



WHAT'S UP!!

CSE DEPARTMENTAL MAGAZINE

APPROVED BY
DR. SMITAA KASAR
HOD, Computer Science & Engineering

NOVEMBER 2019

Not all
who
WANDER
are
LOST



CONTENTS

- Workshop Conducted
- Events of department
- Achievement
- RED hat
- Big data
- Articles
- Creative Corner
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**CONTENT IS
ANYTHING THAT
ADDS VALUE TO
THE READER'S
LIFE**



HOD Computer Science & Engineering

DR. SMITAA KASAR

We are gratified that one more edition of the departmental magazine is being published for the academic year 2019-2020. Nurturing creativity and inspiring education are two of the key elements of a successful education. Our departmental magazine is the perfect amalgamation of both. It motivates students to bring out their creative energies and distil the essence of their inspired imagination in the most brilliant way possible.

In our department it is believed that excellence is a continuous process and in pursuit of which the department has deep forays into contributing renowned technocrats, successful entrepreneurs, competent leaders.

We take this opportunity to congratulate the faculty coordinator along with the student committee in the editorial board for making the efforts to bring out this magazine yet again. May all our students soar high in their career and bring glory to the department and institute with the wings of education.

FOR IMPROVEMENT...

WORKSHOPS CONDUCTED



"Power is gained by
Sharing Knowledge,
not hoarding it."

STTP ON SOFT SKILLS BY **MAHINDRA** PRIDE CLASSROOMS & NAANDI FOUNDATION



Event/Activity name :

STTP on Soft Skills by Mahindra Pride Classrooms & Naandi Foundation for Employability Enhancement & Youth Livelihood Program.

Description (Objective and Number of Students participated Class wise):

- Objectives:** The students can
1. Overcome their fear of speaking in English.
 2. Instill confidence.
 3. Socially aware and responsible citizens
 4. Increase employability quotient

Total number of students participated in the STTP :

54 from Third Year (TY) CSE.

Event Details:

Resource Person : Ms. Kirti Gade

Faculty Coordinator: Ms S.A.Deshmukh

Date: 19th to 24th Aug, 2019.

Academic Year: 2019-2020

OTHER TECHNICAL/ NON-TECHNICAL WORKSHOPS...

Year	Date	Participants	Name	Expert Name	Level	No. of Participants
	Date: 19 th to 24 th Aug, 2019	Students	STTP on Soft Skills – (Under Employability Enhancement & Youth Livelihood Program.)	Ms. Kirti Gade Mahindra Naandi Foundation	Institute Level	54
	03/08/2019	Students	One day workshop on “Linux Essentials” by	Mr. Prashant Khosre and Ms. Swati Vishnu.	Institute Level	66
	03/08/2019	Students	Arduino Basics	Mr. S. S. Kankal	Department Level	41
	05/08/2019	Students	Seminar on Career opportunities in open source	Mr. Prasad Dathe, CEO, OS3 Infotech Pvt Ltd. Mumbai.	Institute Level	292
	27/07/2019	Students	Android Basic Concepts	Mr. Nihit Agrawal	Department Level	56
	22 nd to 27 th July, 2019	Students and Faculty	STTP on Machine Learning and Deep Learning Techniques	Mr. Amit Mishra Edux Lab	Institute Level	36+4
	24th Aug, 2019	Students	Quiz Competition on GK	-	Institute Level	43

WORKSHOP IMAGES...



EVENTS OF DEPARTMENT



QUIZ & ALUMNI MEET.

"Sometimes you will never know the value of a moment until it becomes a memory."

QUIZ COMPETITION.

**Event/Activity name:**

Quiz Competition on GK.

Description (Objective and Number of Students participated Class wise)

Objectives: The purpose of this quiz competition is to test the knowledge of the participants beyond academics.

