

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

CSE



TECH PULSE

2017-18



PRAGATI ENGINEERING COLLEGE

1-378, ADB Road, Surampalem-533437

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TECH PULSE

Vision:

To emerge as a center of technical expertise in the field of computer science and engineering by producing globally competent professionals with technical & research capabilities, ethical values and team spirit.

Mission:

- M1.** To produce qualified and competent software professionals.
- M2.** To induce application oriented and research capabilities in students for the betterment of society.
- M3.** To inculcate ethics and human values in students so as to adapt to the dynamism in the field of computing technology.

Program Educational Objectives: **PEO-1**

To provide students with a strong foundation in the mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyze engineering problems.

 PEO-2

To develop an ability to analyze, design and develop novel engineering solutions.

 PEO-3

To make the students responsible with ethics, best practices, values and social concerns to meet requirements of responsible team player in the society.

CONTENTS

TOPIC	Pg.No
1. Message From Head Of The Department	2
2. Big Data Analytics	3
3. Block Chain Applications	4
4. Cloud Computing	6
5. What Is The Internet Of Things?	7
6. The Future Of Aviation In A New Age Of Technology	9
7. Robotic Applications In Medical Science	10
8. Uses Of Virtual Reality	11
9. Artificial Intelligence In Healthcare	13
10. Cloud Computing	15
11. Big Data	16
12. 3d – Internet	18
13. 5g Wireless System	19
14. An Agricultural Robot	21
15. Brain Port Helping The Blind To See With Their Tongues	22
16. Driver Drowsiness Detecting System	25
17. Cloud Computing	27
18. Google App Engine	29
19. Hospitals And Medicines	31
20. Android Notes Using Finger Print Authentication	32
21. Object Detection	34
22. Phishing	36
23. Robot Dexterity	38
24. Cloud Computing	39
25. Reviews On Bitcoin	40

26. Robust Fault-Tolerant Training Strategy Using Neural Network To Perform Functional Testing Of Software	41
27. Fusion Differential Evolution Algorithm To Generate Association Rules	41
28. Overview Of Neural Lace: Connecting Computer To Brain	42
29. Research Roadmap For Iot Forensics	42
30. Mist Computing: Principles, Trends And Future Direction	42
31. A Future Perspective Of Blockchain Technology, It's Design And Implementations	43
32. Graph Theoretic Approaches For Analyzing Large-Scale Social Networks	43
33. Future Of Software Testing: Novel Perspective, Challenges	43
34. Contact Us	44

Message From Head Of The Department

Dr. N. Leelavathi
Professor & Head of the Department

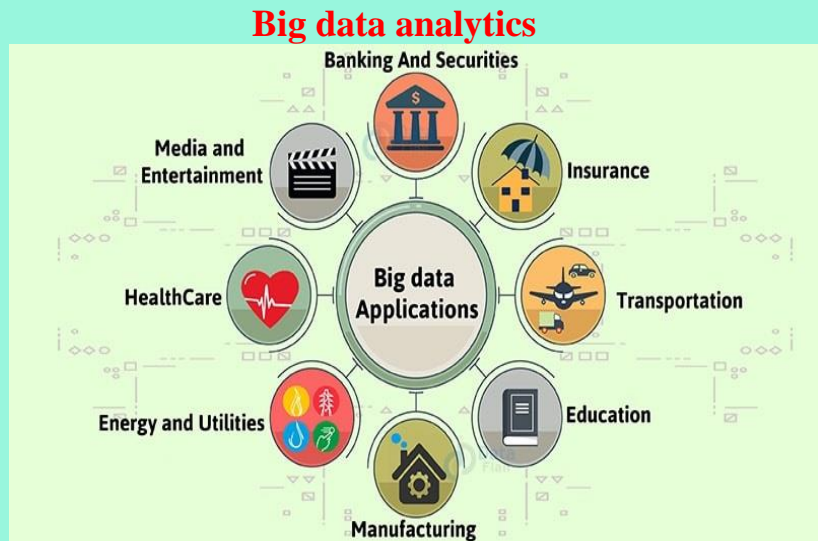


The department offers B-Tech (CSE) and M-Tech(CSE). The department has a team of highly experienced and motivated faculty members who are in process of tuning the young minds to make them globally competitive. The strength of the department is highly motivated students who understand the dynamics of the industry and upgrade their skills accordingly. The scope of computer science is endless. The students of the computer science and engineering are highly demanded by the recruiters of the top companies. Depending upon the interest of the student, he/she may choose to go for higher studies or if employed can choose to do research, development, design, production, application, testing or management in the Information Technology industry. In our department we not only give emphasis on study but also apply our knowledge in understanding what computers are, what is its architecture, how to efficiently program them, different tools to write an effective algorithm, the interface between the computer and the user, the computer graphics, computer networking, managing the software database, software engineering and testing them efficiently and more. Through innovative teaching-learning process a teamwork approach and leadership building experience, our students gain vital communication and critical-thinking skills. Our institution provides a platform for the students to enhance their employability skills through Industry Institute Collaboration.”

“Standards are always out of date. That’s what makes them standards.”
— Alan Bennett



Andey Siri Chandana
15A31A0562



Big data has found many applications in various fields today. The major fields where big data is being used are as follows.

Government:

Big data analytics has proven to be very useful in the government sector. Big data analysis played a large role in Barack Obama's successful 2012 re-election campaign. Also most recently, Big data analysis was majorly responsible for the BJP and its allies to win a highly successful Indian General Election 2014. The Indian Government utilizes numerous techniques to ascertain how the Indian electorate is responding to government action, as well as ideas for policy augmentation.

- **SOCIAL MEDIA ANALYTICS**

The advent of social media has led to an outburst of big data. Various solutions have been built in order to analyze social media activity like IBM's Cognos Consumer Insights, a point solution running on IBM's BigInsights Big Data platform, can make sense of the chatter. Social media can provide valuable real-time insights into how the market is responding to products and campaigns. With the help of these insights, the companies can adjust their pricing, promotion, and campaign placements accordingly. Before utilizing the big data there

needs to be some pre-processing to be done on the big data in order to derive some intelligent and valuable results. Thus to know the consumer mindset the application of intelligent decisions derived from big data is necessary.

- **TECHNOLOGY**

The technological applications of big data comprise of the following companies which deal with huge amounts of data every day and put them to use for business decisions as well. For example, eBay.com uses two data warehouses at 7.5 petabytes and 40PB as well as a 40PB Hadoop cluster for search, consumer recommendations, and merchandising. Inside eBay's 90PB data warehouse. Amazon.com handles millions of back-end operations every day, as well as queries from more than half a million third-party sellers. The core technology that keeps Amazon running is Linux-based and as of 2005, they had the world's three largest Linux databases, with capacities of 7.8 TB, 18.5 TB, and 24.7 TB. Facebook handles 50 billion photos from its user base. Windermere Real Estate uses anonymous GPS signals from nearly 100 million drivers to help new home buyers determine their typical drive times to and from work throughout various times of the day.

- **FRAUD DETECTION**

For businesses whose operations involve any type of claims or transaction processing, fraud detection is one of the most compelling Big Data application examples. Historically, fraud detection on the fly has proven an elusive goal. In most cases, fraud is discovered long after the fact, at which point the damage has been done and all that's left is to minimize the harm and adjust policies to prevent it from happening again. Big Data platforms that can analyze claims and transactions in real time, identifying large-scale patterns across many transactions or detecting anomalous behavior from an individual user, can change the fraud detection game.

BLOCK CHAIN APPLICATIONS

Blockchain ,a trending technology , has got many of the applications in various fields .Some of them can be viewed as follows:



**Medapati Mahesh
Reddy
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FINANCIAL SERVICES:

Blockchain Technology (also called as distributed ledger technology (DLT))

allows for the entire financial services industry to dramatically optimize business processes by sharing data in an efficient,secure,and transparent manner.

The existing capital markets infrastructure is slow, expensive,and often requires intermediaries.Many blockchain capital markets inventions are entering the market and improving work flow and helping to cut overhead dramatically,while allowing entities to deliver better,more secure and private services to business and individuals.

GOVERNMENT:

Blockchain has numerous possible applications for the public sector.Through blockchain Technology, governments can improve the way they deliver services,, prevent tax fraud.

Blockchain can help in management of government data at different levels.

INDIACHAIN - a trial solution for utilizing block chain technology for digitization and validation of educational degree certificates ,has been taken as a pilot project by government of India.

HEALTH CARE:

Deploying blockchain technology can improve the health care supply chain

in count less ways.Health care is incredibly data heavy ,and when critical information becomes lost in the shuffle,it can dramatically alter patient outcomes.More sophisticated and robust APIs could allow for Electronic

HealthRecord(EHR)interoperability,meaning, that health information systems

can work together across organizational boundaries to deliver more advanced and effective health care interventions.The blockchain network serves as an ideal platform for interoperability and could help to resolve the issue of informational patient data sprawl plaguing the industry.Decentralizing the health care industry can help reduce delays for both patients and providers.When data is made more available and shared on a public ledger ,and the referral process between primary care doctors, health insurers,and specialists become abridged,patients can receive care faster.



