ,Clearing the miss conception regarding the networking. Telling about the CISCO.Career objectives. Technical networking discussion Difference between networking industries and other industries.

Career objectives. Technical networking discussion between Difference industries networking and other industries.
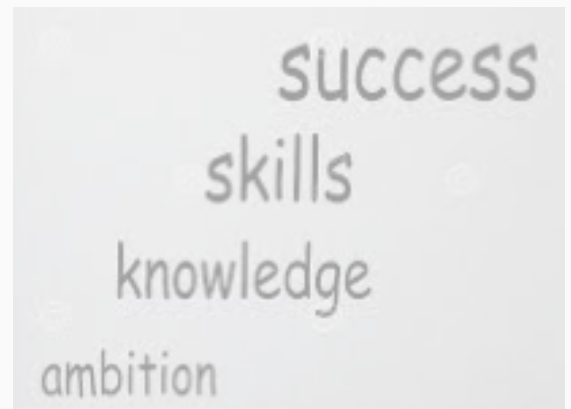
PLACEMENT

Placements provide students, the opportunity to achieve specialized skills, of their choice and also acquire the ability skills required for real-life work. The knowledge of an industry or sector is increased, and the students can make better decisions about future career choices.

Knowledge and skills are the most important factors companies use to assess freshers during campus placements. With every business and organization going digital, the IT sector today is a booming field as compared to other sectors and there is a huge demand of Computer Science Engineers and programmers.

Mukeshkumar PravinKumar got placed at CINIF Technologies Limited with the package of 3.6 LK p.a.

Akash Kikani got placed at SPEC India Pvt Ltd with the package of 3.1 LK p.a.

Mihir Rajput got placed at Cygnet Infotech with the package of 3 LK p.a.

Siddharth Sharma got placed at Cygnet Infotech with the package of 3 LK p.a.

Akash Chauhan got placed at O2H with the package of 2.5 LK p.a.

BLUWINGS CLUB ACTIVITIES

Club organized workshop of " C Programming " for sem 3 CE students on 04-aug-2018.

Club organized workshop of "Computer fundamentals" for sem 1 CE students on 15- sep-2018.

BLUWINGS CLUB ACTIVITIES

Club organize workshop of "Basic of C programming " for sem 1 CE students on 22- sep-2018.

WHAT IS AI ?

BY PRIYANK DAVE

"A.I. is an area of computer science that emphasizes the creation of intelligent machines which work and react like humans. "
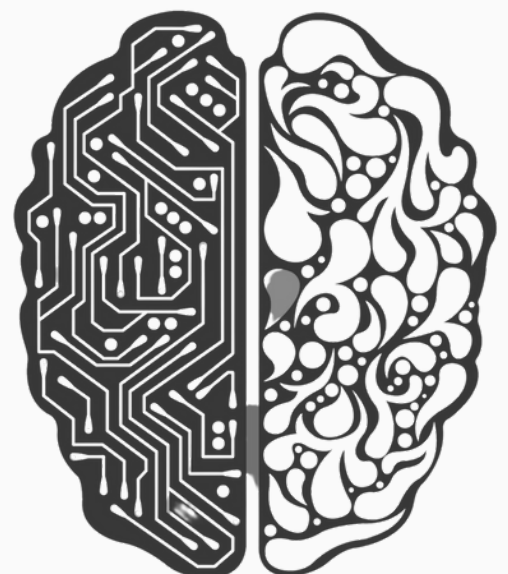
What are the uses for AI?

AI is ubiquitous today, used to recommend what you should buy next online, to understand what you say to virtual assistants such as Amazon's Alexa and Apple's Siri, google assistant, to recognize who and what is in a photo, to spot spam, or detect credit card fraud.

