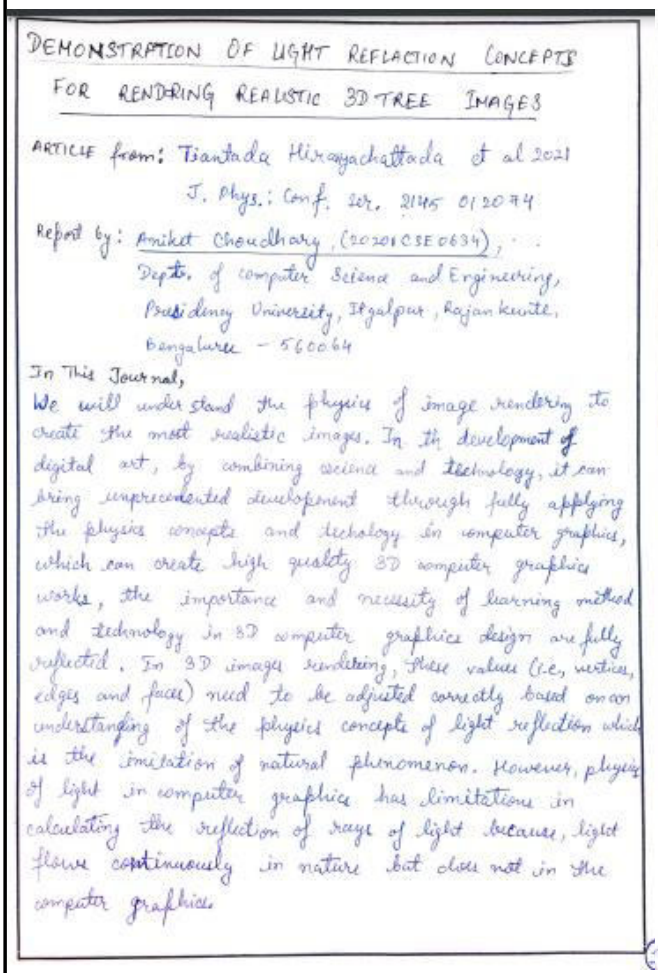
Name of the Department: CSE	Semester/Year: 5th semester
RoName of the Student: Aniket Choudhary	Roll no: 20201CSE0634
Section: 5-CSE-08	Date & Time: 20-12-2022
Course code: CSE2066	Course Title: Computer Graphics

Research paper / Article Review (Self- Learning)

Book review as a teaching-learning method on course-related topics was used to gain in-depth knowledgeof the relevant field with the help of books/e-books/online resources. Book/Article review helps the teacher to orient slow and advanced learners towards research and current news by incorporating scientific review. This teaching pedagogy helped the students to understand the importance of scientific learning through a book review. This set of learning skills provided the scientific update which is needed for research at the post-graduate level and helped them to understand the importance of the literature review. The followingis the list of students who have used book/article review as one of the tools for the teaching-learning method.



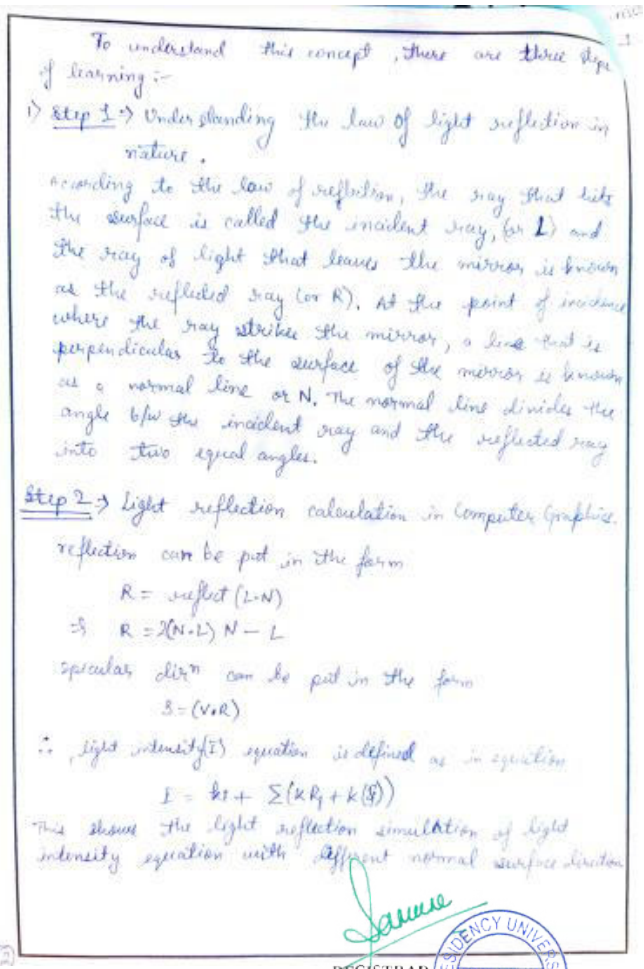
DEMONSTRATION OF LIGHT REFLACTION CONCEPTS FOR RENDERING REALISTIC 3D TREE IMAGES