References:<http://www.blockchaintechnologies.com>

Cloud computing

Cloud Computing can run every programs and software as a normal computer can run. It can also provide us with numerous applications which are free of cost. So, let's start elaborating these Cloud Computing applications one by one:

1. Storing file online:

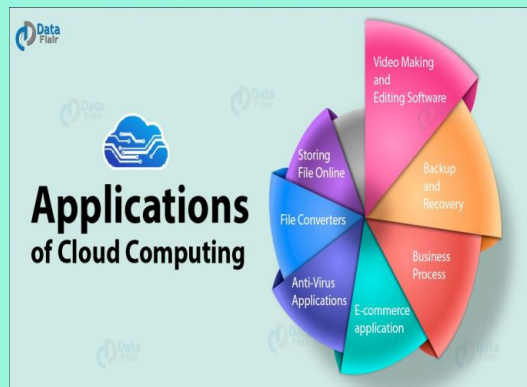


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Cloud Computing provides a benefit to store and access the software with the help of internet connection to the Cloud. The interface provided is very easy to operate and is economical too.

ii. Video Making and Editing Software

There are many software available which can access with the help of the cloud. This software helps to create and modify the videos. The videos create or modify are stored in the cloud itself and we can access anytime.



iii. *File Converters*

There are many applications which utilize to change to format of the file such that from HTML to pdf and so on. This software is available at cloud and access from anywhere with the help of internet connection.

iv. *Anti-Virus Applications*

There is software which is stored in the cloud and from there they fix the system. All the viruses and the malware are detected and analyzed by the software and the system is fixed. They also come up with a feature of downloading the software.



v. *E-commerce Application*

With the help of e-commerce application in the cloud, user and e-business allow responding quickly to the opportunities which are emerging. It also allows the user to respond quickly to the market opportunities and the challenges. Business tycoons focus on the usage of cloud computing without keeping time in the mind. Cloud-based e-commerce applications allow the companies, business leaders to evaluate new opportunities and making things done with the minimum amount possible.



vi. *Business Process*

Business management applications are based on the cloud service provider. The business utilizes the cloud computing to store the necessary data and all the relevant information. This information can be anything such as the personal data of the customer, analyzed records, and many more.

vii. *Backup and Recovery*

The cloud computing can be used as a backup option in which we can store the files, information, and the data. This data is stored will be protected and provided much security. When the data is lost the user can recover the data which he/she has stored in the cloud.

References: <https://data-flair.training/blogs/cloud-computing-applications/>

What is the Internet of Things?

In a nutshell, the Internet of Things is the concept of connecting any device (so long as it has an on/off switch) to the Internet and to other connected devices. The IoT is a giant network of connected things and people – all of which collect and share data about the way they are used and about the environment around them.



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That includes an extraordinary number of objects of all shapes and sizes – from smart microwaves, which automatically cook your food for the right length of time, to self-driving cars, whose complex sensors detect objects in their path, to wearable fitness devices that measure your heart rate and the number of steps you’ve taken that day, then use that information to suggest exercise plans tailored to you. There are even connected footballs that can track how far and fast they are thrown and record those statistics via an app for future training purposes.

How does it work?

Devices and objects with built in sensors are connected to an Internet of Things platform, which integrates data from the different devices and applies analytics to share the most valuable information with applications built to address specific needs.

These powerful IoT platforms can pinpoint exactly what information is useful and what can safely be ignored. This information can be used to detect patterns, make recommendations, and detect possible problems before they occur.

For example, if I own a car manufacturing business, I might want to know which optional components (leather seats or alloy wheels, for example) are the most popular. Using Internet of Things technology, I can:

- Use sensors to detect which areas in a showroom are the most popular, and where customers linger longest;
 - Drill down into the available sales data to identify which components are selling fastest;
 - Automatically align sales data with supply, so that popular items don’t go out of stock.

The information picked up by connected devices enables me to make smart decisions about which components to stock up on, based on real-time information, which helps me save time and money.

With the insight provided by advanced analytics comes the power to make processes more efficient. Smart objects and systems mean you can automate certain tasks, particularly when these are repetitive, mundane, time-consuming or even dangerous. Let’s look at some examples to see what this looks like in real life



The future of Aviation in a new age of technology



S R Y V S Himatej
Raman Dora
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In the past few years, low-cost carriers have become the preferred choice for passengers. The travellers now expect a completely personalized experience, right from the booking stage till after they have completed their journey. The aviation industry can leverage Sentiment Analysis to determine their customers' needs and then formulate their customer strategy accordingly.

The International Air Transport Association (IATA) has determined the technologies and factors that will define how aviation industry will shape up in its recent report on "Future of the Airline Industry 2035." The report identified Artificial Intelligence, cyber security, robotics and automation, IoT, big data.

1. Artificial Intelligence and Big Data:

AI is being used to deliver a personalized travelling experience to the passengers in order to generate the maximum customer satisfaction. AI is personalizing, optimizing and up scaling the digital interactions between airlines and passengers.

Big data is helping the industry to predict and forecast consumer behaviour in order to fine tune their strategy. As data is gaining the reputation of the most valuable asset in the digital age, it is only wise to proactively utilize it.

2. Robotics:

Airports such as Haneda, Incheon, Auckland and Changi are exploring the use of robots to provide on-the-spot assistance to passengers, or as part of terminal cleaning functions.



In Conclusion

The greater sprawl of technology also brings along newer threats in the scope of cybersecurity and user privacy. To avoid getting attacked by such threats and vulnerabilities, it is essential that the industry players take a proactive approach and integrate a robust testing plan within their plan for future.

Reference: <https://www.wikipedia.org/>

Robotic applications in medical science



Kingam Padma Priya
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1. Telepresence Physicians use robots to help them examine and treat patients in rural or remote locations, giving them a “telepresence” in the room. “Specialists can be on call, via the robot, to answer questions and guide therapy from remote locations,” writes Dr. **Bernadette Keefe, a Chapel Hill, NC-based** healthcare and medicine consultant. “The key features of these robotic devices include navigation capability within the ER, and sophisticated cameras for the physical examination.”



A robotic surgical system controlled by a surgeon from a console.

2. Surgical Assistants These remote-controlled robots assist surgeons with performing operations, typically minimally invasive procedures. “The ability to manipulate a highly sophisticated robotic arm by operating controls, seated at a workstation out of the operating room, is the hallmark of surgical robots,” says Keefe. Additional applications for these surgical-assistant robots are continually being developed, as more advanced 3DHD technology gives surgeons the spatial references needed for highly complex surgery, including more enhanced natural stereo visualization, combined with augmented reality.

3. Rehabilitation Robots These play a crucial role in the recovery of people with disabilities, including improved mobility, strength, coordination, and quality of life. These robots can be programmed to adapt to the condition of each patient as they recover from strokes, traumatic brain or spinal cord injuries, or neurobehavioral or neuromuscular diseases such as multiple sclerosis. Virtual reality integrated with rehabilitation robots can also improve balance, walking, and other motor functions.

4. Medical Transportation Robots Supplies, medications, and meals are delivered to patients and staff by these robots, thereby optimizing communication between doctors, hospital staff members, and patients. “Most of these machines have highly dedicated capabilities for self-navigation throughout the facility,” states Manoj Sahi, a research analyst with

Tractica, a market intelligence firm that specializes in technology. “There is, however, a need for highly advanced and cost-effective indoor navigation systems based on sensor fusion location technology in order to make the navigational capabilities of transportation robots more robust.”



5. Sanitation and Disinfection Robots With the increase in antibiotic-resistant bacteria and outbreaks of deadly infections like Ebola, more healthcare facilities are using robots to clean and disinfect surfaces. “Currently, the primary methods used for disinfection are UV light and hydrogen peroxide vapors,” says Sahi. “These robots can disinfect a room of any bacteria and viruses within minutes.”

6. Robotic Prescription Dispensing Systems The biggest advantages of robots are speed and accuracy, two features that are very important to pharmacies. “Automated dispensing systems have advanced to the point where robots can now handle powder, liquids, and highly viscous materials, with much higher speed and accuracy than before,” says Sahi.

Reference: <https://www.asme.org/topics-resources/content/top-6-robotic-applications-in-medicine>

Uses Of Virtual Reality



**Matta Chinna
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Virtual reality (VR) has dominated tech headlines in recent years with its ability to immerse its users in a virtual, yet safe, world. Gaming is one of the more well-known uses for VR but its potential doesn’t stop there. Here are some ways VR technology can be applied in other fields:

1. Military

The military in the UK and the US have both adopted the use of virtual reality in their training as it allows them to undertake a huge range of simulations. This is used in all branches of service. VR can put a trainee in a number of different situations, places and environments so the military are using it for flight simulations, battlefield simulations, medic training, vehicle simulation and virtual boot camp,

among other things. A key benefit for the use of VR in the military is the reduction in costs for training. In addition to this, it can safely replicate dangerous training situations.

2. Sport

VR is revolutionising the sports industry for both players and viewers. It's used as a training aid in many sports and to help measure athletic performance and analyse technique. VR has also been used to enhance the viewer's experience of a sporting event. Broadcasters are now streaming live games in virtual reality and preparing to one day sell "virtual tickets" to live games.

3. Mental Health

VR has become a primary method for treating post-traumatic stress. Using VR exposure therapy, a person enters a re-enactment of a traumatic event. It has also been used to treat anxiety, phobias and depression. Virtual reality technology can provide a safe environment for patients to come into contact with things they fear, whilst remaining in a controlled and safe environment.

4. Medical Training

Medical and dental students use VR to practice surgeries and procedures, allowing for a consequence free learning environment. Virtual patients are used to allow students to develop skills which can later be applied in the real world.