At a very high-level artificial intelligence can be split into two broad types:
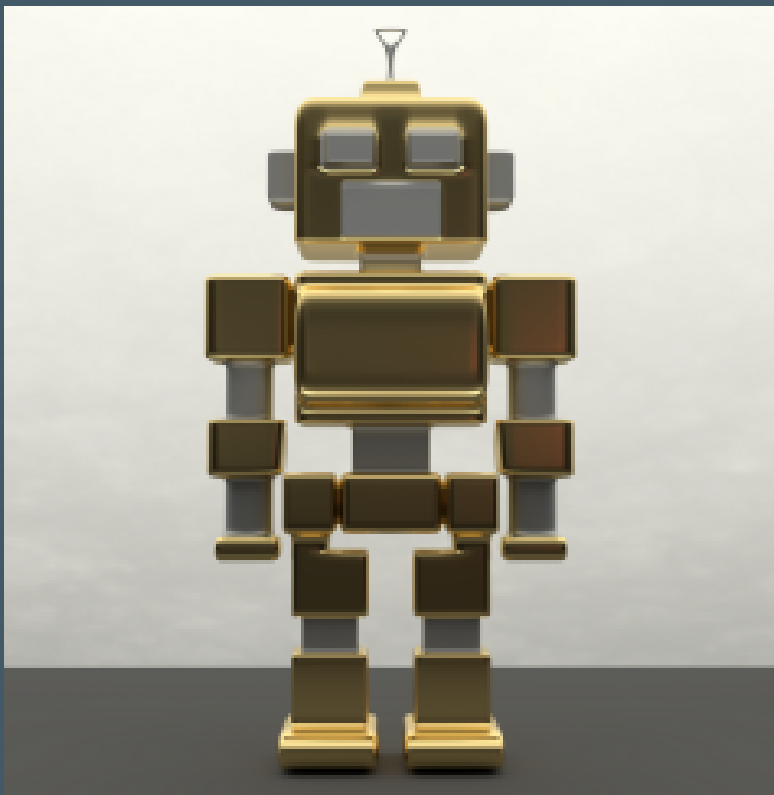1)Narrow AI
2)General AI.

WITH ARTIFICIAL INTELLIGENCE , WE ARE SUMMONING THE DEMON
-ELON MUSK

>> NARROW AI

Narrow AI is also known as weak AI. Many current systems can be classified as narrow AI. One well-known example is IBM's Watson supercomputer.

Any software that uses technologies like machine learning, data mining, pattern recognition, and natural language processing to autonomously make decisions can be considered narrow AI. As such, narrow AI systems include spam filters,self-driving cars, and Facebook's newsfeed.

>> GENERAL AI

Artificialgeneral intelligence is very different, a flexible form of intelligence capable of learning how to carry out vastly different tasks, anything from haircutting to building spreadsheets, or to reason about a wide variety of topics based on its accumulated experience.

WHICH ARE THE LEADING FIRMS IN AI?

With AI playing an increasingly major role in modern software and services, each of the major tech firms is battling to develop robust machine-learning technology for use in-house and to sell to the public via cloud services

SCAN THIS CODE TO KNOW ABOUT TOP AI FIRMS.

HOW WILL AI CHANGE THE WORLD?

ROBOTS AND DRIVERLESS CARS:

AI is only one of the technologies used in robotics, use of AI is helping robots move into new areas such as self-driving cars, delivery robots etc.

SPEECH AND LANGUAGE RECOGNITION:

Machine-learning systems have helped computers recognize what people are saying with an accuracy of almost 95 percent. Recently Microsoft's Artificial Intelligence and Research group reported it had developed a system able to transcribe spoken English as accurately as human transcribers.

FACIAL RECOGNITION AND SURVEILLANCE:

In recent years, the accuracy of facial-recognition systems has leapt forward, to the point where Chinese tech giant Baidu says it can match faces with 99 percent accuracy, providing the face is clear enough on the video.

HEALTHCARE:

AI could eventually have a dramatic impact on health-care, helping radiologists to pick out tumors in x-rays, aiding researchers in spotting genetic sequences related to diseases and identifying molecules that could lead to more effective drugs.