ARTICLE from: Tsantada Hiragyachattada et al 2021 J. Phys.: Conf. Ser. 2145 012074

Report by: Aniket Choudhary (20201CSE0634), Depts. of computer Scienca and Erginering, Presidency University, Itgalpur, Rajankunte, Bengaluree - 560064

In This Journal,

We will understand the physics of image rendering to create the most realistic images. In the development of digital art, by combining science and technology, it can bring unprecendented development through fully applying the physics concepts and technology in computer graphics, which can create high quality 3D computer graphics works, the importance and necessity of learning method and technology in 3D computer graphics design are fully reflected. In 3D image rendering, these values (i.e., vertices, edges and faces) need to be adjusted correctly based on an understanding of the physics concepts of light reflection which is the imitation of natural phenomenon. However, physics of light in computer graphics has limitations in calculating the reflection of rays of light because, light flows continuously in nature but does not in the computer graphics.



To understand this concept, there are three steps of learning :-

1) Step 1 → Understanding the law of light reflection in nature.

According to the law of reflection, the ray that hits the surface is called the incident ray, (or L) and the ray of light that leaves the mirror is known as the reflected ray (or R). At the point of incidence where the ray strikes the mirror, a line that is perpendicular to the surface of the mirror is known as a normal line or N. The normal line divides the angle b/w the incident ray and the reflected ray into two equal angles.

Step 2 → Light reflection calculation in Computer Graphics.

reflection can be put in the form

$R = reflect(L, N)$

$\Rightarrow R = 2(N \cdot L)N - L$

Specular term can be put in the form

$S = (V \cdot R)$

∴ light intensity($\bar{I}$) equation is defined as in equation

$I = k_s + \Sigma(k R_f + k(\phi))$

This shows the light reflection simulation of light intensity equation with different normal surface direction

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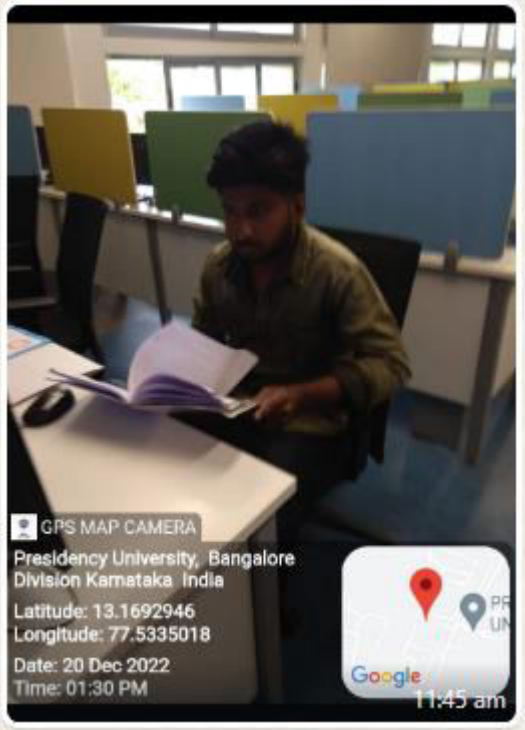