5. Education

Virtual reality has been adopted in education for teaching and learning situations. Students are able to interact with each other and within a three dimensional environment. Students can also be taken on virtual field trips, for example, to museums, taking tours of the solar system and going back in time to different eras. Students with special needs, such as autism, are also using VR technology. Research has found that VR can be a motivating platform to safely practice social skills for children. A company called Floreo has developed virtual reality scenarios that allow children to learn and practice skills such as pointing, making eye contact and building social connections. Parents can also follow along and interact by using a li.



Reference <https://www.fdmgroup.com/5-uses-for-virtual-reality/>

Artificial Intelligence In Healthcare

Artificial Intelligence In Healthcare: Will AI Replace Doctors

Artificial Intelligence (AI):

Artificial intelligence is defined as the combination of science and the engineering on creating intelligent computer systems that are able to perform tasks without receiving any instruction directly from humans.

• Common Classification:

1. Strong Artificial Intelligence.
2. Weak Artificial Intelligence.

• Classification from Arend Hintze:

1. Type 1: Reactive Machines.
2. Type 2: Limited Memory.
3. Type 3: Theory of Mind.
4. Type 4: Self Awareness.



Medidha Mounika
15A31A0522



AI Technologies Used in Health care:

- Machine Learning.
- Machine Vision.
- Natural Language Processing (NLP).
- Robotics.

Roles of AI in Healthcare:

- Disease Prediction :Traditionally approaches of doctors.
- Use of AI technologies in this area.
- Benefits.

AI and 3D bioprinting

3D bioprinting is the utilisation of 3D printing to print tissues and organs to help research drugs and pills. Researchers at a hospital in Boston have pioneered a 3D bioprinting technique that can create complex structures to replace damaged body tissues. This advanced technique could lead to a huge demand for bioprinting complex artificial tissues.

AI and healthcare in India:

AI in the healthcare sector in India is extremely positive. With a large population in a country like India, there is a huge gap between skilled doctors and patients. AI is the right option to tackle such problems as an uneven doctor-to-patient ratio, untrained doctors and nurses for complex procedures, and no healthcare access to remote and rural areas.

Will AI replace doctors?

Over the course of various industrial revolutions, horses were replaced by machines yet there were no complaints. But think of machines replacing humans. Human doctors can make errors and many patients die due to such errors. Doctors suffer from fatigue, personal problems and other priorities at times. They are not machines that can do strenuous work and work long hours

Advantages:

- Leading to advancements in healthcare treatments.
- The ability to quickly and more accurately identify signs of disease.
- Patients can ask medical questions and receive answers in absence of a doctor.
- Reduces the treatment cost.
- Makes the treatment decision faster.
- Helps to reduce the human errors.

REFERENCES:

1. Medical News Bulletin (20 January 2017) Artificial intelligence app Ada: your personal health companion; see also: <https://ada.com/>
2. <https://electronicsforu.com/technology-trends/tech-focus/artificial-intelligence-healthcare-replace-doctors>
3. <https://www.slideshare.net/MuhammedIyas/artificial-intelligence-in-health-care>

Cloud computing



**Pathivada Tarun
Manikanta Kumar
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1. Scalable Usage:

Cloud computing offers scalable resources through various subscription models. This means that you will only need to pay for the computing resources you use. This helps in managing spikes in demands without the need to permanently invest in computer hardware.

2 chatbots

Cloud computing offers scalable resources through various subscription models. This means that you will only need to pay for the computing resources you use. This helps in managing spikes in demands without the need to permanently invest in computer hardware.

3. Communication:

The cloud allows users to enjoy network-based access to communication tools like **emails** and calendars. Most of the messaging and calling apps like **Skype** and **WhatsApp** are also based on cloud infrastructure. All your messages and information are stored on the service provider's hardware rather than on your personal device. This allows you access your information from anywhere via the internet.

4. Backup and recovery:

When you choose cloud for data storage the responsibility of your information also lies with your service provider. This saves you from the capital outlay for building infrastructure and maintenance. Your cloud service provider is responsible for securing data and meeting legal and compliance requirements. The cloud also provides more flexibility in the sense that you can enjoy large storage and on-demand backups. Recovery is also performed faster in the cloud because the data is stored over a network of physical servers rather than at one on-site data centre. **Dropbox**, **Google Drive** and **Amazon S3** are popular examples of cloud backup solutions.

5. Test and development:

The cloud can provide an environment to cut expenses and launch your apps in the market faster. Rather than setting up physical environments developers can use the cloud to set up and dismantle test and development environments. This saves the technical team from securing budgets and spending critical project time and resources. These dev-test environments can also be scaled up or down based on requirements. **LoadStorm** and **BlazeMeter** are popular testing tools.

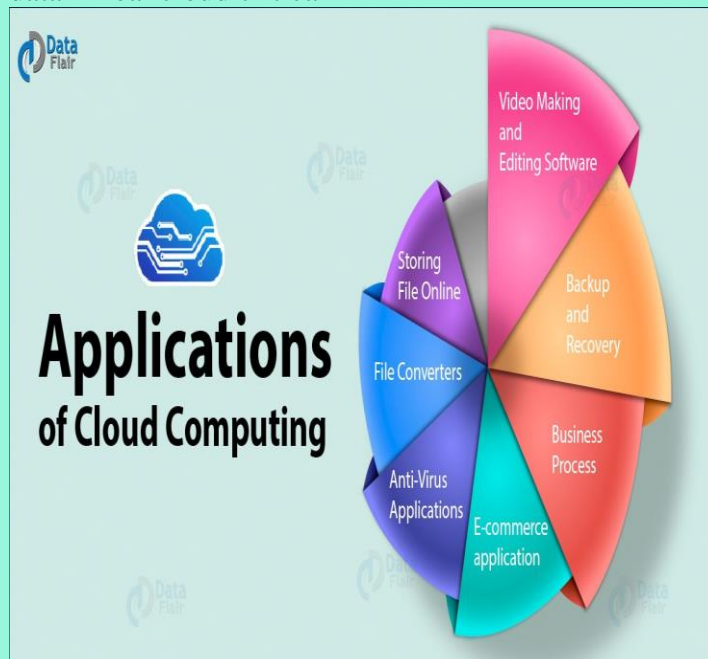
6. Big data analytics:

Cloud computing enables data scientists to tap into any organizational data to analyze it for patterns and insights, find correlations make predictions, forecast future crisis and help in data backed decision making. Cloud services make mining massive amounts of data possible by providing higher processing power and sophisticated tools. There are many open source big data tools that are based on the cloud

for instance **Hadoop, Cassandra, HPC** etc. Without the cloud, it won't be very difficult to collect and analyze data in real time, especially for small companies.

8. Social Networking:

Social Media is the most popular and often overlooked application of cloud computing. **Facebook, LinkedIn, MySpace, Twitter**, and many other social networking sites use cloud computing. Social networking sites are designed to find people you already know or would like to know. In course of finding people, we end up sharing a lot of personal information. Of course, if you're sharing information on social media then you are not only sharing it with friends but also with the makers of the platform. This means that the platform will require a powerful hosting solution to manage and store data in real cloud critical



Big data

Definition

Extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions is called big data.

There are billions of gigabytes of data being generated every single day by people and technologies all around the world. But businesses are not just simply collecting all of this data that we are generating. They're actually analyzing it, and finding ways to improve their products and services, which in turn shapes our lives and the experiences that we are having with the world around us.



**Chimmana Kalyan
Surya**
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Uses of Big Data

1.Location Tracking:

Logistic companies have been using location analytics to track and report orders for quite some time. With Big Data, it is now possible to track the condition of the good in transit and estimate the losses.

2.Precision Medicine

With big data, hospitals can improve the level of patient care they provide. On top of that, the efficiency of medication can be improved by analyzing the past records of the patients and the medicines provided to them.

3.Fraud Detection And Handelling

Banking and finance sector is using big data to predict and prevent cyber crimes, card fraud detection. By analyzing the past data of their customers and the data on previous brute force attacks banks can predict future attempts

4.Entertainment And Media

Based on your past views and your behavior online you will be shown different recommendations. This technique is popularly used by Netflix and Youtube to increase engagement and drive more revenues.

Advantages

- 1.Better decision making and Improved customer service.
- 2.Increased productivity.
- 3.Reduced costs..

Disadvantages

- 1.Need for talent and data quality.
- 2.Cyber security risks.
- 3.Hardware needs and difficulty integrating legacy systems.



Conclusion

The Age of Big Data is here, and these are truly revolutionary times if both business and technology professionals continue to work together and deliver on the promise.

Reference: 1.<https://www.datasciencecentral.com/profiles/blogs/what-is-big-data-and-how-does-it-work>
2.<https://www.newgenapps.com/blog/5-practical-uses-of-big-data>

3D – INTERNET



Nidigatla Priyanka
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Also known as virtual worlds, the 3D Internet is a powerful new way for you to reach consumers, business customers, co-workers, partners, and students. It combines the immediacy of television, the versatile content of the Web, and the relationship-building strengths of social networking sites like Face book .Yet unlike the passive experience of television, the 3D Internet is inherently interactive and engaging. Virtual worlds provide immersive 3D experiences that replicate (and in some cases exceed) real lifePeople who take part in virtual worlds stay online longer with a heightened level of interest. To take advantage of that interest, diverse businesses and organizations have claimed an early stake in this fast-growing market. They include technology leaders such as IBM, Microsoft, and Cisco, companies such as BMW, Toyota , Circuit City , Coca Cola, and Calvin Klein, and scores of universities, including Harvard, Stanford and Penn State



Introduction of 3D Internet

The success of 3D communities and mapping applications, combined with the falling costs of producing 3D environments, are leading some analysts to predict that a dramatic shift is taking place in the way people see and navigate the Internet.The experience of interacting with another character in a 3D environment, as opposed to a screen name or a flat image, adds new appeal to the act of socializing on the Internet.Advertisements in Microsoft's Virtual Earth 3D mapping application are placed as billboards and signs on top of buildings, blending in with the application's urban landscapes.3D worlds also hold benefits beyond simple social interactions. Companies that specialize in interior design or furniture showrooms, where users want to view entire rooms from a variety of angles and perspectives, will be able to offer customized models through users' homePCs .Google representatives report that the company Google is preparing a new revolutionary product called Google Goggles, an interactive visor that will present Internet content in three dimensions. Apparently the recent rumors of a Google phone refers to a product that is much more innovative than the recent Apple iPhone.