REFERENCES :

https://www.techopedia.com/definition/190/artificial-intelligence-ai
https://searchenterpriseai.techtarget.com/definition/AI-Artificial-Intelligence

SYSTEM-ON-A-CHIP
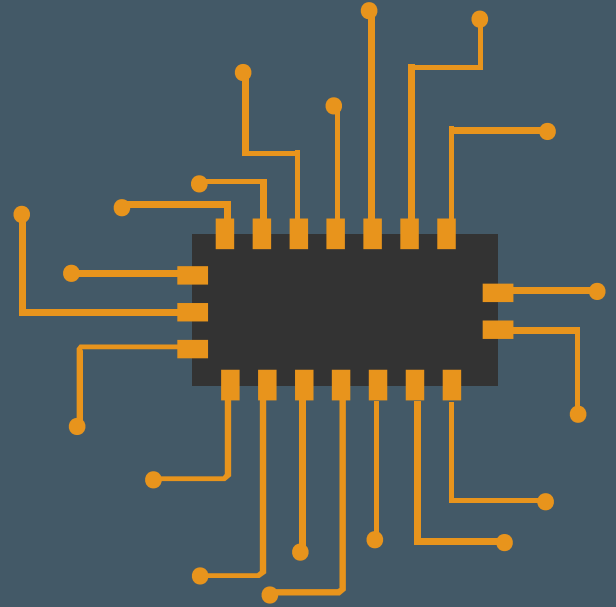
"HEART OF EVERY MOBILE"

~BY PRIYANK DAVE

What is SoC??

A system-on-a-chip (SoC) is a microchip with all the necessary electronic circuits and parts for a given system, such as a smartphone or wearable computer, on a single integrated circuit.

Components

An SoC for a sound-detecting device, for example, might include an audio receiver, an analog-to-digital converter (ADC), a microprocessor, memory,

and the input/output logic control for a user - all on a single chip.

Mainly all companies using the same system architecture from ARM. ARM functions by not only producing their own processors and GPUs but by also licensing their design and system architecture to other companies.

Examples

While you might see phones touting different SoCs from Qualcomm, MediaTek, Samsung, Huawei's own Kirin and Apple's own developed chipsets APL0298

Disadvantage

Systems on Chips have the big disadvantage that they cannot be upgraded. A
System on a Chip will usually die the same as it was born, nothing changes during its lifetime.

HAPPY ME AND MY SOUL !

~BY JINAL JADAV

We all do is just forget our self in this world, so let's start something with this.

Dear myself,
I know I am too busy in sharing my feelings with every people just left to share with you. I don't know what to say or not to, as their are thousands of

things which are happening and went through also needs to go by too. Today I just sit down and thought about you and by that second I felt tears in my eyes. To say anything also everything to others is not harder than accepting and telling the truth to ourselves it is, like to stop the sea with a single hand!!

Still I am here to share my feelings to my owns!! And sharing the feelings with own is not SELFISHNESS!!!
Let's start with me.

Hey you,
You have been through many phases of life and maybe it is not enough amount of time or age.

But you have been through galore very precisely and aptly. So dear me no matter, what you are now, whether your academics, and curriculars', who are your friends and so on, it's all about your perception you had while doing all this, and you maintain the dignity and respect for your views well.

Mom and dad always taught you to respect everyone and not to underestimate anyone anywhere, but the point is you just forgot for your own self in it somewhere. There is one quote in Hindi that "der aaye durust aaye" so now you have to learn how to love yourself and appreciate on your own way.

I feel so happy, energetic and confident by it. Maybe you proved yourself a good daughter, sister, friend or daughter; But now it's your turn to be a great person you could be for yourself.

Now let's live the life wearing beautiful smile like a stunning star and with a big heart like there could never be another day for you in the future ahead!!
Yes your family, friends and many more love you so much but I love you the most and inherently without any conditions for whom you are and what you will be in upcoming time.

Cheers for us!! And take the pledge that to be a kind hearted always with strict morals, value and follow your guts.

~Happy me and my soul.

HOW TO CREATE A STRONG PASSWORD!?

