OUR RESULTS

Second Year Topers

Name of Student	% age
HOTE SHITAL SHIVAJI	93.6 %
KAPASE POOJA RAJARAM	89.6 %
SALUNKHE VAISHNAVI ARUN	88.27 %
SHELAKE SWATI BHARAT	88.27 %

Third Year Topers

Name of Student	% age
LONDHE POONAM ANKUSH	90.78 %
ASABE RUTUJA HANUMANT	89.67 %
SALUNKHE PRITI NAVNATH	89.67 %
DESHMUKH PRATIDNYA KAILAS	88.56 %

Industrial Visits

Visits at
iGAP Technologies And AMP Software Pvt. Ltd. Kolhapur

ACME Infovision System Pvt. Ltd. **Satara**

Visit @ ISRO - Satish Dhawan Space Centre Shriharikota

Shri Pandurang Pratishthan

Karmayogi Polytechnic College, Shelve

DEPARTMENT OF COMPUTER TECHNOLOGY

TECHBITE

28/02/2020
Volume: I, Issue: III

Editorial

*Once again we are upcoming with third issue of **TECHBITE** on the occasion of **National Science Day**. Our industrial visit co-ordinator **Mr. Ghalame S. S.** had taken lots of efforts to make ISRO visit a grand success. Our students and staff members visited **ISRO Shriharikota** in this month. It has been great experience for each and every one. Students are inspired from technology and knowledge. Hence we are dedicating this newsletter issue to ISRO team. I hope you all readers and stakeholders will enjoy these contents of this issue.*

Prof. Sachin M. Jagadale Ms. Vaishnavi Ghadage Mr. Amar Vagare

HOD's Message

It gives me great pleasure to come up with third issue of our departmental newsletter 'Tech-Bite'. It was amazing experience to visit at ISRO. Our focus is to aware students about the trends in science and technology. Not only to read the things but we took efforts so that things would be learned by our students. Final year students are currently working on various android, Web and IoT based projects. Also second students are doing well in micro-projects of each subject. Through extra curricular activities like newsletter we are trying to enhance capabilities and creativity of our students.
Thanks You.

Mr. D. J. Ghanawajeer

Science Day

National Science Day is celebrated in India on 28 February each year to mark the discovery of the Raman effect by Indian physicist **Sir C. V. Raman** on 28 February 1928. For his discovery, Sir C.V. Raman was awarded the Nobel Prize in Physics in 1930.

Principal's Message

*I am pleased to write message for Third issue of the "**Tech-Bite,**" newsletter of computer technology department. Idea of beginning this newsletter is very ingenious. This effort of encouraging students and to provide them platform for innovate and creative writing deserves oodles of appreciation. I am very certain that the newsletter will prove to be very informative and efficacious. I convey my best wishes to students, faculty members and head of computer technology department in their endeavor for **World Class**.*

Dr. Ajit Kanase.

KALI LINUX

It was developed by Mati Aharoni and Devon Kearns of Offensive Security through the rewrite of BackTrack, their previous information security testing Linux distribution based on Knoppix. The third core developer, Raphaël Hertzog, joined them as a Debian expert. In 13 March 2013 Kali Linux is based on the Debian Testing branch.

The first version (1.0) was released one year later, in March 2013, and was based on Debian 7 "Wheezy", Debian's stable distribution at the time. In that first year of development, they packaged hundreds of pen-testing-related applications and built the infrastructure. Even though the number of applications is significant, the application list has been meticulously curated, dropping applications that no longer worked or that duplicated features already available in better programs.

Kali Linux is a Debian-based Linux distribution aimed at advanced Penetration Testing and Security Auditing. Kali contains several hundred tools which are geared towards various information security tasks, such as Penetration Testing, Security research, Computer Forensics and Reverse Engineering

Kali is a Linux system containing a bunch of preinstalled forensic and hacking tools, which make it very useful to hackers, pen testers and forensic experts, who should always keep it in their bag of tricks. Advantages: A bunch of tools already bundled, up and running.