Signature of the Faculty

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Name of the Department: CSE (ISE)

Semester/Year: **VIISemester / IV Year**

Name of the Student: Keerthi Raj

Roll No: 20181ISE0026

Section: 1

Date & Time:08/11/2022, 10.44AM – 10:50 AM

Course Code: **CSE235**

Course Title: **Introduction to Deep learning**

Participative Learning

Activity : Class Presentation

DBSCAN

Clustering analysis is an unsupervised learning method that separates the data points into several specific bunches or groups, such that the data points in the same groups have similar properties and data points in different groups have different properties in some sense.
It comprises of many different methods based on different distance measures. E.g. K-Means (distance between points), Affinity propagation (graph distance), Mean-shift (distance between points), DBSCAN (distance between nearest points), Gaussian mixtures (Mahalanobis distance to centers), Spectral clustering (graph distance), etc.
Centrally, all clustering methods use the same approach i.e. first we calculate similarities and then we use it to cluster the data points into groups or batches. Here we will focus on the **Density-based spatial clustering of applications with noise** (**DBSCAN**) clustering method.

Why do we need a Density-Based clustering algorithm like DBSCAN when we already have K-means clustering?

K-Means clustering may cluster loosely related observations together. Every observation becomes a part of some cluster eventually, even if the observations are scattered far away in the vector space. Since clusters depend on the mean value of cluster elements, each data point plays a role in forming the clusters. A slight change in data points *might* affect the clustering outcome. This problem is greatly reduced in DBSCAN due to the way clusters are formed. This is usually not a big problem unless we come across some odd shape data.
Another challenge with *k*-means is that you need to specify the number of clusters ("*k*") in order to use it. Much of the time, we won't know what a reasonable *k* value is *a priori*.

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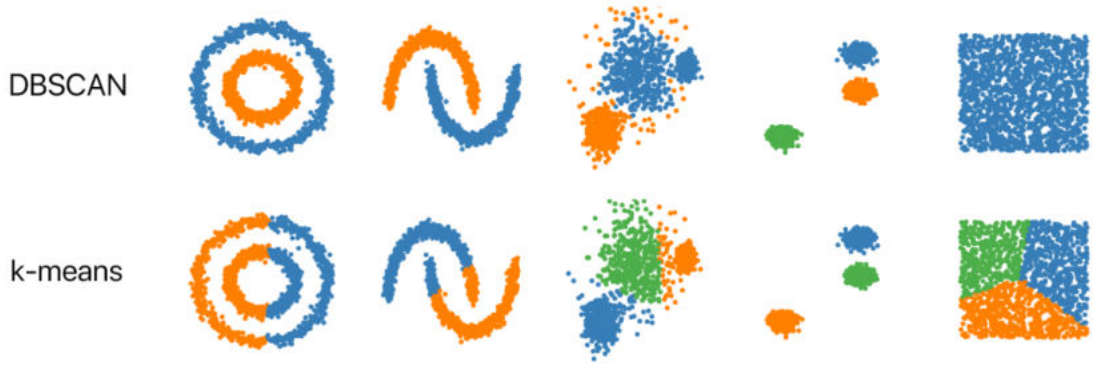

Density-Based Clustering Algorithms

Density-Based **Clustering** refers to unsupervised learning methods that identify distinctive groups/clusters in the data, based on the idea that a cluster in data space is a contiguous region of high point density, separated from other such clusters by contiguous regions of low point density.

Density-Based Spatial Clustering of Applications with Noise (DBSCAN) is a base algorithm for density-based clustering. It can discover clusters of different shapes and sizes from a large amount of data, which is containing noise and outliers.

The DBSCAN algorithm uses two parameters:

- **minPts:** The minimum number of points (a threshold) clustered together for a region to be considered dense.
- **eps (ε):** A distance measure that will be used to locate the points in the neighborhood of any point.