5G WIRELESS SYSTEM

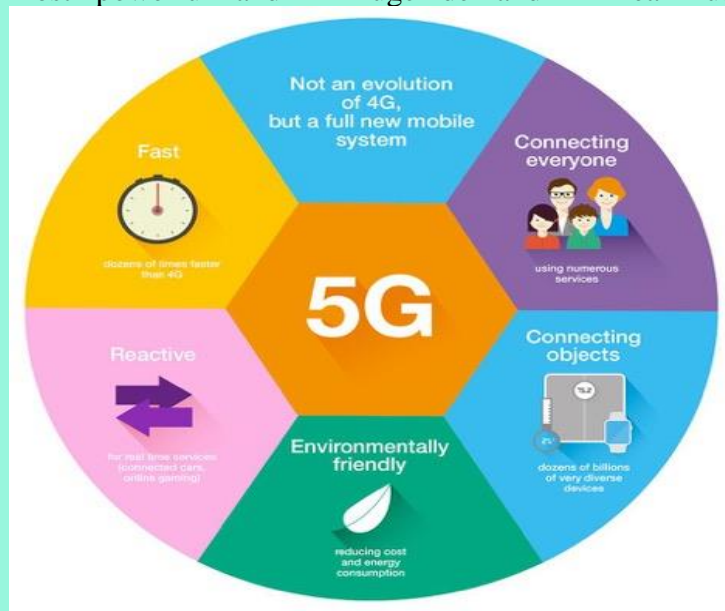
5G (5th generation mobile networks or 5th generation wireless systems) is a name used in some research papers and projects to denote the next major phase of mobile telecommunications standards beyond the upcoming 4G standards (expected to be finalized between approximately 2011 and 2013).

INTRODUCTION :

5G Technology stands for 5th Generation Mobile technology . 5G technology has changed the means to use cell phones within very high bandwidth. User never experienced ever before such a high value technology. Nowadays mobile users have much awareness of the cell phone (mobile) technology. The 5G technologies include all type of advanced features which makes 5G technology most powerful and in huge demand in near future.



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5G technology going to be a new mobile revolution in mobile market. Through 5G technology now you can use worldwide cellular phones and this technology also strike the china mobile market and a user being proficient to get access to Germany phone as a local phone. With the coming out of cell phone alike to PDA now your whole office in your finger tips or in your phone. 5G technology has extraordinary data capabilities and has ability to tie together unrestricted call volumes and infinite data broadcast within latest mobile operating system.

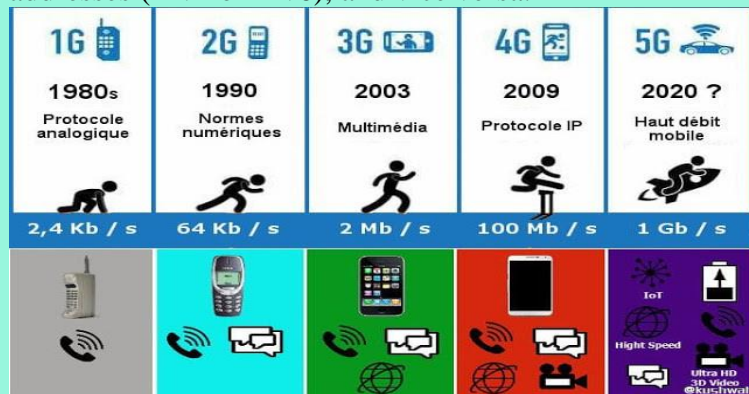
5G technology has a bright future because it can handle best technologies and offer priceless handset to their customers. May be in coming days 5G technology takes over the world market.

The 5G terminals will have software defined radios and modulation schemes as well as new error-control schemes that can be downloaded from the Internet. The development is seen towards the user terminals as a focus of the 5G mobile networks. The terminals will have access to different wireless technologies at the same time and the terminal should be able to combine different flows from

different technologies. The vertical handovers should be avoided, because they are not feasible in a case when there are many technologies and many operators and service providers. In 5G, each network will be responsible for handling user-mobility, while the terminal will make the final choice among different wireless/mobile access network providers for a given service. Such choice will be based on open intelligent middleware in the mobile phone.

Network:

The 5G mobile phone shall maintain virtual multi-wireless network environment. For this purpose there should be separation of network layer into two sub-layers in 5G mobiles (Fig.) i.e.: Lower network layer (for each interface) and Upper network layer (for the mobile terminal). This is due to the initial design of the Internet, where all the routing is based on IP addresses which should be different in each IP network world wide. The middleware between the Upper and Lower network layers (Fig. 3) shall maintain address translation from Upper network address (IPv6) to different Lower network IP addresses (IPv4 or IPv6), and vice versa.



Features:

- 5G technology also providing subscriber supervision tools for fast action.
- The high quality services of 5G technology based on Policy to avoid error.
- 5G technology is providing large broadcasting of data in Gigabit which supporting almost 65,000 connections.
- 5G technology offer transporter class gateway with unparalleled consistency.
- traffic statistics by 5G technology makes it more accurate.
- Through remote management offered by 5G technology a user can get better and fast solution.
- The remote diagnostics also a great feature of 5G technology.
- The 5G technology also support virtual private network.
- The new 5G technology will take all delivery service out of business prospect.

Reference:<https://www.seminaronly.com/computer%20science/5g-Wireless System.php#.XeUkruTobYA.mailto>



Shaik Raheema
15A31A0534

An agricultural robot

An agricultural robot is a robot deployed for agriculture purposes. The main area of application of robots in agriculture today is at the harvesting stage. Emerging applications of robots or drones in agriculture include weed control, cloud seeding, planting seeds, harvesting, environmental monitoring and soil analysis. According to Verified Market Research, the agricultural robots market is expected to reach \$11.58 billion by 2025.



Fruit Picking robots, driverless tractor / sprayers, and sheep shearing robots are designed to replace human labour. Robots can be used for other horticulture tasks such as pruning, weeding, spraying and monitoring. Robots can also be used in livestock applications (livestock robotics) such as automatic milking, washing and castrating. They can also be used to automate manual tasks, such as weed or bracken spraying, where the use of tractors and other manned vehicles is too dangerous for the operators.

Designs

The mechanical design consists of an end effector, manipulator, and gripper. Several factors must be considered in the design of the manipulator, including the task, economic efficiency, and required motions. The end effector influences the market value of the fruit and the gripper's design is based on the crop that is being harvested.

Much of the current research continues to work towards autonomous agricultural vehicles. This research is based on the advancements made in driver-assist systems and self-driving cars.

While robots have already been incorporated in many areas of agricultural farm work, they are still largely missing in the harvest of various crops. This has started to change as companies begin to develop robots that complete more specific tasks on the farm. The biggest concern over robots harvesting crops comes from harvesting soft crops such as strawberries which can easily be damaged or missed entirely. Despite these concerns, progress in this area is being made. According to Gary Wishnatzki, the co-founder of Harvest Croo Robotics, one of their strawberry

pickers currently being tested in Florida can "pick a 25-acre field in just three days and replace a crew of about 30 farm workers". Similar progress is being made in harvesting apples, grapes, and other crops.

Another goal being set by agricultural companies involves the collection of data. There are rising concerns over the growing population and the decreasing labor available to feed them. Data collection is being developed as a way to increase productivity on farms. AgriData is currently developing new technology to do just this and help farmers better determine the best time to harvest their crops by scanning fruit trees.

References:

https://en.wikipedia.org/wiki/Agricultural_robot

BRAIN PORT - Helping the blind to see with their tongues



Duli Venkat Manoj
15A31A05A7

INTRODUCTION:

BrainPort is a technology whereby sensory information can be sent to one's brain through an electrode array which sits atop the tongue.[1] It was initially developed by Paul Bach-y-Rita as an aid to people's sense of balance, particularly of stroke victims. Bach-y-Rita founded Wicab in 1998.

TASTING DEVICE:

This technology has also been developed for use of visual aid. other than normal use of tongue for tasting and talking there are so many uses like sensing the light because it can taste the light and sense the objects. The tongue is more sensitive than other skin areas the tongue was the ideal place to provide information through tactile simulation. There is a high level of nerve endings in the tongue, similar to a finger and tongue is constantly moist, so there is constant electric conductivity.

The brainport device captures image using a tiny camera and then converts the image into tiny tingles on the tongue. the tingles are then sent to the brain which then converts the tingles into pictures hence they can read signs and even read letters

WORKING OF DEVICE:

Inch-long camera hidden in sun glasses send images to the bond held control unit.the units converts the message into resolution black,white,grey pictures.

Image recreated on a grid od 400 electrons.each one pulses according to how much light is in that area of a picture.users “feeds”the shape and detects movement on their tongue.Brain eventually learns to”see”the shape detect on tongue.