Total number of students participated: 43 from FY, SY and TY CSE

Faculty Coordinator: Ms S.A.Deshmukh

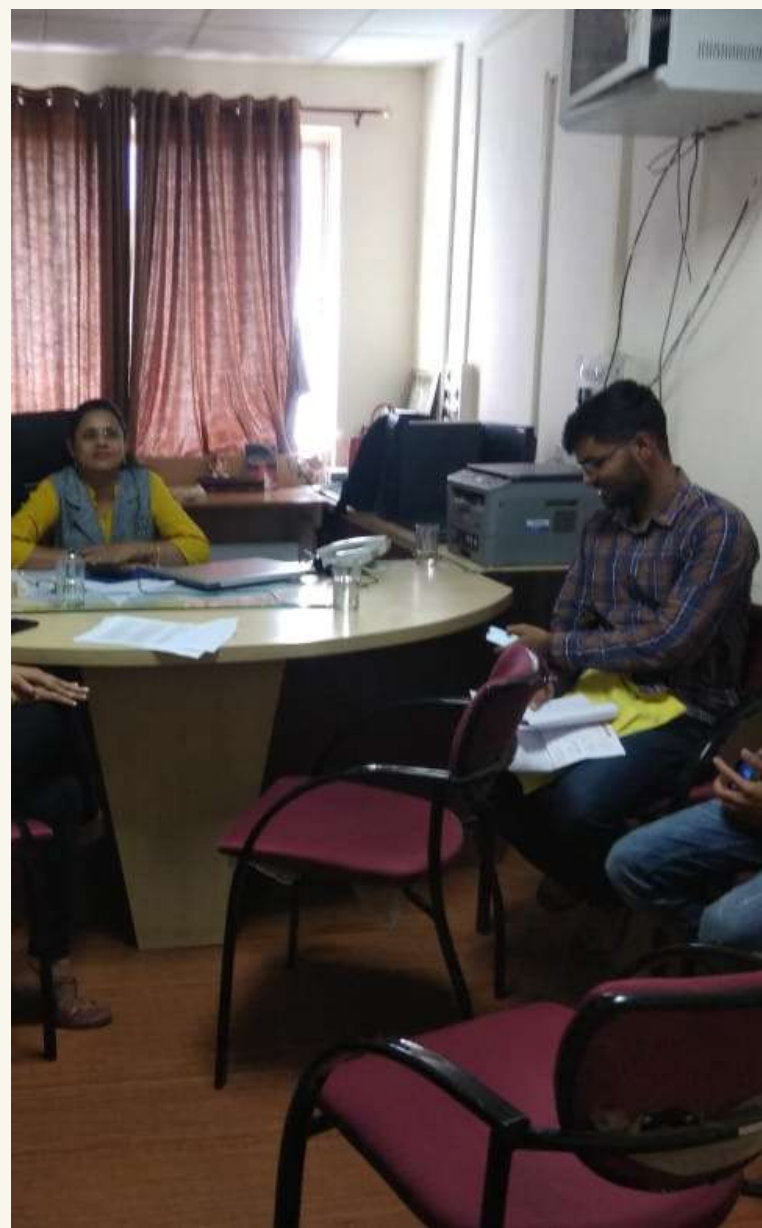
Date: 24th Aug, 2019

Academic Year: 2019-20

ALUMNI MEET OF 2019

THE GATHERING OF LIFE: CAPTURED CULTURE

DECEMBER 13-12, 2019





ACADEMIC YEAR 2019-20

ACHIEVEMENTS

FACULTY & STUDENTS

"Achievement isn't just about
what you accomplish in your life,
it's about
what you inspire others to do."

FACULTY ACHIEVEMENTS.

S.NO	Course name	Participant Name	Email id	Type	Year	
1	TALE 2: Course Design and Instruction of Engineering Course	NIHIT AGRAWAL	nihit.mit@gmail.com	Faculty	2019-20	Elite
2	TALE 2: Course Design and Instruction of Engineering Course	KAVITA BHOSLE	kvbce@gmail.com	Faculty	2019-20	Elite
3	TALE 2: Course Design and Instruction of Engineering Course	SANDIP S KANKAL	sandipkankal25@gmail.com	Faculty	2019-20	Elite
4	TALE 2: Course Design and Instruction of Engineering Course	MR KIRAN KHANDARKAR	khandarkar@gmail.com	Faculty	2019-20	Elite
5	TALE 2: Course Design and Instruction of Engineering Course	PRASHANT KHOSRE	khosreprashant@gmail.com	Faculty	2019-20	Elite
6	TALE 2: Course Design and Instruction of Engineering Course	MS. SUSHAMA ANANTRAO DESHMUKH	sushdeshmukh1@gmail.com	Faculty	2019-20	Elite
7	TALE 2: Course Design and Instruction of Engineering Course	KALA V	mrvkala@gmail.com	Faculty	2019-20	Elite
8	TALE 2: Course Design and Instruction of Engineering Course	ASRA ANJUM	aasra12@gmail.com	Faculty	2019-20	Elite
9	TALE 2: Course Design and Instruction of Engineering Course	SMITA KASAR	smitakasar@gmail.com	Faculty	2019-20	Elite
10	TALE 2: Course Design and Instruction of Engineering Course	PREETI MISHRA	preeti.iet@gmail.com	Faculty	2019-20	Elite + Silver
11	TALE 2: Course Design and Instruction of Engineering Course	BHARATI GURAV	bharatigurav2008@gmail.com	Faculty	2019-20	Elite + Silver
12	TALE 2: Course Design and Instruction of Engineering Course	MR. JAYKUMAR SHREERAM DHAGE	jaykumardhage2008@gmail.com	Faculty	2019-20	Elite + Silver
13	TALE 2: Course Design and Instruction of Engineering Course	MR. RAHUL BAHGWAT MAPARI	rahulmapari@gmail.com	Faculty	2019-20	Elite + Silver
14	TALE 2: Course Design and Instruction of Engineering Course	BHARATI PRAKASH CHAUDHARI	bharatinehete80@gmail.com	Faculty	2019-20	Elite + Silver
15	TALE 2: Course Design and Instruction of Engineering Course	SWATI SUDHAKAR VISHNU	swati.vishnu@mit.asia	Faculty	2019-20	Elite + Silver

STUDENT'S ACHIEVEMENTS.

S.NO.	Course name	Participant Name	
1	Introduction to Programming in C	KUNAL MAROTI PUSDEKAR	Elite
2	Introduction to Programming in C	SAURABH SHIVAJI MUNDE	Elite
3	Introduction to Programming in C	KUNAL SHRIRANG GHULE	Elite
4	Introduction to Programming in C	ABHISHEK ANIL HOLE	Elite
5	Introduction to Programming in C	PARMESHWARI CHANDEKAR	Elite
6	Introduction to Programming in C	APURVA GOKHALE	Elite
7	Introduction to Programming in C	DISHA RAMESH KAMBLE	Elite + Silver
8	Introduction to Programming in C	SHRUTI RAJESH GOVINDALWAR	Elite + Silver
9	Introduction to Programming in C	YUKTA DEBAL CHAKRAVARTY	Elite + Silver
10	Introduction to Programming in C	GEETA PATHRIKAR	No Certificate
11	Introduction to Programming in C	SANTOSH RAJENDRA SURADKAR	No Certificate
12	Introduction to Programming in C	NEHA THADKAR	No Certificate



redhat.®

RED HAT ACADEMY @ CSED CERTIFIED STUDENTS

Sr. No	Name of Student	RHN ID	Exam Name	Exam Date	RHCSA MARKS
1	Sarang Yogesh Mundada	symundada	RHCSA	03-10-19	283
2	Kiran Shivaji Mohate	kiranmohate	RHCSA		300
3	Pranav Anil Kamlaskar	pranavkamlaskar	RHCSA		300
4	Arti Patil	aratipatil	RHCSA		250
5	Vaishnavi Rakhunde	VaishnaviRakhunde	RHCSA		300
6	Namrata Harshe	NamrataHarshe	RHCSA		283
7	Dhanashri Shinde	dhanshrishinde	RHCSA		267
8	RUSHIKESH RAJENDRA UDAWANT	R Udawant	RHCSA		233
9	Abhishek Chaudhari	abhishekchaudhari14	RHCSA	11-11-19	300
10	Bhushan Narkhede	bhushannarkhede2301	RHCSA		283
11	Praful Ingle	prafulci18	RHCSA		283
12	Kunal Pusdekar	kunalpusdekar	RHCSA		267
13	Mayank khandelwal	mayank@0404	RHCSA		250
14	Saurav Padghan	SauravPadghan	RHCSA		250
15	Yukta Chakravarty	Yukta	RHCSA		300
16	Shruti Govinddalwar	shru555	RHCSA		250
17	Manisha Rashinkar	manisharashinkar	RHCSA		250
18	Neha Anilrao Kulkarni	N. JA Kulkarni	RHCSA		267



BIG DATA BACTH 2019



Sr. No	Student name
1	Kanchan Bhalerao
2	Dheeraj Narkhede
3	Gaurav kaje
4	Sachin Rathode
5	Shrikant Salve
6	Shubham Jadhav

FACTS ABOUT BIG DATA

- The amount of information man created from the dawn of civilization until 2003 is currently created every two days!
- 2.5 quintillion bytes of data are generated by internet users on a daily basis.
- Out of all the data we create, only about 0.5% is analyzed and put to use.
- 40,000 search queries are processed by Google every second and these add up to 3.5 billion and 1.2 trillion searches every year globally.