- These parameters can be understood if we explore two concepts called Density Reachability and Density Connectivity.
- **Reachability** in terms of density establishes a point to be reachable from another if it lies within a particular distance (eps) from it.
- **Connectivity**, on the other hand, involves a transitivity based chaining-approach to determine whether points are located in a particular cluster. For example, p and q points could be connected if p->r->s->t->q, where a->b means b is in the neighborhood of a.
- There are three types of points after the DBSCAN clustering is complete:

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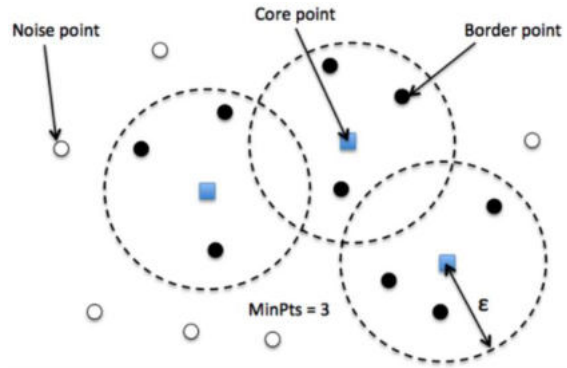
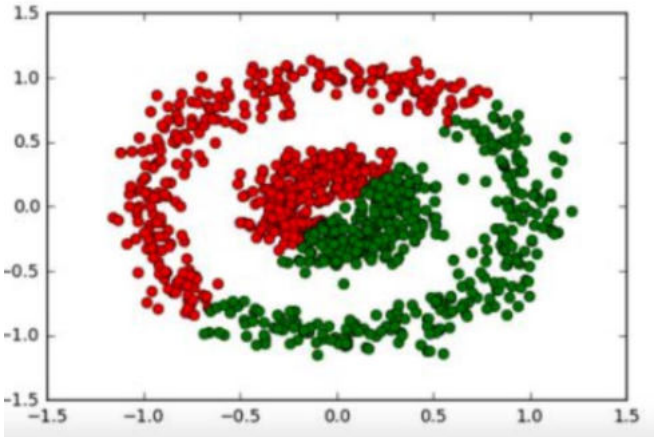


Algorithmic steps for DBSCAN clustering

- The algorithm proceeds by arbitrarily picking up a point in the dataset (until all points have been visited).
- If there are at least 'minPoint' points within a radius of 'ε' to the point then we consider all these points to be part of the same cluster.
- The clusters are then expanded by recursively repeating the neighborhood calculation for each neighboring point

The Complexity of DBSCAN

- **Best Case:** If an indexing system is used to store the dataset such that neighborhood queries are executed in logarithmic time, we get **O(nlogn)** average runtime complexity.
- **Worst Case:** Without the use of index structure or on degenerated data (e.g. all points within a distance less than ε), the worst-case run time complexity remains **O(n^2)**.
- **Average Case:** Same as best/worst case depending on data and implementation of the algorithm.



Density-based clustering algorithms can learn clusters of arbitrary shape, and with the Level Set Tree algorithm, one can learn clusters in datasets that exhibit wide differences in density.