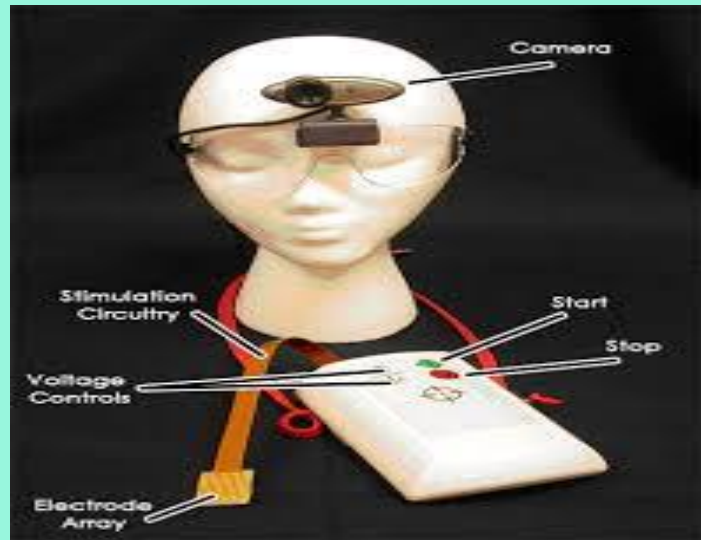


ADVANTAGES:

- Users can operate it independently with a hand-held controller.
- Device like normal sunglasses hence it does not look bad.
- It uses a rechargeable battery like in normal cell phones.

APPLICATIONS:

- Provides balance information for people with balance disorders
- Provides directional or navigational information for people who operate under central command and control scenarios, such as military and civilian rescue personnel.
- Provide very crude visual information through the tongue for persons who are completely blind.



CONCLUSION:

- The BrainPort vision device allows users to directly and independently perceive the environment in a novel way.
- There is a hope that this device can make a serious difference for patients whose sight can't be replaced.
- Thus we hope blind people can also see this colourful world by using this brain port device

REFERENCE:

<https://science.howstuffworks.com/brainport3.htm>.

DRIVER DROWSINESS DETECTING SYSTEM

ABSTRACT:

Drowsy Driver Detection System has been developed using a non-intrusive machine vision based concepts. The system uses a small monochrome security camera that points directly towards the driver's face and monitors the driver's eyes in order to detect fatigue. In such a case when fatigue is detected, a warning signal is issued to alert the driver. This report describes how to find the eyes, and also how to determine if the eyes are open or closed.



**Pepakayala Dhana
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15A31A0528**

OBJECTIVE:

Drowsiness is a process where level of consciousness decrease due to lack of sleep or fatigue and can cause a person falls asleep. When driver is drowsy, the driver could lose control of the car so it was suddenly possible to deviate from the road and crashed into a barrier or a car. An instrument connected to the driver and then the value of the instrument are recorded and checked. But intrusive approach has high accuracy, which is proportional to driver discomfort, so this method is rarely used.

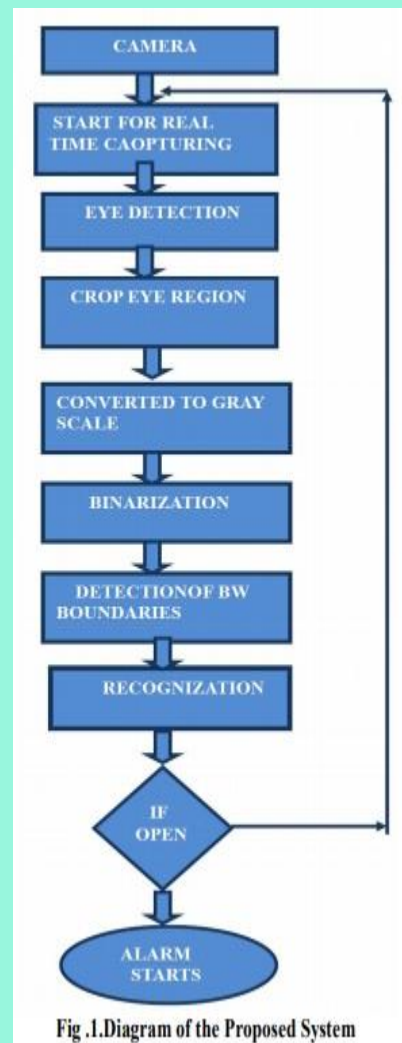


Fig .1.Diagram of the Proposed System

Proposed System:

The original aim of this project was to use the retinal reflection as a means to finding the eyes on the face, and then using the absence of this reflection as a way of detecting when the eyes are closed. Applying this algorithm on consecutive video frames may aid in the calculation of eye closure period.

A. Sensing Phase

Eye Camera is used for sensing the eyes of the driver. The accelerometer present on the vehicle suspension unit senses the downward acceleration of the vehicle toward the road humps and pits.

B. Detection Phase

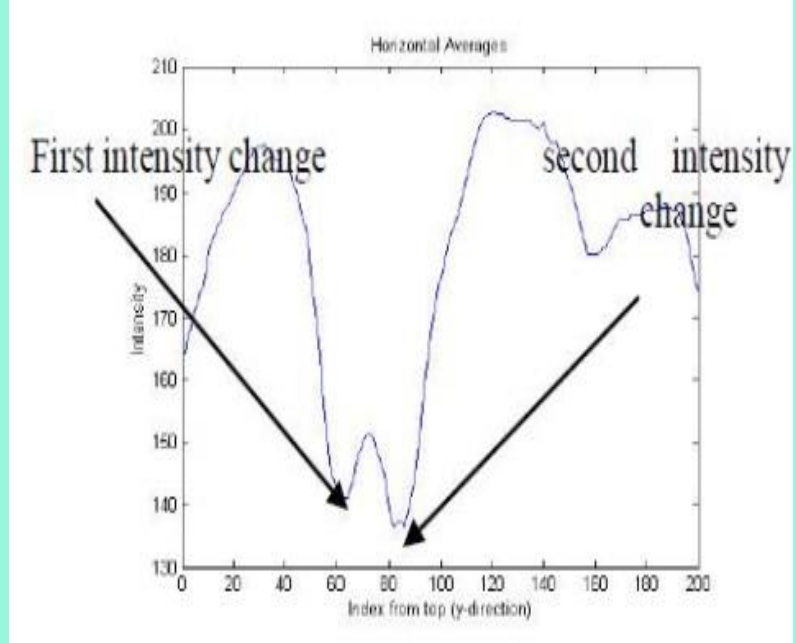
The analysis of information from the sensors and camera are done to deduce the driver's current driving behaviour style. The open/closed state of eyes is deduced by means of image processing techniques using computer vision.

C. Correction Phase

This phase is responsible for doing the corrective actions required for that particular detected abnormal behaviour. The corrective actions include in-vehicle alarms, turning of the engine and GSM communication with the authorities.

Detection of Vertical Eye Position

The first largest valley with the lowest y – coordinate is the eyebrow, and the second largest valley with the next lowest y -coordinate is the eye.



Driver Drowsiness

The areas of the left and right side are compared to check whether the eyes are found correctly. Calculating the left side means taking the averages from the left edge to the centre of the face, and similarly for the right side of the face. The reason for doing the two sides separately is because when the driver's head is tilted the horizontal averages are not accurate.

Conclusion:

The Drowsiness Detection System developed based on eye closure of the driver can differentiate normal eye blink and drowsiness and detect the drowsiness while driving. The proposed system can prevent the accidents due to the sleepiness while driving. The system works well even in case of drivers wearing spectacles and even under low light conditions if the camera delivers better output.

References:

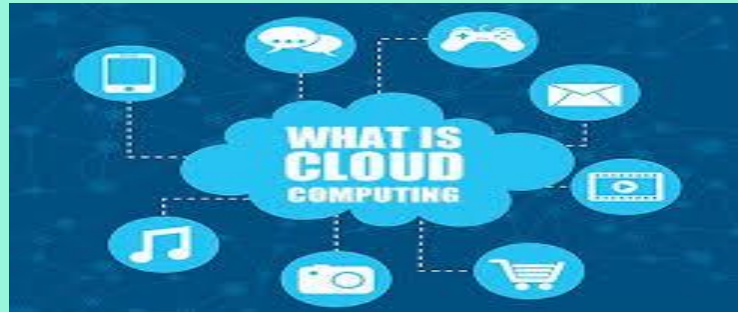
1. <https://www.seminaronly.com/Engineering-Projects/Computer/driver-drowsiness-detection-system.php>

CLOUD COMPUTING

Cloud computing is the latest of computing paradigms. It promises to change the way people use computing resources. Using Internet as the backbone, cloud computing asserts that it is possible to provide computing as a “utility” to end users “as and when needed” basis. Cloud computing has a potential to serve users of all kinds: individual users, institutions, industry at large.



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This report cover issues such nature and scope of cloud computing, its applications, business rationale etc. Cloud computing is a business model that harnesses the web as the ultimate business platform. Cloud computing is impregnated with immense potential for array of practical applications. The model is expected make computing needs available via web on retail basis and is called cloud computing. Cloud computing intends to make the Internet the ultimate home of all computing resources- storage, computations, applications and allow end user toavailable them in quantities of her choice, location of their preferences, for duration of their liking. In other world web become the provision store for all your computing needs.