~BY KATHAN PATEL

ALERT!!! "Your Account has been accessed from unusual device"
"Your Account might be hacked,change password"

Now-a-day this type of alert are very common to popup.Hackers are everywhere who might be stalking on your account.Which is why it is very important to choose a strong unpredictable password.

Step-1 Never use Personal Details.

Never use your name or any other of personal details in your password,this can be your full-name,birthdate,your parents name,your address or any other person you love or are near you.Also don't use any of words which are available in the dictionary.Password made from above things can be cracked easily by Guessing or by simple dictionary attack.

Step-2 Use All Keys Available to Use Special Characters.

You might have noticed on many registration form online where you need to choose a password which complete a certain rule like At Least one lowercase,One uppercase,One Number,One Special character and last but not least at least 8 character in length,So why is this necessary ?. It is because mixing every available character in a password makes it very hard for a hacker to brute-force your password.Imagine if it takes minimum 1 hr to crack all lowercase 8 length password how much time it will take if its a mixture of all type of character.

Step-3 Change your password Often

The "Often" here depends on your information which is to be secured by a password.For example you should be changing your bank and email account password every 3 months or less and other websites which are not so important to you every 6 months or 1 year at least.

The reason for changing password periodically is that a hacker might be collecting information for your current password and trying to crack it may be he might have and have selled to someone who might be waiting for a right time to get into your account and harm you.by changing the password periodically you significantly reduce compromising your account even if the website is been hacked

Step-4 Use Different password On Different Accounts.

Password you use for signing in on a website into your account is been stored on that website database so if your are using same password on all the websites then you account might get hacked if hacker gets that password by hacking a less secure website,So you should always try to use different password on different websites.

Step-5 Create a Passphrase

This Is the method which makes a hacker most frustrate while cracking your password.In this step you create a password which is long but easy to remember you create a phrase or a sentence meaningful to you.

Example: "I Love Hacking And Football" now take this phrase and convert it into single string of uppercase, lowercase, number and special character.

"1<3Hack1ngAndF00tball" Now here I used "1" For "I" and "Love" becomes "<3" And "Football" becomes "F00tball"

Even Though I don't Play football or love football i added that in my password so it left hacker clueless about the password.You can Make Your Own Style which is easy for you to remember. If a hacker wants to crack this password by brute-force it will take years and good enough computing power.And if You change password again as i mentioned in step 3 your password will not get crack I hope here you got my point.

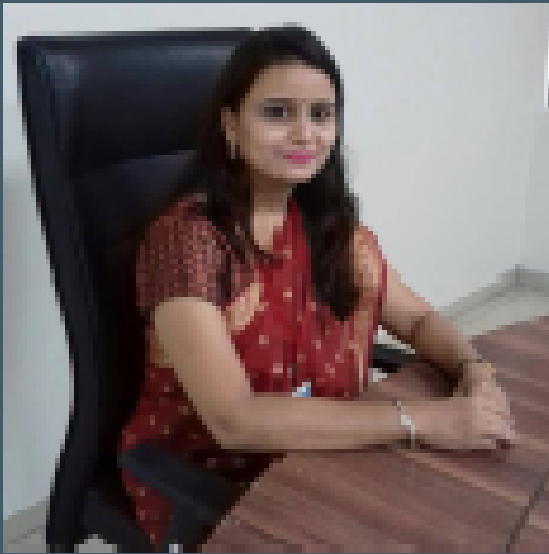# Step-6 Never Write
Your Password in
Physical World

I see most of the people write their password in there dairy or any sticky note to remember which is easily accessible by a hacker so i actually don't recommend this but if you want to store password then store it virtually which is not that easy to get access through.Better keep it in your brain.

"If you will follow above Step Properly while creating password then you will have a account which is very secure and your account will not get hacked"

INTERVIEW WITH BLUWINGS

~BY JANHVI & AISHWARYA

PROF. URVI TRIVEDI

This interview is on Prof.Urvi Trivedi who is currently teaching Mathematics in SAL Engineering and Technical Institute gave her views on general but significant topics of current affairs and about her job experience.Interviewed by Janhvi & Aishwarya.