Angad Gaikwad,
Rushikesh Misal,
Siddharth Ohal

4D VISUALIZATION

Visualizable objects in biology and medicine extend across a vast range of scale, from individual molecules and cells through the varieties of tissue and interstitial interfaces to complete organs, organ systems, and body parts.

The practice of medicine and study of biology have always relied on visualizations to study the relationship of anatomic structure to biologic function and to detect and treat disease and trauma that disturb or threaten normal life processes. Traditionally, these visualizations have been either direct, via surgery or biopsy, or indirect, requiring extensive mental reconstruction. The potential for revolutionary innovation in the practice of medicine and in biologic investigations lies in direct, fully immersive, real-time multi sensory fusion of real and virtual information data streams into online, real-time visualizations available during actual clinical procedures or biological experiments. In the field of scientific visualization, the term "four dimensional visualization" usually refers to the process of rendering a three dimensional field of scalar values.

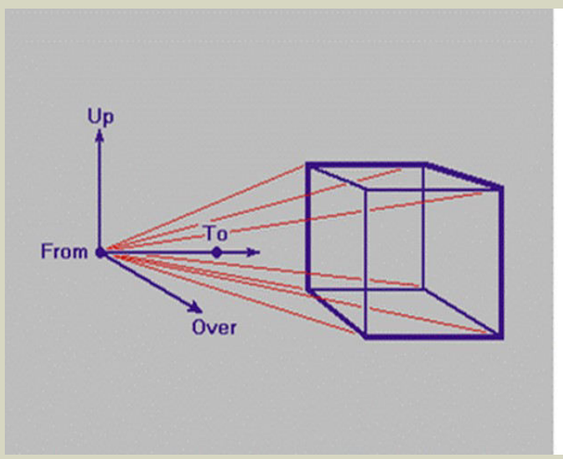
"4D" is shorthand for "four-dimensional"- the fourth dimension being time. 4D visualization takes three-dimensional images and adds the element of time to the process. The revolutionary capabilities of new three-dimensional (3-D) and four-dimensional (4-D) medical imaging modalities along with computer reconstruction and rendering of multidimensional medical and histologic volume image data, obviate the need for physical dissection or abstract assembly of anatomy and provide powerful new opportunities for medical diagnosis and treatment, as well as for biological investigations. In contrast to 3D imaging diagnostic processes, 4D allows doctor to visualize internal anatomy moving in real-time. So physicians and sonographers can detect or rule out any number of issues, from vascular anomalies and genetic syndromes. Time will reveal the importance of 4d visualization.

In the field of scientific visualization, the term "four dimensional visualization" usually refers to the process of rendering a three dimensional field of scalar values. While this paradigm applies to many different data sets, there are also uses for visualizing data that correspond to actual four-dimensional structures. Four dimensional structures have typically been visualized via wire frame methods, but this process alone is usually insufficient for an intuitive understanding. The visualization of four dimensional objects is possible through wire frame methods with extended visualization cues, and through ray tracing methods. Both the methods employ true four-space viewing parameters and geometry.

Continued… page 7

EVENTS

GLOBE



The viewing-angle is defined as for three-dimensional viewing, and is used to size one side of the projection-parallelepiped; the other two sides are sized to fit the dimensions of the projection-parallelepiped. For this work, all three dimensions of the projection parallelepiped are equal, so all three viewing angles are the same.