Introduction of Cloud Computing

Cloud computing is a term used to describe both a platform and type of application. A cloud computing platform dynamically provisions, configures, reconfigures, and deprovisions servers as needed. Servers in the cloud can be physical machines or virtual machines. Advanced clouds typically include other computing resources such as storage area networks (SANs), network equipment, firewall and other security devices

Cloud computing infrastructure accelerates and fosters the adoption of innovations. Cloud computing can enable innovations. It alleviates the need of innovators to find resources to develop, test, and make their innovations available to the user community. Innovators are free to focus on the innovation rather than the logistics of finding and managing resources that enable the innovation. Cloud computing helps leverage innovation as early as possible to deliver business value to a company and its customers.



Cloud computing infrastructure allows enterprises to achieve more efficient use of their IT hardware and software investments. Cloud computing can increase profitability by improving resource utilization. Pooling resources into large clouds drives down costs and increases utilization by delivering resources only for as long as those resources are needed. Cloud computing allows individuals, teams, and organizations to streamline procurement processes and eliminate the need to duplicate certain computer administrative skills related to setup, configuration, and support.



Why cloud computing?

Cloud computing infrastructure accelerates and fosters the adoption of innovations. Cloud computing can enable innovations. It alleviates the need of innovators to find resources to develop, test, and make their innovations available to the user community. Innovators are free to focus on the innovation rather than the logistics of finding and managing resources that enable the innovation. Cloud computing helps leverage innovation as early as possible to deliver business value to a company and its customers.

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Reference: <https://www.seminaronly.com/computer%20science/Cloud-Computing.php>

Google App Engine

Google App Engine was first released as a beta version in April 2008. It is a platform for developing and hosting web applications in Google-managed data centers. Google's App Engine opens Google's production to any person in the world at no charge.

Much like Google gives us all free email with an amazing amount of long term storage, we now have the ability to run the software that we write in Google's data centers.

Google App Engine is cloud computing technology. Google App Engine is software that facilitates the user to run his web applications on Google infrastructure. It is more reliable because failure of any server will not affect either the performance of the end user or the service of the Google. It virtualizes applications across multiple servers and data centers. Other cloud-based platforms include offerings such as Amazon Web Services and Microsoft's Azure Services Platform.



Chintalapudi Nikilesh Satya
15A31A05A5



Introduction of Google App Engine

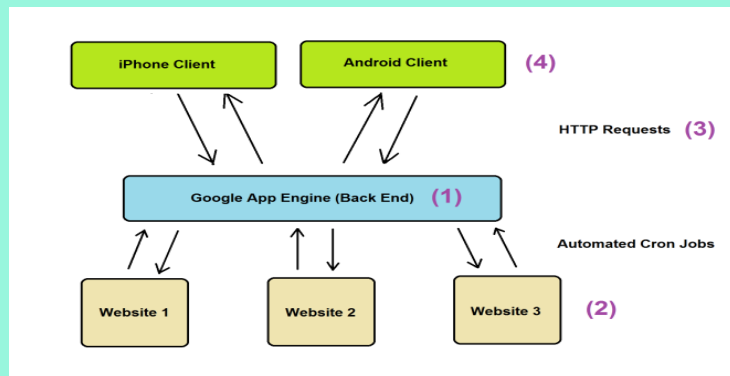
Google App Engine lets you run your web applications on Google's infrastructure. App Engine applications are easy to build, easy to maintain, and easy to scale as your traffic and data storage needs grow. With App Engine, there are no servers to maintain: You just upload your application, and it's ready to serve your users.

You can serve your app from your own domain name (such as <https://www.example.com/>) using Google Apps. Or, you can serve your app using a free name on the appspot.com domain. You can share your application with the world, or limit access to members of your organization.

Google App Engine supports apps written in several programming languages. With App Engine's Java runtime environment, you can build your app using standard Java technologies, including the JVM, Java servlets, and the Java programming language—or any other language using a JVM-based interpreter or compiler, such as JavaScript or Ruby. App Engine also features a dedicated Python runtime environment, which includes a fast Python interpreter and the Python standard library. The Java and Python runtime

environments are built to ensure that your application runs quickly, securely, and without interference from other apps on the system.

With App Engine, you only pay for what you use. There are no set-up costs and no recurring fees. The resources your application uses, such as storage and bandwidth, are measured by the gigabyte, and billed at competitive rates. You control the maximum amounts of resources your app can consume, so it always stays within your budget. App Engine costs nothing to get started. All applications can use up to 500 MB of storage and enough CPU and bandwidth to support an efficient app serving around 5 million page views a month, absolutely free. When you enable billing for your application, your free limits are raised, and you only pay for resources you use above the free levels.



GAE Application Environment :

Google App Engine makes it easy to build an application that runs reliably, even under heavy load and with large amounts of data. App Engine includes the following features:

- persistent storage with queries, sorting and transactions
- automatic scaling and load balancing
- APIs for authenticating users and sending email using Google Accounts
- task queues for performing work outside of the scope of a web request

Java Runtime Environment

- You can develop your application for the Java runtime environment using common Java web development tools and API standards. Your app interacts with the environment using the Java Servlets standard, and can use common web application technologies such as Java Server Pages
- The Java runtime environment uses Java 6. The App Engine Java SDK supports developing apps using either Java 5 or 6. The environment includes the Java SE Runtime Environment (JRE) 6 platform and libraries. The restrictions of the sandbox environment are implemented in the JVM. An app

- can use any JVM byte code or library feature, as long as it does not exceed the sandbox restrictions. For instance, byte code that attempts to open a socket or write to a file will throw a runtime exception.
- Your app accesses most App Engine services using Java standard APIs. For the App Engine data store, the Java SDK includes implementations of the Java Data Objects (JDO) and Java Persistence API (JPA) interfaces. Your app can use the JavaMail API to send email messages with the App Engine Mail service. The java.net HTTP APIs accesses the App Engine URL fetch service.

Reference:<https://www.seminaronly.com/computer%20science/Google-App-Engine.php>

Hospitals and Medicines

Artificial intelligence in healthcare

Artificial neural networks are used as clinical decision support systems for medical diagnosis such as in Concept Processing technology in EMR software.

Medical diagnosis is the process of determining which disease or condition explains a person's symptoms and signs.



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15A31A05B3

Other tasks in medicine that can potentially be performed by artificial intelligence and are beginning to be developed include:

Computer-aided interpretation of medical images.

Such systems help scan digital images e.g. from computed tomography, for typical appearances and to highlight conspicuous sections, such as possible diseases. A typical application is the detection of a tumor.

Mining medical records to provide more useful information.

Design treatment plans.

Assist in repetitive jobs including medication management

Provide consultations.

Drug creation

Using avatars in place of patients for clinical training

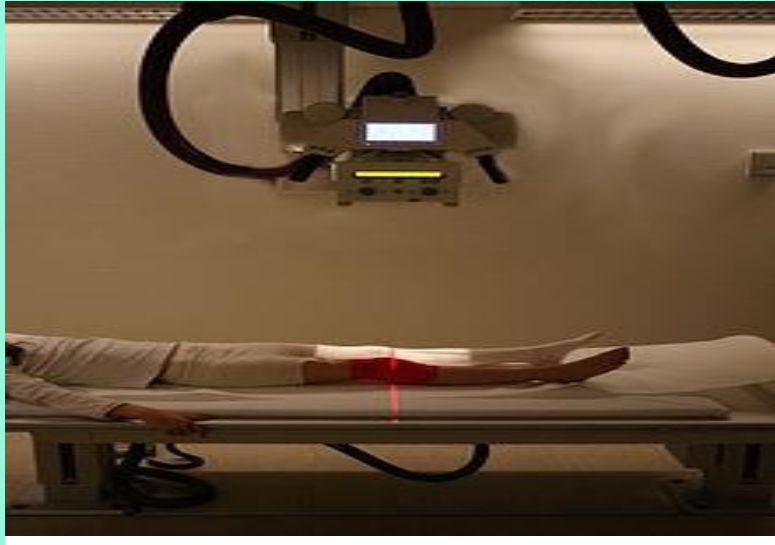
Predict the likelihood of death from surgical procedures

Predict HIV progression

Heart sound analysis

Companion robots for the care of elderly A clinical decision support system (CDSS) is a health information technology system that is designed to provide physicians and other health professionals

with clinical decision support (CDS), that is, assistance with clinical decision-making tasks. A working definition has been proposed by Robert Hayward of the Centre for Health Evidence: "Clinical decision support systems link health observations with health knowledge to influence health choices by clinicians for improved health care". CDSSs constitute a major topic in artificial intelligence in medicine.



There are over 90 AI start-ups in the health industry working in these fields

Reference link:
https://en.wikipedia.org/wiki/Applications_of_artificial_intelligence#Computer_science

Android Notes using Finger Print Authentication



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15A31A0546

This System is Simple but a smart application used to secure notes via Finger Print Authentication. This System can also be referred as Keyless Authentication unlike traditional way where it needed a password to enter. This System doesn't have any Registration but only the owner of the phone can access these notes as it searches for the owners print. This System can be used as private notes or personal diary or important notes; can be given multiple names but plays a similar role of recording notes and keeping it away from everyone then the phones owner. If there is no Biometric feature on the phone, this app can't be used. The user can add new notes, edit old notes as well as delete notes. The Front end used is Android Studio and the Back end used is SQLite. Biometric Authentication is the highest level of security any Phone can offer making it very accurate and very secure.

Modules:

- **Finger Print Authentication:** The user i.e. owner has to scan his finger to get access to the notes
- **Add Notes:** The user can add new notes.
- **Edit Notes:** The user can edit old notes.
- **Delete Notes:** The user can delete notes.