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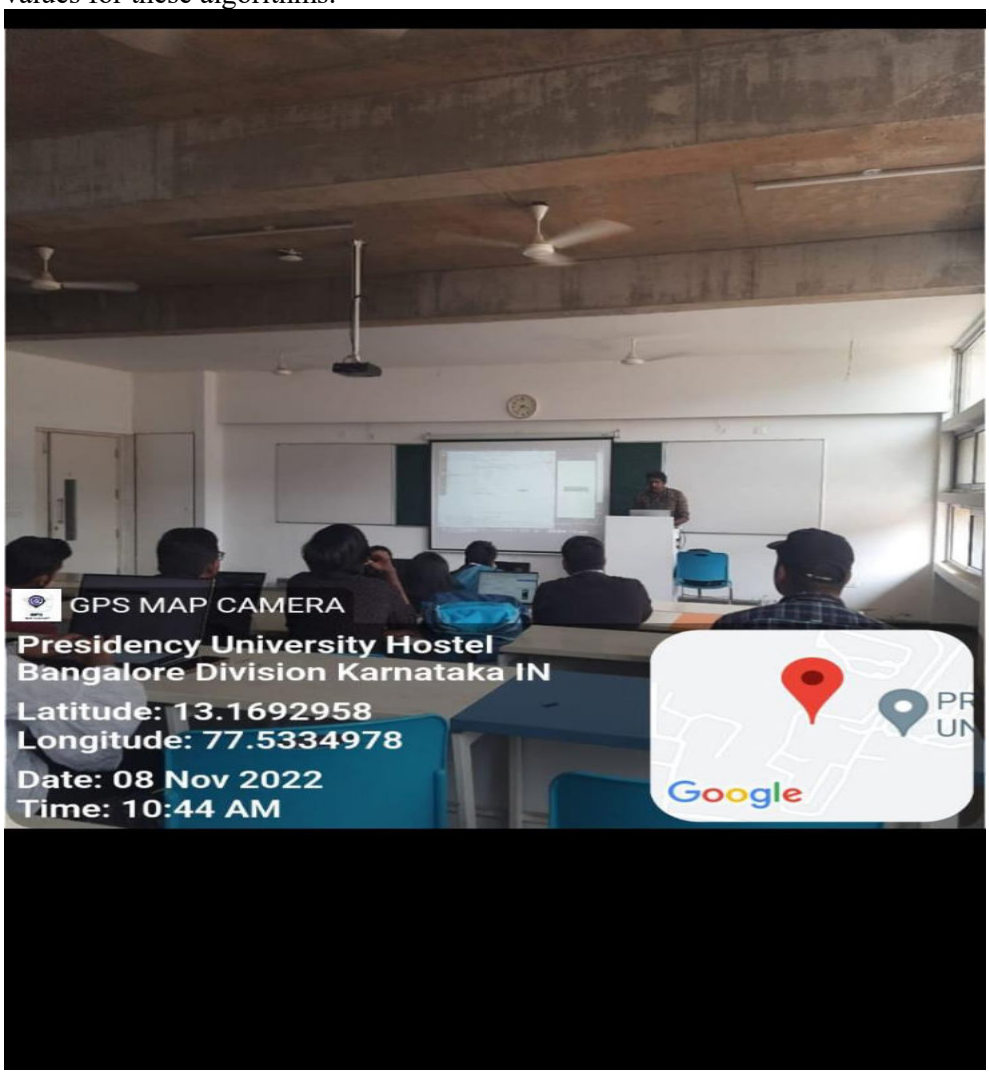
However, I should point out that these algorithms are somewhat more arduous to tune contrasted to parametric clustering algorithms like K-Means. Parameters like the epsilon for DBSCAN or for the Level Set Tree are less intuitive to reason about compared to the number of clusters parameter for K-Means, so it's more difficult to choose good initial parameter values for these algorithms.



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Name of the Department: CSE (ISE) Semester/Year: **VII Semester / IV Year**

Course Code: **CSE241** Course Title: Wireless Sensor and Ad-hoc Networks

Participative Learning

Activity: Identify Network Slicing Algorithms and Presentation.

Scenario:-

The mobile networking service provider will approach to you for development of effective channel allocation system to meet the increasing demands of user and accomudate the maximum number of users within the available bandwidth and the developed system should meet the requirements and assure the quality of service atleast for 5 forces(numerical values) better existing networks .

HINT :-

The soluion for the above problem can be addressed using network slicing mechanism specifically horizontal network slicing [HNS-service specific requirements]

LEVEL-1

For the above scenario explore the possible ways and the mechanisms to mitigate service specific requirements and give suitable algorithms to solve the above problem.

LEVEL-2

From the level-1 identify the best suitable algorithm highlighting advantages and disadvantages over other algorithms design the algorithm.

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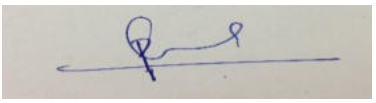

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Name of the Department: CSE | Semester/Year: 7th semester

Name of the Student: Ashok | Roll no: 20201IST0039

Section: 7-IST-01 | Date & Time: 5-12-2022

Course code: CSE304 | Course Title: Mobile Communication

Presentation

Title: Cellular System Infrastructure

Early wireless systems had a high-power transmitter, covering the entire service area. This required a very huge amount of power and was not suitable for many practical reasons.