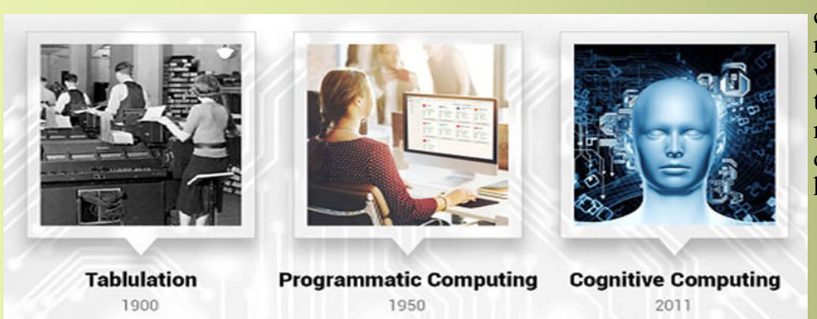
Advanced medical imaging technology allows the acquisition of high resolved 3D images over time i.e.4D images of the beating heart. 4D visualization and computer supported precise measurement of medical indicators (ventricle volume, ejection fraction, wall motion etc.) have the high potential to greatly simplify understanding of the morphology and dynamics of heart cavities, simultaneously reduce the possibility of a false diagnosis. 4D visualization aims at providing all information conveniently in single, stereo, or interactively rotating animated views.

Priti Salunkhe
Payal Nagane

COGNITIVE COMPUTING

Cognitive computing represents self-learning systems that utilize machine learning models to mimic the way brain works.' Eventually, this technology will facilitate the creation of automated IT models which are capable of solving problems without human assistance. The result is cognitive computing – a combination of cognitive science and computer science. Cognitive computing models provide a realistic roadmap to achieve artificial intelligence.

Cognitive computing represents the third era of computing. In the first era, (19th century) Charles Babbage, also known as 'father of the computer' introduced the concept of a programmable computer. Used in the navigational calculation, his computer was designed to tabulate polynomial functions. The second era (1950) experienced digital programming computers such as ENIAC and ushered an era of modern computing and programmable systems. And now to cognitive computing which works on deep learning algorithms and big data analytics to provide insights. Thus the brain of a cognitive system is the neural network, the fundamental concept behind deep learning. The neural network is a system of hardware and software mimicked after the central nervous system of humans, to estimate functions that depend on the huge amount of unknown inputs.



Cognition comes from the human brain. So what's the brain of cognitive systems?

Rutuja Asabe

Advanced Security System for Multimedia Content Protection for Cloud Computing

The planned multimedia Content Protection System For Cloud Computing, new approach for securing a multimedia contents .The system supports a worth efficiency, fast development, deployment, measurability and snap for feat a piece on a cloud infrastructure This system can used a for shielding a special forms of multimedia contents type of a audio file, 2D video, 3D Video, images, songs, music files. Achieving a security system follows a pair of levels
1) Creates a signatures of a 3D videos
2) Distributed matching Engine for multimedia objects. for every multimedia objects a separate signature area unit aiming to be created and this system creates a sturdy and representative signatures for the 3D Videos ,that checks the content by content to seek out changed copy .The second level Distributed matching Engine have a high quantifiability and it's designed to support for numerous forms of multimedia objects. of 3D videos, whereas our system detects quite ninety eight of them. This comparison shows the requirement for the planned 3D signature technique, since the progressive industrial system wasn't able to handle 3D videos The system will run on personal clouds, public clouds, or any combination of public-private clouds projected system is ascendable and price effective and relates to the detection of traced and changed material mistreatment cloud systems, and a lot of significantly to a system and in an internet setting for the detection of duplicated, copyright material

Ms.Vrunda J. Kulkarni

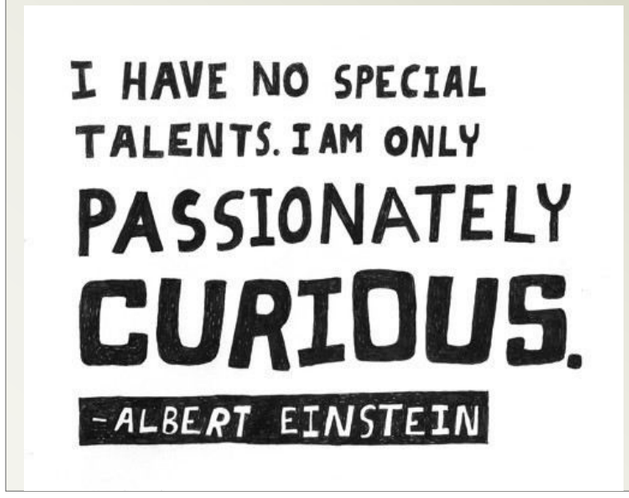
What are the 7 Senses?