Software Requirements:

- Windows XP, Windows 7(ultimate, enterprise)
- Android Studio



Software Requirements:

- Windows XP, Windows 7(ultimate, enterprise)
- Android Studio

Hardware Components:

- Processor – i3
- Hard Disk – 5 GB
- Memory – 1GB RAM
- Android Phone with 2 prerequisites
 - Marshmallow and Higher
 - Build in Biometric.

Applications:

- This system can be used by all Android Phone users with Biometric feature in it.
- Biometric feature is the highest level of security any phone can give.

Reference:

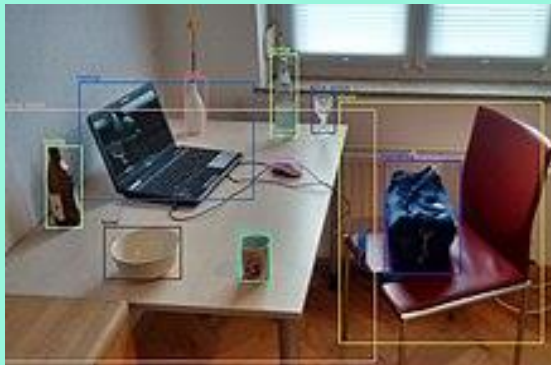
link:https://en.wikipedia.org/wiki/device_fingerprint

OBJECT DETECTION

Object detection is a computer technology related to **computer vision** and **image processing** that deals with detecting instances of semantic objects of a certain class (such as humans, buildings, or cars) in digital images and videos. Well-researched domains of object detection include **face detection** and **pedestrian detection**. **Object detection** is a computer technology related to **computer vision** and **image processing** that deals with detecting instances of semantic objects of a certain class (such as humans, buildings, or cars) in digital images and videos. Well-researched domains of object detection include **face detection** and **pedestrian detection**.



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15A31A05B7



Face detection is a computer technology being used in a variety of applications that identifies human faces in digital images. Face detection also refers to the psychological process by which

Humans locate and attend to faces in a visual scene.



Pedestrian detection is an essential and significant task in any intelligent system, as it provides the fundamental information for semantic understanding of the video footages.

CONCEPT:

Every object class has its own special features that helps in classifying the class. Object class detection uses these special features. Similarly, when looking for squares, objects that are perpendicular at corners and have equal side lengths are needed. A similar approach is used for face identification where eyes, nose, and lips can be found and features like skin color and distance between eyes can be found.

We will be looking at some key components of Object Detection:

Sliding Windows Algorithm

- Bound Boxes
- Intersection over Union [IOU]
- Non-max Suppression
- Anchor Boxes.

METHODS:

Methods for object detection generally fall into either machine learning-based approaches or deep learning-based approaches. For Machine Learning approaches, it becomes necessary to first define features using one of the methods below, then using a technique such as support vector machine (SVM) to do the classification. On the other hand, deep learning techniques are able to do end-to-end object detection without specifically defining features, and are typically based on convolutional neural networks (CNN).

- Machine Learning approaches:
 - Viola–Jones object detection framework based on Haar features
 - Scale-invariant feature transform (SIFT)
 - Histogram of oriented gradients (HOG) features.
- Deep Learning approaches:
 - Region Proposals (R-CNN, Fast R-CNN, Faster R-CNN)
 - Single Shot MultiBox Detector (SSD)
 - You Only Look Once (YOLO)
 - Single-Shot Refinement Neural Network for Object Detection (RefineDet).

○ **APPLICATIONS:**

Object detection is breaking into a wide range of industries, with use cases ranging from personal security to productivity in the workplace. Object detection and recognition is applied in many areas of computer vision, including image retrieval, security, surveillance, automated vehicle systems and machine inspection. Significant challenges stay on the field of object recognition. The possibilities are endless when it comes to future use cases for object detection.

PHISHING

In the field of computer security, phishing is the criminally fraudulent process of attempting to acquire sensitive information such as usernames, passwords and credit card details, by masquerading as a trustworthy entity in an electronic attempting to acquire sensitive information such as usernames, passwords and credit card details, by masquerading as a trustworthy entity in an electronic communication.



**Naga Shiva Durga Vikas
Koduri**

15A31A05B2



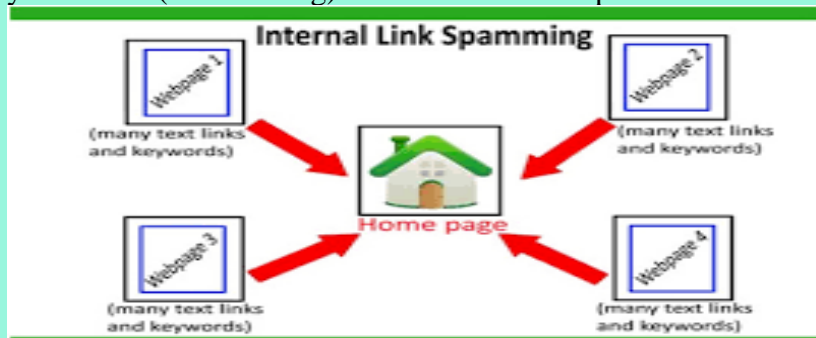
Phishing is a fraudulent e-mail that attempts to get you to divulge personal data that can then be used for illegitimate purposes. There are many variations on this scheme. It is possible to Phish for other information in additions to usernames and passwords such as credit card numbers, bank account numbers, social security numbers and mothers' maiden names. Phishing presents direct risks through the use of stolen credentials and indirect risk to institutions that conduct business on line through erosion of customer confidence. The damage caused by phishing ranges from denial of access to e-mail to substantial financial loss

PHISHING TECHNIQUES

Phishers use a wide variety of techniques, with one common thread.

Link Manipulation

Most methods of Phishing use some form of technical deception designed to make a link in an e-mail appear to belong to the spoofed organization. Misspelled URLs or the use of sub domains are common tricks used by Phishers. In the following example, <https://www.yourbank.example.com/> , it appears as though the URL will take you to the example section of the yourbank website; actually this URL points to the "yourbank " (i.e. Phishing) section of the example website.



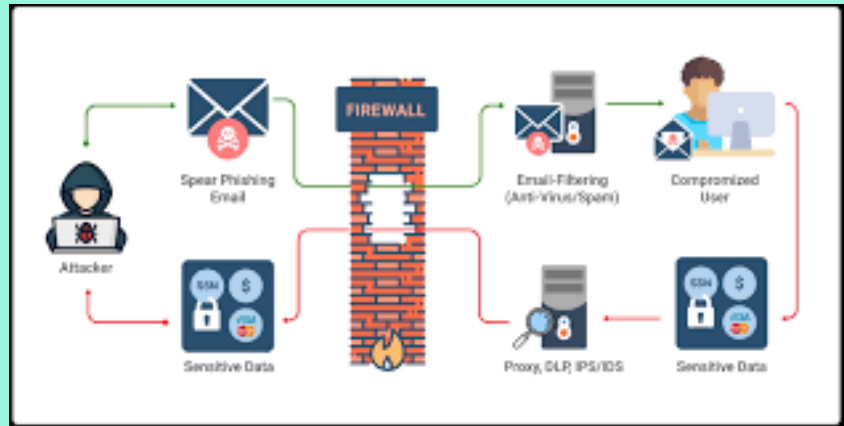
An old method of spoofing used links containing the ' @ ' symbol, originally intended as a way to include a username

and password. For example, <https://www.google.com@members.tripod.com/> might deceive a casual observer into believing that it will open a page on www.google.com, whereas it actually directs the browser to a page on members.tripod.com, using a username of www.google.com : the page opens normally, regardless of the username supplied.

Filter Evasion

Phishers have used images instead of text to make it harder for anti-Phishing filters to detect text commonly used in Phishing e-mails.

Website Forgery



Once a victim visits the Phishing website the deception is not over. Some Phishing scams use JavaScript commands in order to alter the address bar. This is done either by placing a picture of a legitimate URL over the address bar, or by closing the original address bar and opening a new one with the legitimate URL.

Phone Phishing

Messages that claimed to be from a bank told users to dial a phone number regarding problems with their bank accounts. Once the phone number (owned by the Phishers) was dialed, prompts told users to enter their account numbers and PIN. Vishing (voice Phishing) sometimes uses fake caller-ID data to give the appearance that calls come from a trusted organization.



Reference

<https://www.seminaronly.com/computer%20science/Phishing.php>

Robot dexterity

Robot dexterity will be the next big breakthrough in smart machines.

While drones and driverless cars dominate the headlines, another breakthrough—robot dexterity—is likely to have an even greater impact in both business and everyday life.

“Imagine a robot that can do things with its hands in the real world—anything from defusing a bomb to doing your laundry. This has been a dream in the research community for decades, but now we’re finally getting to the point where it could actually happen.”

Robots are teaching themselves to handle the physical world.

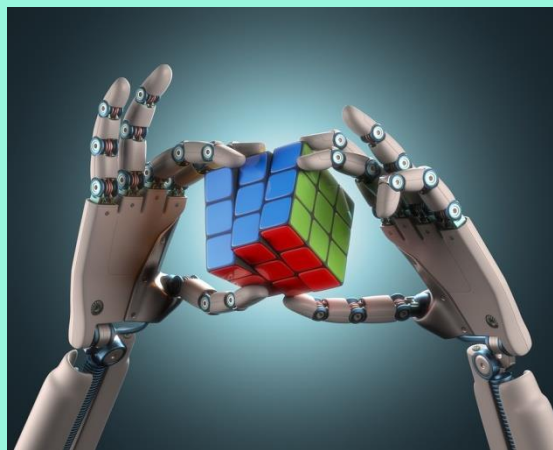
For all the talk about machines taking jobs, industrial robots are still clumsy and inflexible. A robot can repeatedly pick up a component on an assembly line with amazing precision and without ever getting bored—but move the object half an inch, or replace it with something slightly different, and the machine will fumble ineptly or paw at thin air.