ARTICLES

- Green Computing.
- Tomography in Archaeology.
- Virtual Reality.
- The Bitcoin Story.
- Cloud Computing.
- Nano Fiber.
- Quantum Machine.
- Neural Network.
- Appwrite.
- Red Hat



**"STAY CONNECTED,
STAY UPDATED."**

GREEN COMPUTING

Green computing, the study and practice of efficient and eco-friendly computing resources is now under the attention of not only environmental organizations, but also businesses from other industries.

In recent years, companies in the computer industry have come to realize that going green is in their best interest, both in terms of public relations and reduced costs. The Green Computing Initiative, stewards of the industry standards EFGCD - Eco - Friendly Green Computing Definition defines Eco- Friendly Green Computing as the study and practice of the design, development, implementation, utilization and disposal of IT infrastructure efficiently and effectively with low the ICT industry is responsible for 3% of the world's energy consumption. With the rate of consumption increasing by 20% a year, 2030 will be the year when the world's energy consumption will double because of the ICT industry. computing means any goal-oriented activity requiring, benefiting from, or creating computers. It is important to understand the need of the study of green computing. It is a tool by which global warming can be control and reduce. The Global surface temperature increased by 0.84 ± 0.28 °C (33.512 ± 32.502 °F) during the 100 years ending in 2014. Most conspicuously, according to the latest IPCC report the global surface temperature will likely to rise a further 2.2 to 8.9 °C (36.96 to 48.09 F) during the twenty-first century.

WHY WE USE GREEN COMPUTING...

We have great machines and equipment to accomplish our tasks, great gadgets with royal looks and features make our lives more impressive and smoother. Goals of green computing are to reduce the use of hazardous materials, maximize energy efficiency during the product's lifetime, and promote the recyclability or biodegradability of defunct products and factory waste. Therefore, we use Green Computing for following benefits

- 1) Using ENERGY STAR qualified products help in energy conservation.
- 2) The Climate Savers Computing Initiative (CSCI) catalogue can be used for choosing green products.
- 3) Organic light-emitting diodes should be used instead of the regular monitors.
- 4) Surge protectors offer the benefit of green computing by cutting off the power supply to peripheral devices When the computer is turned off.
- 5) Donating your old computers and other peripherals can reduce the rate of e-waste creation.
- 6) It was expected that computers would help reduce paper wastage. However, even today wastage of paper is a serious issue in industries. The easy availability of photocopiers and printers is also one of the culprits behind unchecked paper wastage. Think twice before using printers.



- 7) Use the device only if it is necessary.
- 8) The manufacturing of disks and boxes needed for video games takes up a lot of resources.
- 9) Video game manufacturers can offer their games online for download, leading to reduction in e-waste. This move can cut down on the transportation/shipping cost.
- 10) Use of 'Local Cooling' software can help in monitoring and thereby, bringing down the energy consumed by your computer. This 'Windows' program adjusts the power options of your computer and helps minimize energy consumption.

GLOBAL EFFECT

No matter what we do, global warming is going to have some effect on Earth. Here are the six deadliest effects of global warming.

1. Polar ice caps melting
2. Spread of disease
3. Warmer waters and more hurricanes
4. Increased probability and intensity of droughts and heat waves
5. Economic consequences
6. E-Waste

GREEN COMPUTING IN THE BIOMEDICAL FIELD

Computing in biomedical systems can be classified into three categories:

1. Implantable device
2. Portable/embedded devices
3. Server

Application of green computing in any of the categories requires knowledge of the attributes of each of them. For instance, an implantable device requires a continual source of energy, efficient thermal management, and high reliability. The battery life for portable devices is critical. However, their performance cannot be compromised. In the case of biomedical servers, application of renewable energy sources and performance hold higher significance. Overall, we can ascribe one or more of the following attributes when analysing the application of green computing in any of the categories of biomedical systems:

- Power consumption
- Renewable energy resource—energy harvesting
- Heat dissipation
- Minimizing area
- Cost
- Performance
- Reliability

- Ms. Seema Chaudhary, Associate Prof.

Caring about the
environment is beautiful.



Computed Tomography in Archaeology



INTRODUCTION

We are living in 21st century, but still we are curious about ancient era. Archaeology is nothing but the study of ancient artefacts (objects used by human), structures i.e. old buildings etc. IT applications not only used for real world applications but also it is used to preserve heritage like ancient scriptures, manuscripts, sculptures etc.

COMPUTED TOMOGRAPHY

3D image processing is extensively used in reconstruction of sculptures, artefacts. In plain film imaging(X-ray) reduces the 3D patient anatomy to a 2D projection image. This lost the information with respect to the dimension parallel to the x-ray beam. Limitation can be overcome, to some degree, by acquiring two images at an angle of 90 degrees to one another. From Figure 1 two projections of Lung's, easily width, height and depth can be calculated.