Most of us are familiar with the traditional five senses – sight, smell, taste, hearing, and touch. The two lesser known senses refer to our movement and balance (Vestibular) and our body position (Proprioception). This article gives an overview of each of the senses and how the sensory processing that occurs for us to interpret the world around us. Quick Definitions Sensory integration is the neurological process that organizes sensations from one's body and from the environment, and makes it possible to use the body to make adaptive responses within the environment. To do this, the brain must register, select, interpret, compare, and associate sensory information in a flexible, constantly-changing pattern. (A Jean Ayres, 1989) Sensory Integration is the adequate and processing of sensory stimuli in the central nervous system – the brain. It enables us interact with our environment appropriately. Sensory processing is the brain receiving, interpreting, and organizing input from all of the active senses at any given moment. For every single activity in daily life we need an optimal organization of incoming sensory information. If the incoming sensory information remains unorganized – e.g. the processing in the central nervous system is incorrect - an appropriate, goal orientated and planned reaction (behaviour) relating to the stimuli is not possible. 7 Senses Street Day Bringing the common sense back to our neighbourhoods Saturday, 16 November 2013 Sight Sight or vision is the capability of the eyes to

Pratidnya Deshmukh , Monali Shinde

WHAT IS BLOCKCHAIN TECHNOLOGY?

Blockchain, sometimes referred to as Distributed Ledger Technology (DLT), makes the history of any digital asset unalterable and transparent through the use of decentralization and cryptographic hashing.
A simple analogy for understanding blockchain technology is a Google Doc. When we create a document and share it with a group of people, the document is distributed instead of copied or transferred. This creates a decentralized distribution chain that gives everyone access to the document at the same time. No one is locked out awaiting changes from another party, while all modifications to the doc are being recorded in real-time, making changes completely transparent.
Of course, blockchain is more complicated than a Google Doc, but the analogy is apt because it illustrates three critical ideas of the technology:



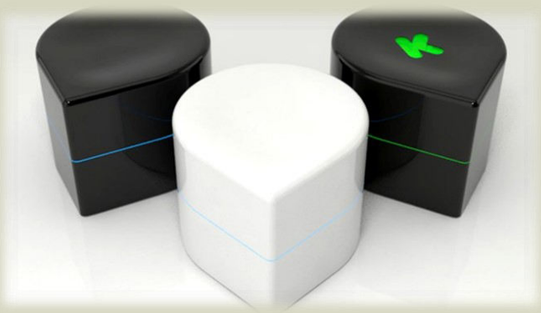
Poonam Londhe

The Pocket Printer

Print machines now-a-days are essentially a print head running left and right on a moving piece of paper. We asked ourselves, why not get rid of the entire device, just put the print head on a set of small wheels and let it run across a piece of paper. By doing so, we allow the printer to really be as little as possible.

How Does It Work????

The printer is activated by sliding a hatch at the bottom of the printer which will reveal the inkjet. The USB connection for battery charging is also located on the bottom of the device. The inkjet lasts for over 1,000 printed pages and the battery lasts for over one hour per full-charge. The first version will print in grayscale.



The printer is based on an omni-wheel system that allows it to accurately turn and drive in any direction. The printer was designed in a comprehensible manner in order to help the user place the printer properly at the top of the page and guarantee an accurate outcome. This version of the printer does not include stabilizing sensors.

The printer comes in 2 colors- Mars black and Titanium white and will be made out of Polycarbonate.

What's Included??

Physical dimensions and weight: 10 centimeters high and 11.5 centimeters in diameter and will weigh about 300g.

Materials: cover made from Polycarbonate

Media sizes: any standard size.

Print Speed: 1.2 ppm (estimated according to the prototype specs).

Print Quality: currently the prototype can reach up to 96x192 dpi, the final product will have higher resolution.

Ink Cartridge Configuration: one black cartridge.