The cellular system replaced a large zone with a number of smaller hexagonal cells with a single BS (base station) covering a fraction of the area. Evolution of such a cellular system is shown in the given figures, with all wireless receivers located in a cell being served by a BS.

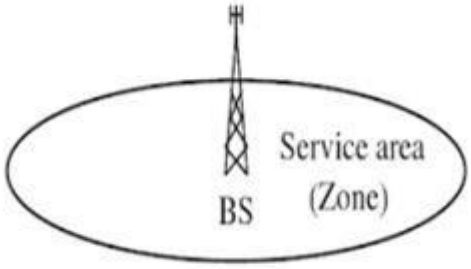

Fig: Early wireless system: large zone

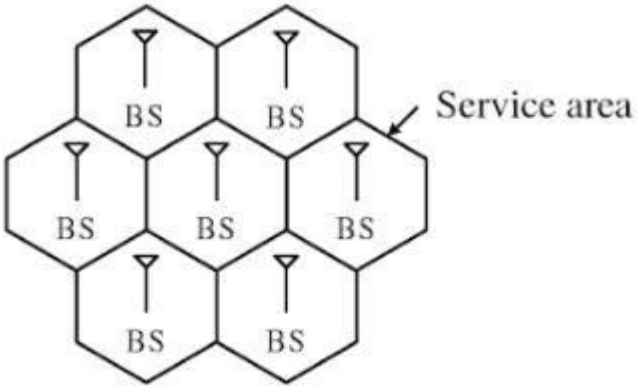

Fig: Cellular system: small zone

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Wireless devices need to be supported for different types of services, the wireless device could be a wireless telephone laptop with wireless card, personal digital assistant (PDA), or web enabled phone. For simplicity, it could be called an MS.

In a cellular structure, a MS (mobile station) needs to communicate with the BS of the cell where the MS is currently located and the BS acts as a gateway to the rest of the world. Therefore, to provide a link, the MS needs to be in the area of one of the cells (and hence a BS) so that mobility of the MS can be supported. Several base stations are connected through hard-wires and are controlled by a BS controller (BSC), which in turn is connected to a mobile switching center (MSC).

Geo tagged selfie image:

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Name of the Department: CSE-CST	Semester/Year: 7th semester
Name of the Student: PALEM VIKRAM SIMHA	Roll no: 20191CCE0089
Section: 7 – CCE-1	Date & Time: 21-08-2022
Course code: CSE397	Course Title: Digital and Mobile Forensics

Presentation (Participative- Learning)

Cyber Crime

Cybercrime, also called computer crime, the use of a computer as an instrument to further illegal ends, such as committing fraud, trafficking in child pornography and intellectual property, stealing identities, or violating privacy. Cybercrime, especially through the Internet, has grown in importance as the computer has become central to commerce, entertainment, and government.

Because of the early and widespread adoption of computers and the Internet in the United States, most of the earliest victims and villains of cybercrime were Americans. By the 21st century, though, hardly a hamlet remained anywhere in the world that had not been touched by cybercrime of one sort or another.