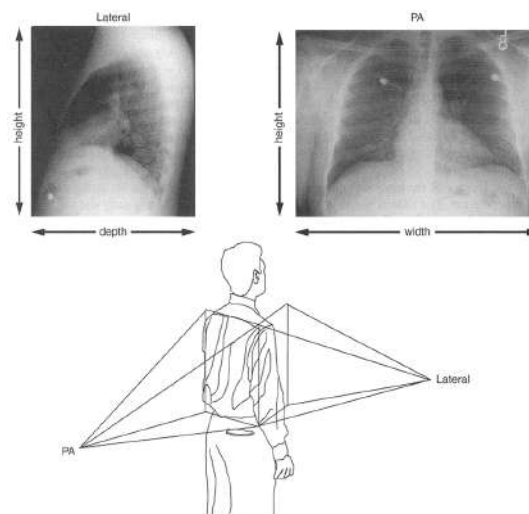


Figure 1 : Lung's Projection

In medical field, The CT image is a picture of a slab of the patient's anatomy. In tomographic acquisition, A series of rays that pass through the patient at the same orientation is called a projection or view. Two projection geometries have been used in CT imaging. Parallel beam geometry with all rays in a projection parallel to one another. Fan beam geometry, in which the rays at a given projection angle diverge.

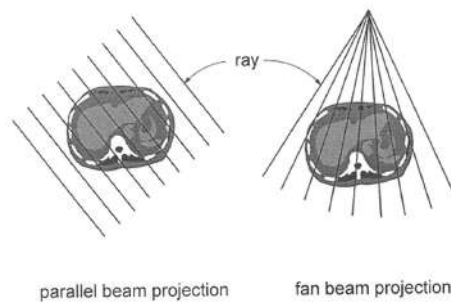


Figure 2: Projection Geometries

The 2D array of pixels in the CT image corresponds to an equal number of 3D voxels (volume elements) in the patient. Each pixel on the CT image displays the average x-ray attenuation properties of the tissue in the corresponding voxel.

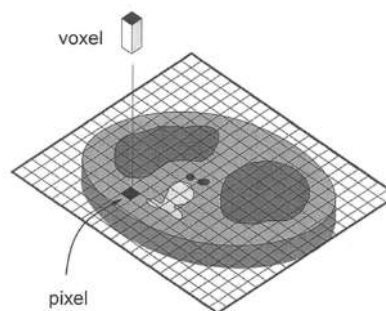


Figure 3 : Voxel

RECONSTRUCTION ALGORITHM IN ARCHEOLOGY

One of the important area in archeology is pottery analysis. Investigating pottery without destructing original structure. This is possible by applying image processing to reconstruct structure on computer. There are numerous reconstruction algorithms - Filtered back projection reconstruction is most widely used in clinical CT scanners. As data from a large number of rays are back projected onto the image matrix, areas of high attenuation tend to reinforce one another, as do areas of low attenuation, building up the image.

Data of ancient artefacts using their materials densities can be acquired using industrial computed tomography (CT) with a high resolution down to few microns.

NEURON RECONSTRUCTION ALGORITHM (NEURA)

NeuRa was developed to reconstruct surface morphology from bulk images comprising networks from neuron cells. NeuRA gives automatic generation of triangular meshes from bulk images of archaeology data which are generated from computed tomography

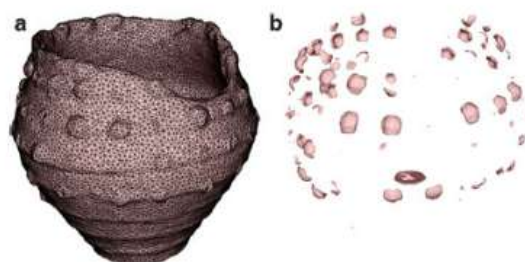


Figure 4 : Reconstructed triangular mesh of vessel from CT scan

In a first step, noise reduction techniques have been applied. To enhance images filters and segmentation techniques have been used. At last optimized mesh has been generated. To render images within in a few minutes, Compute Unified Device Architecture (CUDA) environment has been used. Interactive viewing of ceramics is possible due to real time rendering of triangular meshes. It also allows analysis at different level due to automated segmentation of density. Figure 5 shows steps of NeuRA.

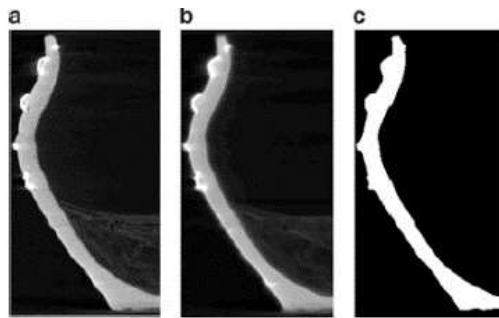


Figure 3 : Voxel

Figure 5 : (a) Cross section of CT data
(b) after noise reduction via inertia based anisotropic diffusion
(c) After segmentation.

NeuRA2 is automated GPU-based surface morphology reconstruction of bulk data for archaeology.

Noise based filter that is inertia based anisotropic diffusion scheme has been applied to improve the result of image segmentation, while preserving the size of structures, contained in the image by considering the gray values of the image as a temperature distribution and forcing the diffusion of this heat distribution along solid structures of the image. The diffusivity tensor controls the diffusivity along planar structures and prohibits diffusion perpendicular to them, preserving the size of structures inside the image. The nonlinear heat uses Backward Euler time discretization and finite volume spatial discretization. A marching cubes mesh generator is used for generating the triangular mesh from the segmented image. The Hoppe mesh algorithm eliminates unnecessary small triangles from generated mesh to smooth it. TetGen tool generates a volumetric tetrahedral mesh from the triangular surface mesh and calculates volume of object. Together with weight of the object, average bulk density i.e. the density including the ceramic matrix with interparticle voids and internal pore volume can be calculated. This is as a useful feature for comparing pottery fabrics, which have different porosity and portions of less or more dense inclusions. The method also enables to determine the voids alone within the ceramic and to calculate their total volume. Besides the accurate visualization of the vessels for answering questions about the morphological development of ancient pottery shapes (Figure. 6),



Figure 6 : Reconstruction and chronological development of vessel shape.

the surface reconstruction method by using CT-data offers a fast tool to calculate the capacity of the vessel. Determining the capacity is important to specify certain standardization or units of measurement in ancient cultures. Additionally, the future research has to use the entire volumetric data of the CT for textural analysis, i.e. orientation, size, portions of voids and inclusions.

VIRTUAL

REALITY

What is Virtual Reality?