Q:- Tell us a little bit about yourself.

Ans : First of all, I would like to thank you for giving me this opportunity to introduce myself. My name is Urvi Trivedi working as an Assistant Professor at Sal Engineering And Technical Institute for last 5 years. I teach mathematics to engineering students at various levels. I hold master degree in mathematics and then completed B.ED.

Q: - Can you tell us something about your college education.

Ans : My college education has given me a chance to sharpen my knowledge and skills towards my career. I was a regular and a hardworking student. Despite of that I have enjoyed my college and hostel life with self-learning experience

Q:- Why did you choose your career as a teacher ?

Ans : One of the reasons for becoming a teacher is to contribute my community in a meaningful way. Teaching is one of the most direct ways to impact and provide invaluable contribution to your society. This is only a unique profession where one can live with young blood towards the development. I think, I play a role of a mentor which help students to build their career and path of development. This is all what I achieve being a teacher.

Q: - What kind of habits do you want the students to develop?
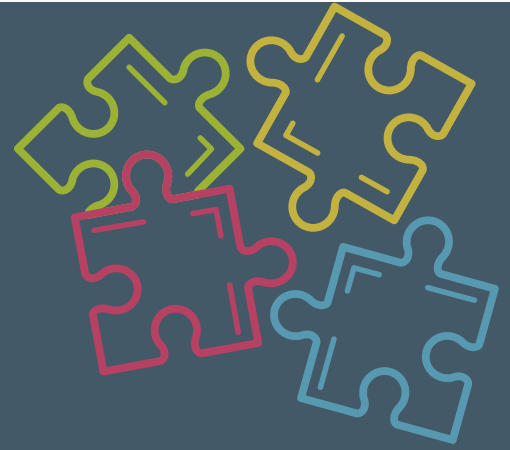
Ans : I think now a days nobody read books. Due to internet and other sources students rarely read books because everything is available on tip of their fingers. I believe, the thinking that is developed by reading is not achieved by anything else.

Q: - What are your views on the current educational system?

Ans : The current education system holds an ingenious approach, but still I believe there need to be some corrective changes for better results. Mathematics as a subject needs more focus in the initial semester rather than later semesters. Application and usage of subject should be made more clear to the engineering students.

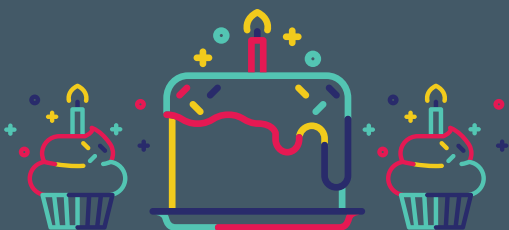# PUZZLE ZONE

~BY TAPAN DABHI

Birthday Paradox !

Q: -How many people must be there in a room to make the probability 100% that two people in the room have same birthday?

Answer: 367 (since there are 366 possible birthdays, including February 29)

THE ABOVE QUESTION WAS SIMPLE. TRY THE BELOW YOURSELF.

Q: -How many people must be there in a room to make the probability 50% that two people in the room have same birthday?

Answer: 23

The number is surprising very low. In fact, we need only 70 people to make the probability 99.9%

HAPPY BIRTHDAY

Let us discuss the generalized formula.

Q: What is the probability that two persons among n have same birthday?

Answer: Let the probability that two people in a room with n have same birthday be P(Same). P(Same) can be easily evaluated in terms of P(different) where P(different) is the probability that all of them have different birthday.

P(Same) = 1 – P(different)

P(different) can be written as 1 x (364/365) x (363/365) x (362/365) x .... x (1(n - 1)/365)

Q: How did we get the above expression?

Answer: Persons from first to last can get birthdays in following order for all birthday to be distinct:

The first person can have any birthday among 365
The second person should have a birthday which is not same as first person The third person should have a birthday which is not same as first two persons.