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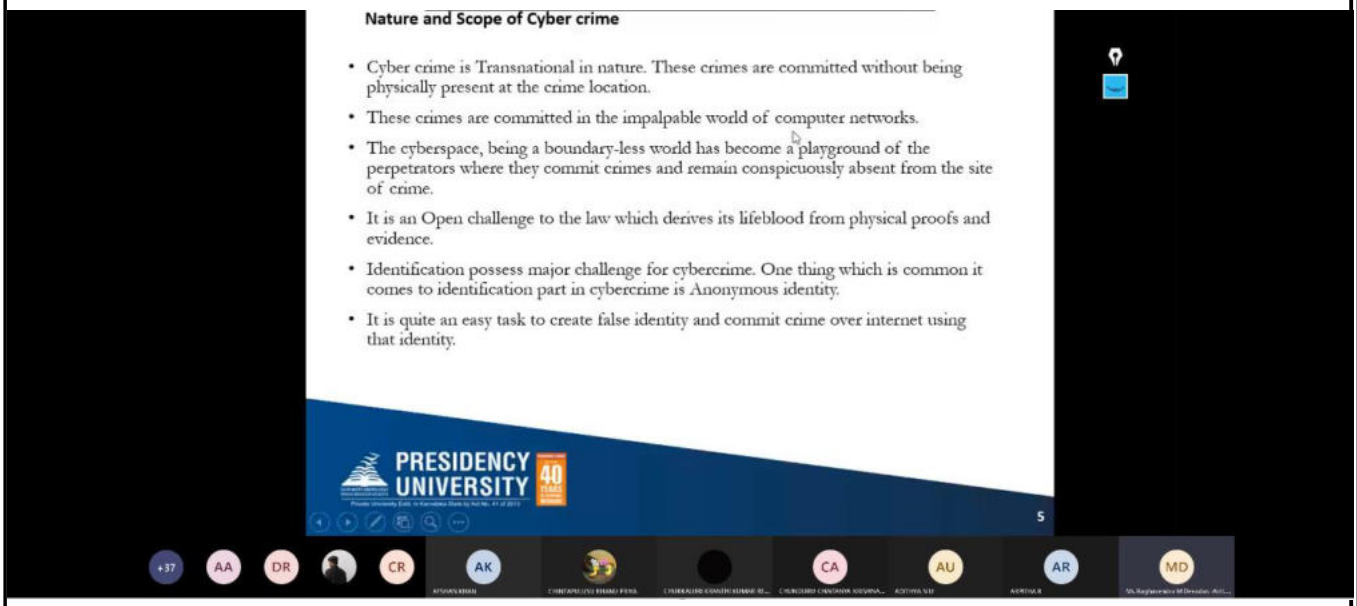

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Name of the Department: **CSE**

Semester/Year: **IV Semester/ II Year**

Course code: **CSE2009**

Course Title: **Computer Organization & Architecture**

Participative Learning

Activity: PROCESSOR CLOCK

What is Processor Speed and Why Does It Matter?

With technology, increased productivity goals, faster internet, and more devices, we've created a need for speed wherever we go. We're used to getting results instantaneously and expect our devices to keep up with our requests as we multi-task our way through life. Computer processors and their clock speed are two features we most commonly associate with high-performing, fast technology.

Computer processor speed (CPU speed) is one of the most important elements to consider when comparing computers. The CPU is often referred to as "the brain" of your computer, so ensuring it's working properly is very important to the longevity and functionality of your computer. Understanding what makes a good processor speed starts with understanding what exactly a processor does - and what its components do to improve the functionality of your computer.

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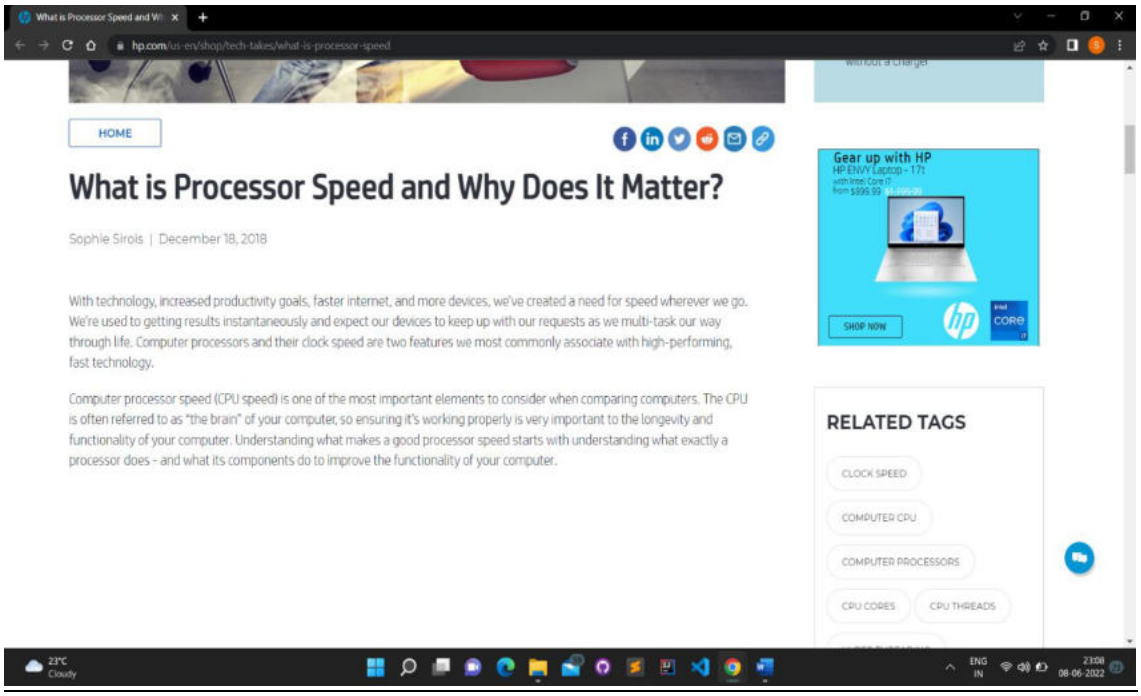
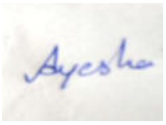