Virtual reality is an interactive computer generated experience taking place with a simulated environment, that incorporates mainly auditory and visuals, but also other types of sensory feedback like haptic. This immersive environment can be similar to the real world or it can be fantastical, creating an experience or situation that is not possible in ordinary physical reality. Augmented reality system it may also be considered a form of VR that layers virtual information over a live camera feed into a headset or through a smartphones or tablet devices giving the user the ability to view three-dimensional images.

How is Virtual Reality achieved?

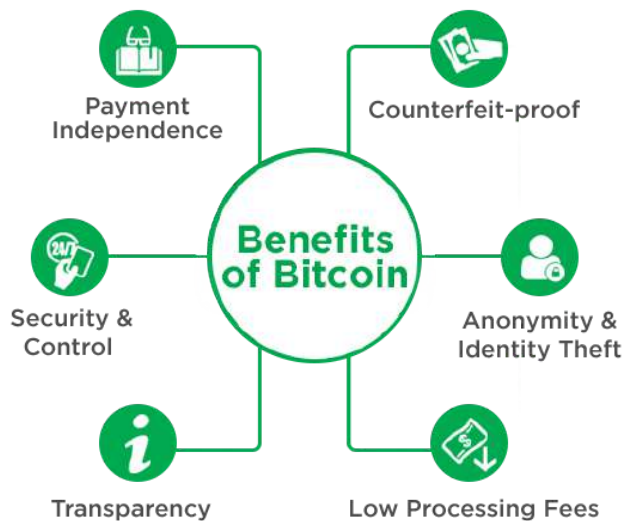
Although we talk about a few historical early forms of virtual reality elsewhere on the site, today virtual reality is usually implemented using computer technology. There are a range of systems that are used for this purpose, such as headsets, omni-directional treadmills and special gloves. These are used to actually stimulate our senses together in order to create the illusion of reality

- Parmeshwari Chandekar

THE BITCOIN STORY

CREATION OF BITCOIN

The domain name "BITCOINN.ORG" was registered on 18 August 2008. In November 2008, a link to a paper authored by Sattoshi Nakamoto titled Bitcoin: A Peer-to-Peer Electronic Cash System. Nakamoto implemented the Bitcoin software as open source Code and released it in January 2009. The identity of Nakamoto remains unknown. In 2009, the Bitcoin network was created when Nakamoto mined the first the genesis Block.



The receiver of the first Bitcoin transaction was cypher punk Hal Finney. Finney downloaded the Bitcoin software on its release date, and received 10 Bitcoin from Nakamoto. Nakamoto is estimated to have mine 11 million Bitcoin before disappearing in 2010, when he handed thee network alert key and control of the code repository over to Gavin Andresen. Andresen later became lead developer at the Bitcoin Foundation.

As per today's updates, rate of 1 Bitcoin is 559949.09 Indian Rupee.

-Mr. Nihit Agrawal, Assistant Prof.



A QUANTUM MACHINE.

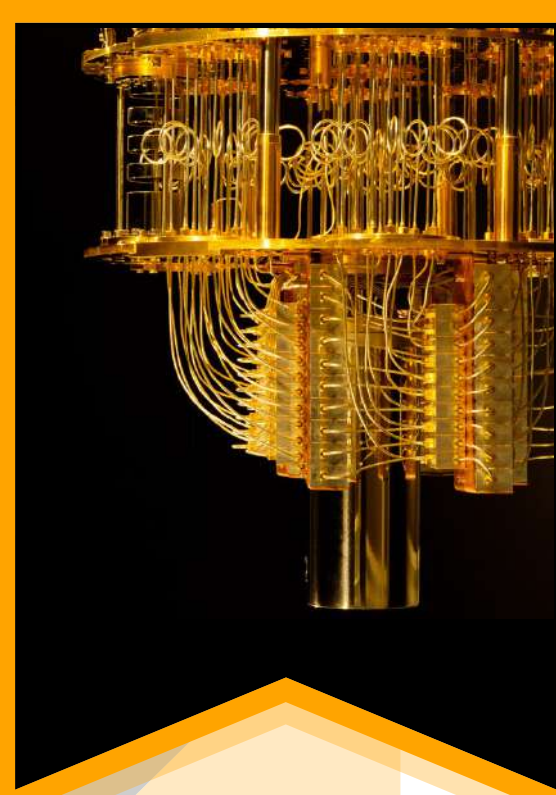
THAT'S FULLY PROGRAMMABLE

An ion trap captures charged particles in a quantum machine, helping it to run any algorithm, or sequential steps, using 5 qubits. S. Debnath and E. Edwards/Joint Quantum Institute A small but mighty quantum computer was debuted in August by physicists at the University of Maryland. Unlike other quantum devices, this one is fully programmable, a significant step toward general use of quantum machines. Ions trapped by electric fields and controlled via laser enable the device to run any algorithm, or sequential operation of steps, using 5 qubits. "This system was built so that it could be scaled up," says physicist Chris Monroe, whose team is adding qubits to the device. The scale-up has no clear limit, he adds. Google just took a quantum leap in computer science. Using the company's state-of-the-art quantum computer, called Sycamore, Google has claimed "quantum supremacy" over the most powerful supercomputers in the world by solving a problem considered virtually impossible for normal machines. The quantum computer completed the complex computation in 200 seconds. That same calculation would take even the most powerful supercomputers approximately 10,000 years to finish, the team of researchers, led by John Martinis, an experimental physicist at the University of California, Santa Barbara, wrote in their study published Wednesday (Oct. 23) in the journal Nature. "It is likely that the classical simulation time, currently estimated at 10,000 years, will be reduced by improved classical hardware and algorithms,"