The nth person should have a birthday which is not same as any of the earliest considered (n -1) persons.
The above expression can be approximated using Taylor's Series.
ex = 1 + x + x^2/2!+ ...
provides a first-order approximation for ex for
x<<1: e^x 1 + x.
To apply this approximation to the first expression derived for p(different),set
x = -a / 365. Thus, e^-a/365 1 - a/365

The above expression derived for p(different) can be written as 1 x (1 – 1/365) x (1 – 2/365) x (1 – 3/365) x .... x (1 (n - 1)/365)
By putting the value of 1 – a/365 as e-a/365, we get following.
≈ 1 x e^-1/365x e^-2/365... e^-(n-1)/365
= 1 x e^-(1 + 2 + ... + (n - 1))/365
=e^-(n(n – 1)/2)/365
Therefore, p(Same) = 1 – p(different) ≈ 1 – e^-n(n - 1)/(2x365).
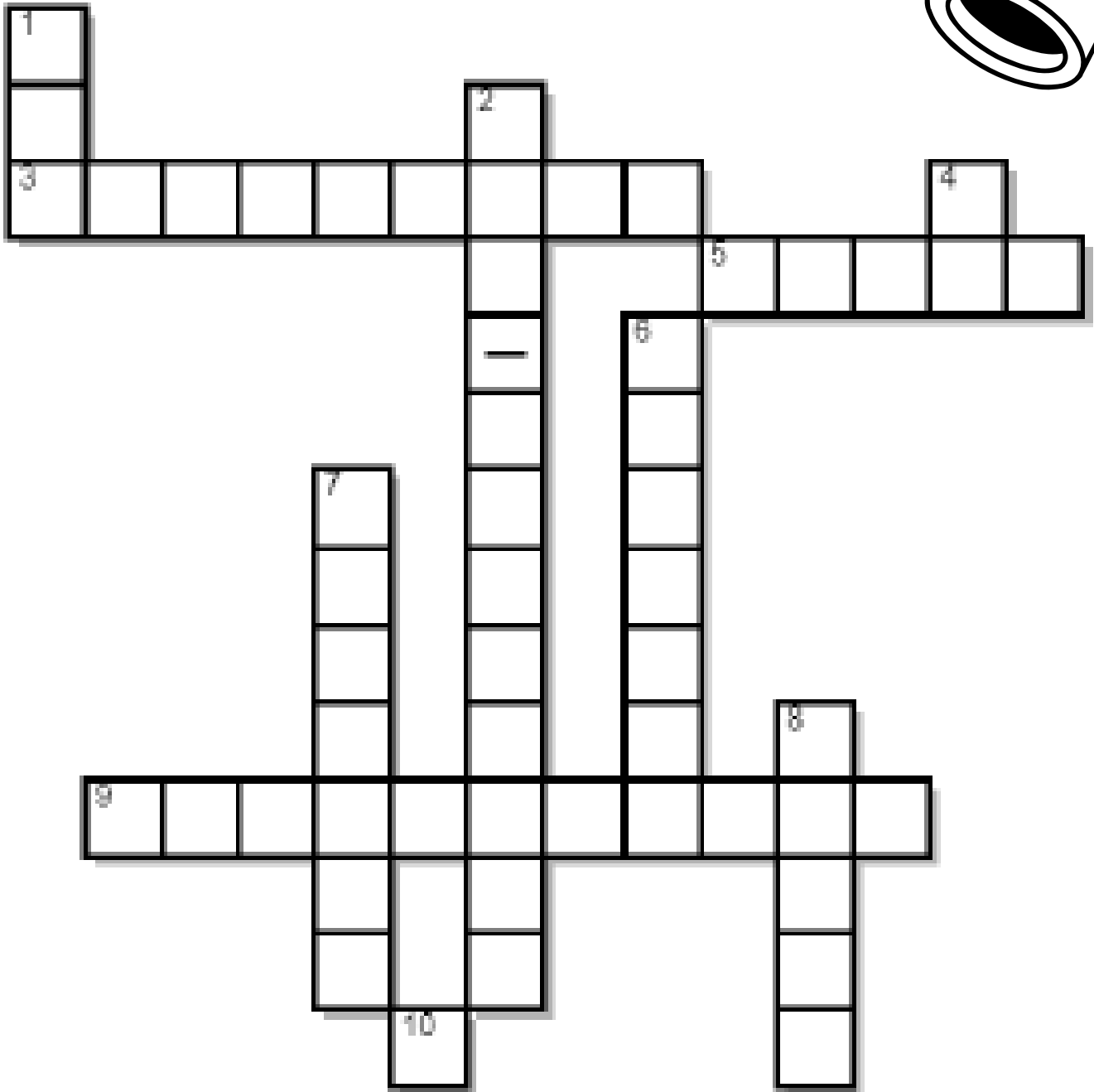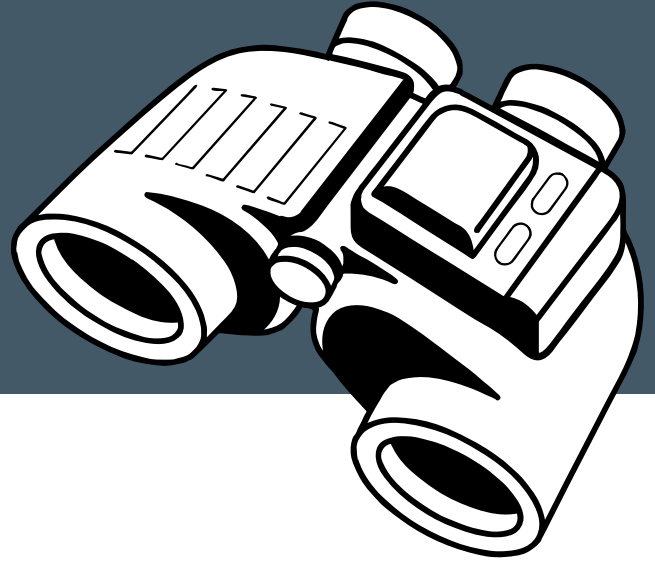An even coarser approximation is given by P(same) 1 – e^-n^2/(2 x 365)