But while a robot can’t yet be programmed to figure out how to grasp any object just by looking at it, as people do, it can now learn to manipulate the object on its own through virtual trial and error.



Alla Sushil Chandra

15A31A05A1



References:

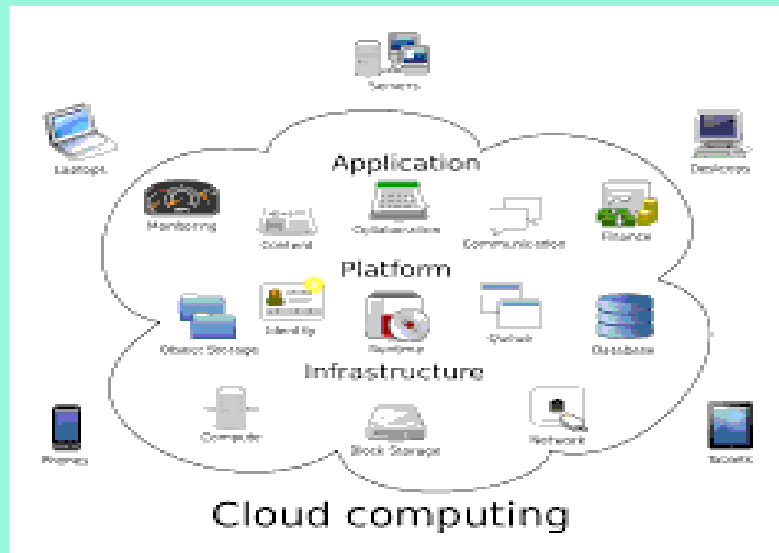
<https://www.nanowerk.com/news2/robotics/newsid=49208.php>

Cloud computing

Cloud computing is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software. Cloud computing is a popular option for people and businesses for a number of reasons including cost savings, increased productivity, speed and efficiency, performance, and security.



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15A31A0553



Cloud-based software offers companies from all sectors a number of benefits, including the ability to use software from any device either via a native app or a browser. As a result, users can carry their files and settings over to other devices in a completely seamless manner. Users can check their email on any computer and even store files using services such as Dropbox and Google Drive. Cloud computing services also make it possible for users to back up their music, files, and photos, ensuring those files are immediately available in the event of a hard drive crash. It also offers big businesses huge cost-saving potential. Companies can swap costly server centers and IT departments for fast Internet connections, where employees interact with the cloud online to complete their tasks. The cloud structure allows individuals to save storage space on their desktops or laptops. It also lets users upgrade software more quickly because software companies can offer their products via the web rather than through more traditional, tangible methods involving discs or flash drives. Cloud computing allows users to download new versions and fixes to their programs easily. Businesses can employ cloud computing in different ways. Some users maintain all apps and data on the cloud, while others use a hybrid model, keeping certain apps and data on private servers and others on the cloud.

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Reviews on BITCOIN

Bitcoin was first created in the world on 31st October 2008 by Satoshi Nakamoto, who introduced the invention in his article named —BITCOIN: A peer-to-peer electronic cash system. Satoshi Nakamoto is known as Bitcoin founder and he created the first original Bitcoin client, and the design principle behind bitcoin is: It would allow online payments to be sent directly from one party to another without going through a financial institutions. There is no exact information about Satoshi Nakamoto pseudonym. It might be one person or an organisation. One thing we can be clear convinced is, that he is Japanese from p2p profile where he said about it. He has been working on his project for almost 3 years. In 2010 he disappeared and stopped involving any improvements. The latest message from him indicated that Satoshi Nakamoto is —gone for good. His implementation was available in January 2009 as open source code.

Before Bitcoin we don't have a electronic cash, we just had numbers being stored in the database of a third parties like a bank, PayPal, whose rules you had to follow in order to open an account and we also seek permissions before being able to transfer our own money. Bitcoin mainly depends upon the —cryptocurrency, which plays a key role in this technology. Most crypto currencies are designed to decrease in production over time like Bitcoin, which creates a market cap on them. That's different from fiat currencies where financial institutions can always create more, hence inflation. Bitcoin will never have more than 21 million coins circulation. We exchange only those 21 million bitcoins. Therefore there will be increase in demand. This concept holds more benefits that physical currencies do not provide its users; however, it also has its disadvantages. This is mostly due to the fact that bitcoin is still relatively young and new currency. People are just beginning to become more aware of it. In order for bitcoin to succeed, more people need to understand what it is and not let their preconceived notions distort the concept of digital currencies.

Robust Fault-Tolerant Training Strategy Using Neural Network to Perform Functional Testing of Software



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This paper is intended to introduce an efficient as well as robust training mechanism for a neural network which can be used for testing the functionality of software. The traditional setup of neural network architecture is used constituting the two phases -training phase and evaluation phase. The input test cases are to be trained in first phase and consequently they behave like normal test cases to predict the output as untrained test cases. The test oracle measures the deviation between the outputs of untrained test cases with trained test cases and authorizes a final decision. Our framework can be applied to systems where number of test cases outnumbers the functionalities or the system under test is too complex. It can also be applied to the test case development when the modules of a system become tedious after modification.

Fusion Differential Evolution Algorithm to Generate Association Rules



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Data mining is the process of finding interesting relations from hidden data. Data mining techniques are used in a many research areas including marketing, cybernetics, genetics etc. Association rules are such rules that play a prominent role in discovering new relations from data. In this paper Hybrid differential evolution optimization based association rule mining is proposed. The Hybrid differential evolution based association rule mining generates the association rules from the transaction database by formulating a combinatorial global optimization problem. The proposed algorithm can work efficiently, and it can reduce the number of iterations in the dataset and all the records in the dataset are optimized. The differential evolution decreases the association rules and time complexity.

Overview of Neural Lace: Connecting Computer to Brain



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This report is an introduction to modern technology often treated a science fiction called as “NEURAL LACE”. It is a way to connect our brains to computer and competing with the modern world. This is an era of artificial intelligence and machine learning and basically termed as 21st century the century of artificial intelligence. The name which is popular in critics when the word AI comes into mind is “ELON MUSK” the creator of neural lace and the modern age legend of AI. In this paper the total brief description of neural lace is elaborated. The description is totally the overview of neural lace. It starts with introduction of neural lace, working, challenges, pros and cons and with final conclusion.

Research Roadmap for IOT Forensics



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With the advent of IOT ,most of modern technological devices consume and dissipate data at a level never imagined .It has been admitted by IOT researchers that usage of data trails can be used to provide evidence in court of law for safeguarding the common man's interests. our paper is a sincere effort to throw light on current principles applied for IOT forensics as well as difficulties faced by researchers in this field. This paper is a readymade guide for understanding the crucial research challenges lying ahead in the field of IoT forensics. In this paper we present the issues pertaining to IOT forensics which force us to think about leveraging the current techniques used in digital forensics, cloud forensics, network forensics.

Mist Computing: Principles, Trends and Future Direction



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In this paper we present the novel idea of computing near the edge of IOT architecture which enhances the inherent efficiency while computing complex applications. This concept is termed as mist computing. We believe this computing will bring about an massive revolution in future computing technologies. instead of thrusting the control responsibility to gateways while data transmission the control is decentralised to end nodes which decrease the communicational delay of the network thereby increasing the throughput.

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A Future Perspective of Blockchain Technology, It's Design And Implementations

Bitcoin is the predecessor for the blockchain technology that has gain more attention in recent times. Blockchain serves as an immutable ledger which allows transactions take place in a decentralized manner. Blockchain applications are numerous including Internet of Things (IoT), eliminating trusted third parties, digital advertisement and so on. However there are some problems still arise with this technology which slowdown the growth of this like security and scalability. This paper presents blockchain technology architectures, algorithms and latest trends and it's future involvement in its growth and technical challenges.

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Graph Theoretic Approaches for Analyzing Large-Scale Social Networks

Community Structure is one of the most important properties of social networks. Detecting such structures is a challenging problem in the area of social network analysis. Community is a collection of nodes with dense connections than with the rest of the network. It is similar to clustering problem in which intra cluster edge density is more than the inter cluster edge density. Community detection algorithms are of two categories, one is disjoint community detection, in which a node can be a member of only one community at most, and the other is overlapping community detection, in which a node can be a member of more than one community. This chapter reviews the state-of-the-art disjoint and overlapping community detection algorithms. Also, the measures needed to evaluate a disjoint and overlapping community detection algorithms are discussed in detail.

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Future of Software Testing: Novel Perspective, Challenges

Software testing is part of the software development which ensures software functions in the intended way of the client. Software testing depends on how well we are practicing the principles of software testing currently. Formation of testing in Modern era is becoming popular day by day. Therefore, software testing engineers are trying to efficiently convert the manual test effort into automation test report. This challenge is difficult due to various factors which we are presenting in this paper. This paper is a novel afford to get software testing practitioners regarding path they follow to overcome the challenges of software testing. Our paper is a sincere advice to envision the future of software testing which is highly dependent on current software testing practices.



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