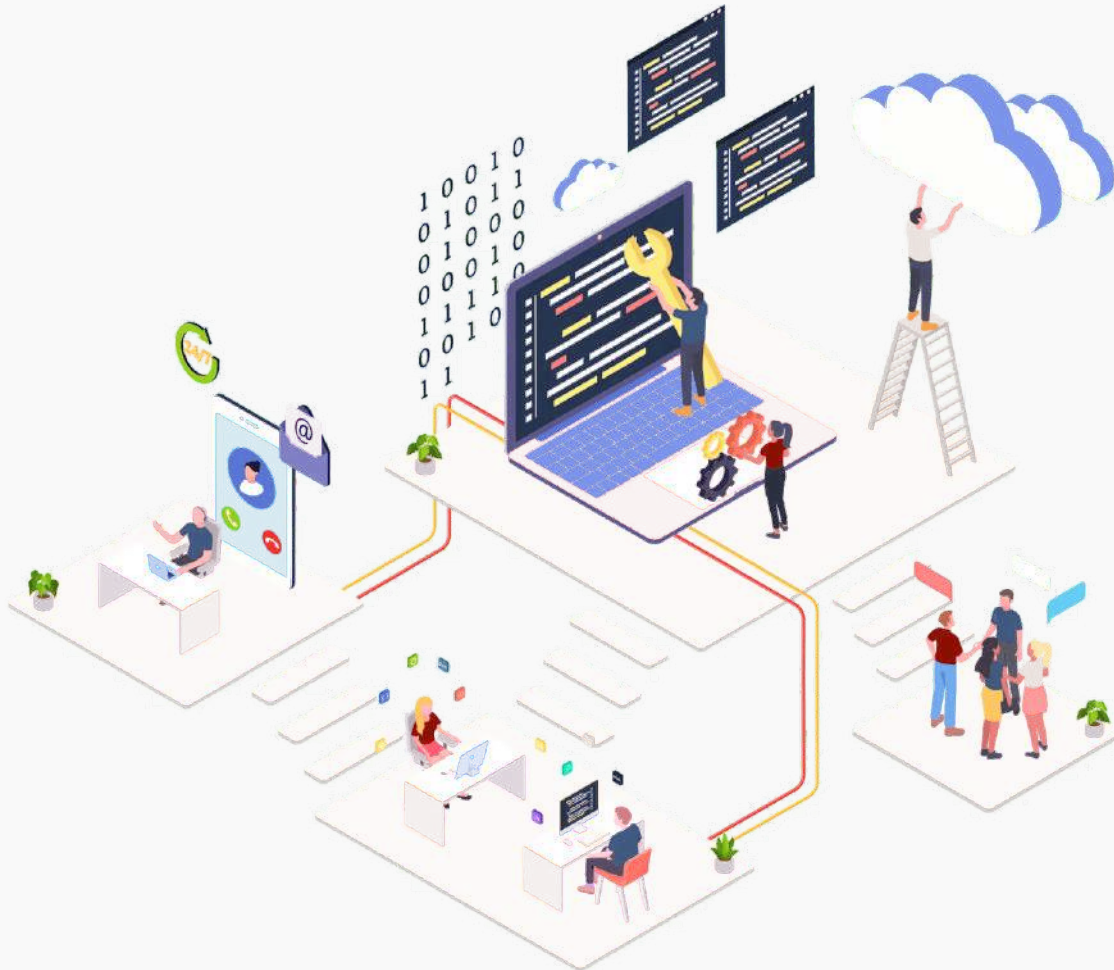
STRENGTH IN UNCERTAINTY

Ordinary computers perform calculations using "bits" of information, which, like on-and-off switches, can exist in only two states: either 1 or 0. Quantum computers use quantum bits, or "qubits," which can exist as both 1 and 0 simultaneously. This bizarre consequence of quantum mechanics is called a superposition state and is the key to the quantum computer's advantage over classical computers.

For example, a pair of bits can store just one of four possible combinations of states (00, 01, 10 or 11) at any given time. A pair of qubits can store all four combinations simultaneously, because each qubit represents both values (0 and 1) at the same time. If you add more qubits, your computer's power grows exponentially. Three qubits store eight combinations, four qubits store 16, and so on. Google's new computer with 53 qubits can store 2^{53} values, or more than 10,000,000,000,000,000 (10 quadrillion) combinations. This number gets even more impressive when another fundamental and equally bizarre property of quantum mechanics enters the show: entangled states.



CLOUD COMPUTING



Cloud computing enables us to utilize high end resources so we built great application without worrying. As example, you want to create an application that host images, you don't have to worry about hardware, security of hardware, backup headache, only thing you need to take about is your application. Why do we need cloud? Now the benefits you get by using cloud is no hardware management headache, you can access and manage your application for anywhere in the world, power of customization, huge amount of services are available. Now there are various cloud service providers like, Google Cloud Platform, ORACLE Cloud Computing, IBM Cloud, and Amazon Web Services.

- Arti Patil

NANO FIBER

A nanofiber cloth could help drought-hit communities capture drinking water from the air. Fog nets usually consist of a sheet of polythene mesh strung between two poles. Passing water vapor condenses on the small fibres and below. They used electrospun polymers - a technique which allowed them to create nanoscale fibres. The fibres provide a large surface area for droplets to condense onto, and the graphite encourages the water to drip out of the material when it is squeezed or heated. Wong says that harvesters made with these nanofibers could yield up to 180 litres of water per square metre every day. As well as squeezing water from the air, the nanofibres also filter out dirt and bacteria, meaning the water is safe to drink.

Silver nanoparticles in fabric that kills bacteria making clothing odor-resistant. Nanopores providing superior insulation for shoe inserts in cold weather. Nanoparticles that provide a "lotus plant" effect for fabric used awnings and other material left out in the weather, causing dirt to rinse off in the rain. Nanofibers are pretty incredible. Since they must be synthetically produced, they can be customized for various purposes. Some are made to conduct electricity, some to conduct or resist heat, others to be as strong and inflexible as possible. What the nanofibers are capable of basically comes down to how they are made and used. Most nanofibers are made by a process called electrospinning, in which a polymer (plastic) solution is spun at very high speeds and exposed to electrostatic forces, pulling the polymers into extremely thin fibers.

- Vaishnavi Rakhunde



NEURAL

NETWORK

In this world of technology, artificial intelligence is getting good at identifying things: show it a million pictures, and it can tell you with uncanny accuracy which ones depict a pedestrian crossing a street. But AI is hopeless at generating images of pedestrians by itself. If it could do that, it would be able to create gobs of realistic but synthetic pictures depicting pedestrians in various settings, which a self-driving car could use to train itself without ever going out on the road. Dueling Neural Networks matters a lot because this gives machines something akin to a sense of imagination, which may help them become less reliant on humans, but also turns them into alarmingly powerful tools for digital fakery. The problem is creating, something entirely new requires imagination until now that has perplexed AIs. The solution first occurred to Ian Goodfellow then a Phd student at university of Montreal, during an academic argument in the bar 2014. The approach known as, Generative Adversarial Network, or GAN.