By taking Log on both sides, we get the reverse formula.
n ≈ (2 x 365 ln(11 - p(same))^1/2
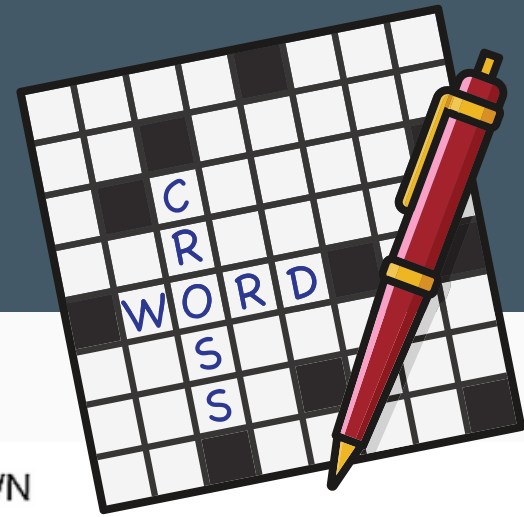
CROSSWORD

~BY JAY DOSHI

ACROSS

3   The Tamil Nadu government has tied up with which software company to accelerate cloud technology adoption

5   I am thinking of a five digit number such that:First and last digits are same, their submission is an even number and multiplication is an odd number and is equal to the fourth number. Subtract five from it and we obtain the second number. Then divide into exact half nd we get 3rd number.What number I am thinking of?

9   The first woman of India who won Miss Universe title

10 The binary system uses powers of _____

DOWN

1   _____ is the permanent memory built into your computer called.

2   Storage which stores or retains data after power off is called

4   India finishes the 18th Asian Games with how many medal?

6   The first university of India

7   Name of First Indian Missile

8   Prime Minister Narendra Modi launched the India Post Payments Bank (IPPB) in _____.

HIDDEN MESSAGE!!

~BY KATHANPATEL

CRACK THE ENCODED MESSAGE USING ONLINE TOOLS

HINT: CODE IS BASE64