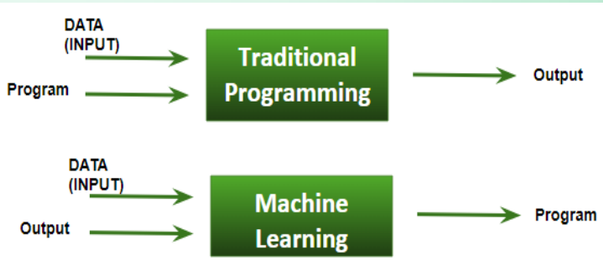
Connectivity Technology: Wireless.

Interface: Bluetooth, Bluetooth BPP.

Mrunalini Kokane

Machine Learning

The term Machine Learning was coined by Arthur Samuel in 1959, an American pioneer in the field of computer gaming and artificial intelligence and stated that "it gives computers the ability to learn without being explicitly programmed".



And in 1997, Tom Mitchell gave a "well-posed" mathematical and relational definition that "A computer program is said to learn from experience E with respect to some task T and some performance measure P, if its performance on T, as measured by P, improves with experience. Machine Learning is a latest buzzword floating around. It deserves to, as it is one of the most interesting subfield of Computer Science. So what does Machine Learning really mean?

Arthur Samuel, a pioneer in the field of artificial intelligence and computer gaming, coined the term "**Machine Learning".** He defined machine learning as – **"Field of study that gives computers the capability to learn without being explicitly programmed".**

Introduction to Data in Machine Learning:

DATA : It can be any unprocessed fact, value, text, sound or picture that is not being interpreted and analyzed. Data is the most important part of all Data Analytics, Machine Learning, Artificial Intelligence. Without data, we can't train any model and all modern research and automation will go vain. Big Enterprises are spending loads of money just to gather as much certain data as possible.

Basic Difference in ML and Traditional Programming?

Traditional Programming : We feed in DATA (Input) + PROGRAM (logic), run it on machine and get output.

Machine Learning : We feed in DATA(Input) + Output, run it on machine during training and the machine creates its own program (logic), which can be evaluated while testing.

Applications of Machine Learning include:

Web Search Engine: One of the reasons why search engines like Google, bing etc work so well is because the system has learnt how to rank pages through a complex learning algorithm.

Photo tagging Applications: Be it Facebook or any other photo tagging application, the ability to tag friends makes it even more happening. It is all possible because of a face recognition algorithm that runs behind the application.

Spam Detector: Our mail agent like Gmail or Hotmail does a lot of hard work for us in classifying the mails and moving the spam mails to spam folder. This is again achieved by a spam classifier running in the back end of mail application.

Pawar Sanjiwani
Mule Sneha

Workshop and Trainings

Mr. D. J. Ghanwajeer

Workshop on **"Mobile Application Development using Android"** for Faculty was organized by the Department of Computer Science and Engineering at VVP College Kegaon, Solapur on December 16th to 20th, 2019. There were 40 faculties, who attended this session.

"It was very overwhelming experience I got in this workshop, it was very helpful to me as I am new to Android platform. This workshop mainly focuses on how to use Android OS for building your own Android Application"

Mr. S. S. Ghalame

Attended Industrial training Program

during 04/09/2019 to 06/09/2019 at M/S Institute of Satellite Training Center, Pune.

Mr. K. D. Shinde

Attended Workshop on **Cyber Security**

During 06/01/2020 to 10/01/2020

At Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

Cognitive Cloud Computing:

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Cognitive Cloud is an extended ecosystem of traditional Cloud and Cognitive Computing.

It's due to this, you can create Cognitive Computing applications and bring to the masses through cloud deployments. Cognitive computing is considered as the next big evolution in the IT industry.

It converses in human language and helps experts in better decision making by understanding the complexities of Big Data. Its market size is expected to generate revenue of $13.8 billion by 2020 and is one of the top 10 trending technologies to consider this year.

Big brands such as IBM, Google, Microsoft, Cisco have already started implementing this next-gen tech to gear up for the upcoming market.

Urmila Narute