The tool is an emerging cryptographic protocol called a zero-knowledge proof. Though researches have worked on it for decades, interest has exploded in the past year, thanks in part to the growing obsession with cryptocurrencies, most of which aren't private. Over time, the generator can become so good at producing images that the discriminator can't spot fakes. Essentially, the generator has been taught to recognize, and then create, realistic looking images of pedestrians.

- Apurva Gokhale

Appwrite

It is a simple self-hosted backend server for web and mobile developers with a shiny dashboard and a very easy-to-use REST API. Appwrite API services aim to make developer's life a lot easier by hiding the complexity of common and repetitive software development tasks. Using Appwrite, you can easily manage user authentication with multiple sign-in methods, a database for storing and querying user and team data, storage and file management, image manipulation and cropping, schedule cron tasks and many other features to help you get more results in faster times and with a lot less code.

Installation:

Appwrite backend server is designed to run in a container environment. Running your server is as easy as running one command from your terminal. You can either run Appwrite on your localhost using docker-compose or on any other container orchestration tool like Kubernetes, Docker Swarm or Rancher. The easiest way to start running your Appwrite server is by running our docker-compose file. Once the Docker installation completes, go to <http://localhost> to access the Appwrite console from your browser. Please notice that on non-linux native hosts, the server might take a few minutes to start after installation completes. For advanced production and custom installation, check out our Docker environment variables docs.

Services Auth

- Manage user authentication using multiple sign-in methods and account recovery.

Account

- Manage current user account. Track and manage the user sessions, devices, and security audit log.

Users

- Manage and list all project users when in admin mode.

Teams

- Manage and group users in teams. Manage memberships, invites and user roles within a team.

Database

- Manage database collections and documents. Read, create, update and delete documents and filter lists of documents collections using an advanced filter with graph-like capabilities.

Storage

- Manage storage files. Read, create, delete and preview files. Manipulate the preview of your files to fit your app perfectly.



Red Hat, Inc. is an American multinational software company providing open source software products to the enterprise community. Founded in 1993, Red Hat has its corporate headquarters in Raleigh, North Carolina, with other offices worldwide. It became a subsidiary of IBM on July 9, 2019. Red Hat has become associated to a large extent with its enterprise operating system Red Hat Enterprise Linux. With the acquisition of open-source enterprise middleware vendor JBoss, Red Hat also offers Red Hat Virtualization (RHV), an enterprise virtualization product. Red Hat provides storage, operating system platforms, middleware, applications, management products, and support, training, and consulting services.

Red Hat creates, maintains, and contributes to many free software projects. It has acquired several proprietary software product codebases through corporate mergers and acquisitions and has released such software under open source licenses. As of March 2016, Red Hat is the second largest corporate contributor to the Linux kernel version 4.14 after Intel.

Red Hat operates on a professional open-source business model based on open-source software, development within a community, professional quality assurance, and subscription-based customer support. They produce open-source code so that more programmers can make adaptations and improvements.

Red Hat sells subscriptions for the support, training, and integration services that help customers in using their open-source software products. Customers pay one set price for unlimited access to services such as Red Hat Network and up to 24/7 support.

In September 2014, however, CEO Jim Whitehurst announced that Red Hat was "in the midst of a major shift from client-server to cloud-mobile".

Rich Bynum, a member of Red Hat's legal team, attributes Linux's success and rapid development partially to open-source business models, including Red Hat's. One Laptop per Child Edit Red Hat engineers worked with the One Laptop per Child initiative (a non-profit organization established by members of the MIT Media Lab) to design and produce an inexpensive laptop and try to provide every child in the world with access to open communication, open knowledge, and open learning.



The XO-4 laptop, the latest machine of this project, runs a slimmed-down version of Fedora 17 as its operating system.

GNOME

Red Hat is the largest contributor to the GNOME desktop environment. It has several employees working full-time on Evolution, the official personal information manager for GNOME.

Dogtail

Dogtail, an open-source automated graphical user interface (GUI) test framework initially developed by Red Hat, consists of free software released under the GNU General Public License (GPL) and is written in Python. It allows developers to build and test their applications. Red Hat announced the release of Dogtail at the 2006 Red Hat Summit.

MRC

Red Hat MRC is a clustering product intended for integrated high-performance computing (HPC). The acronym MRC stands for "Messaging Realtime Grid".

Red Hat Enterprise MRC replaces the Red Hat Enterprise Linux RHEL, a Linux distribution developed by Red Hat, kernel in order to provide extra support for real-time computing, together with middleware support for message brokerage and scheduling workload to local or remote virtual machines, grid computing, and cloud computing.

As of 2011, Red Hat works with the Condor High-Throughput Computing System community and also provides support for the software.

The Tuna performance-monitoring tool runs in the MRC environment

Opensource.com

Red Hat produces the online publication Opensource.com. The site highlights ways open-source principles apply in domains other than software development. The site tracks the application of open-source philosophy to business, education, government, law, health, and life. The company originally produced a newsletter called Under the Brim. Wide Open magazine first appeared in March 2004, as a means for Red Hat to share technical content with subscribers on a regular basis.



The Under the Brim newsletter and Wide Open magazine merged in November 2004, to become Red Hat Magazine. In January 2010, Red Hat Magazine became Opensource.com.

Red Hat Exchange

In 2007, Red Hat announced that it had reached an agreement with some free software and open-source (FOSS) companies that allowed it to make a distribution portal called Red Hat Exchange, reselling FOSS software with the original branding intact.[56][57] However, by 2010, Red Hat had abandoned the Exchange program to focus their efforts more on their Open Source Channel Alliance which began in April 2009. Red Hat Enterprise MRG replaces the Red Hat Enterprise Linux RHEL, a Linux distribution developed by Red Hat, kernel in order to provide extra support for real-time computing, together with middleware support for message brokerage and scheduling workload to local or remote virtual machines, grid computing, and cloud computing.

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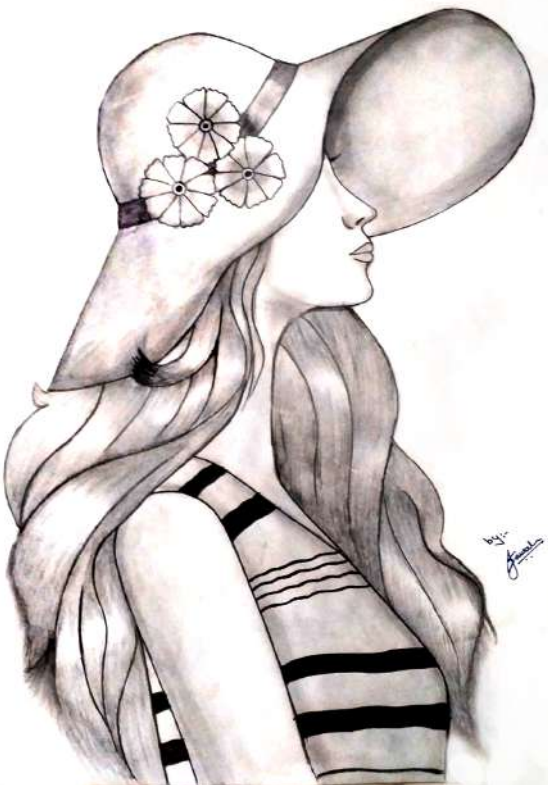
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Painting, Sketches...

"Design creates culture,
Culture shapes values,
Values determine the future."

-- Robert L. Peters.

SKETCHES



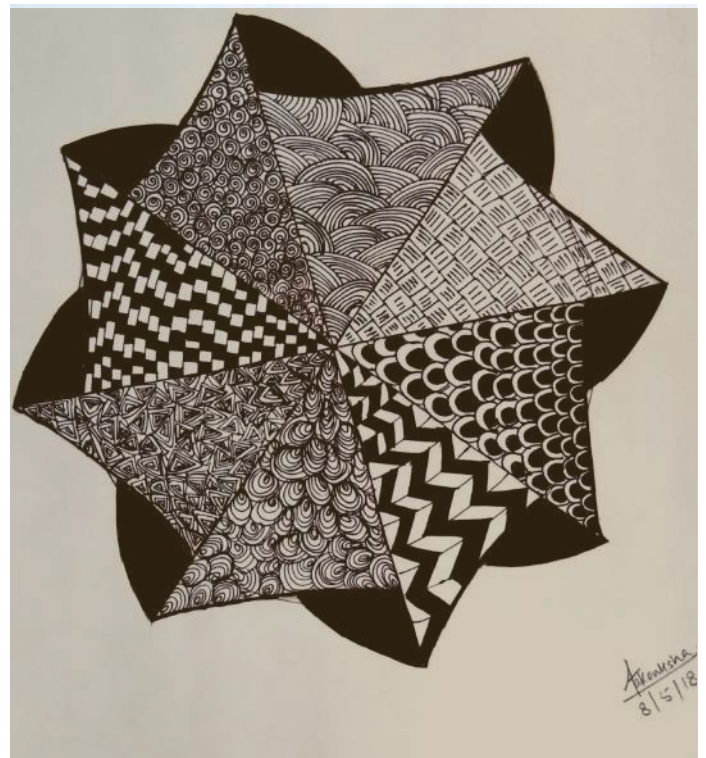
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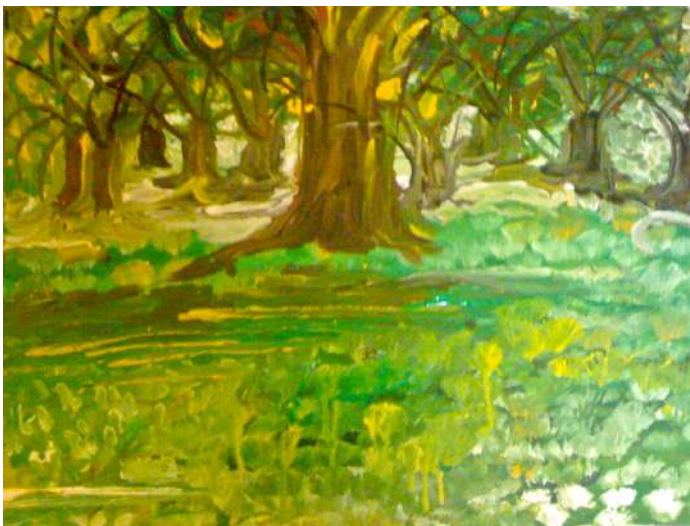
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HAVE TO WORK A DAY IN YOUR LIFE."

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THINKING OUT OF THE BOX (CREATIVE THINKING)

In a small Italian town, hundreds of years ago, a small business owner owed a large sum of money to a loan-shark. The loan-shark was a very old, unattractive looking guy that just so happened to fancy the business owner's daughter. He decided to offer the businessman a deal that would completely wipe out the debt he owed him. However, the catch was that we would only wipe out the debt if he could marry the businessman's daughter. Needless to say, this proposal was met with a look of disgust.

The loan-shark said that he would place two pebbles into a bag, one white and one black.

The daughter would then have to reach into the bag and pick out a pebble. If it was black, the debt would be wiped, but the loan-shark would then marry her. If it was white, the debt would also be wiped, but the daughter wouldn't have to marry the loan-shark. Standing on a pebble-strewn path in the businessman's garden, the loan-shark bent over and picked up two pebbles. Whilst he was picking them up, the daughter noticed that he'd picked up two black pebbles and placed them both into the bag. He then asked the daughter to reach

into the bag and pick one. The daughter naturally had three choices as to what she could have done:

- 1. Refuse to pick a pebble from the bag.**
- 2. Take both pebbles out of the bag and expose the loan-shark for cheating.**
- 3. Pick a pebble from the bag fully well knowing it was black and sacrifice herself for her father's freedom.**

She drew out a pebble from the bag, and before looking at it 'accidentally' dropped it into the midst of the other pebbles. She said to the loan-shark;

“Oh, how clumsy of me. Never mind, if you look into the bag for the one that is left, you will be able to tell which pebble I picked.”

The pebble left in the bag is obviously black, and seeing as the loan-shark didn't want to be exposed, he had to play along as if the pebble the daughter dropped was white, and clear her father's debt.

Moral of the story:

It's always possible to overcome a tough situation throughout of the box thinking, and not give in to the only options you think you have to pick from.

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