REFERENCE : https://www.hp.com/us-en/shop/tech-takes/what-is-processor-speed



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Name of the Department: CSE

Semester/Year: 6th semester

Name of the Student: Ashok, Chukka Manoj

Roll no: 20201CAI0203,

20201CAI0199

Section: 6-CAI-03

Date & Time: 2-6-2023

Course code: CSE3016

Course Title: Neural Networks Fuzzy logic

Presentation

Title: Neural-Trained Fuzzy Logic

The reverse relationship between neural network and fuzzy logic, i.e., neural network used to train fuzzy logic is also a good area of study. Following are two major reasons to build neural trained fuzzy logic −

- New patterns of data can be learned easily with the help of neural networks hence, it can be used to pre-process data in fuzzy systems.
- Neural network, because of its capability to learn new relationship with new input data, can be used to refine fuzzy rules to create fuzzy adaptive system.

Examples of Neural-Trained Fuzzy system

Neural-Trained Fuzzy systems are being used in many commercial applications. Let us now see a few examples where Neural-Trained Fuzzy system is applied −

- The Laboratory for International Fuzzy Engineering Research (LIFE) in Yokohama, Japan has a back-propagation neural network that derives fuzzy rules. This system has been successfully applied to foreign-exchange trade system with approximately 5000 fuzzy rules.
- Ford Motor Company has developed trainable fuzzy systems for automobile idle-speed control.
- NeuFuz, software product of National Semiconductor Corporation, supports the generation of fuzzy rules with a neural network for control applications.
- AEG Corporation of Germany uses neural-trained fuzzy control system for its water – and energy conserving machine. It is having total of 157 fuzzy rules.

Fuzzy Logic - Classical Set Theory

A **set** is an unordered collection of different elements. It can be written explicitly by listing its elements using the set bracket. If the order of the elements is changed or any element of a set is repeated, it does not make any changes in the set.

Example

- A set of all positive integers.

- A set of all the planets in the solar system.
- A set of all the states in India.
- A set of all the lowercase letters of the alphabet.

Mathematical Representation of a Set

Sets can be represented in two ways −

Roster or Tabular Form

In this form, a set is represented by listing all the elements comprising it. The elements are enclosed within braces and separated by commas.

Following are the examples of set in Roster or Tabular Form −

- Set of vowels in English alphabet, A = {a,e,i,o,u}
- Set of odd numbers less than 10, B = {1,3,5,7,9}

Set Builder Notation

In this form, the set is defined by specifying a property that elements of the set have in common. The set is described as A = {x:p(x)}

Example 1 − The set {a,e,i,o,u} is written as

$$A = \{x:x \text{ is a vowel in English alphabet}\}$$

Example 2 − The set {1,3,5,7,9} is written as

$B = \{x:1 \leq x < 10 \text{ and } (x\%2) \neq 0\}$

If an element x is a member of any set S, it is denoted by $x \in S$ and if an element y is not a member of set S, it is denoted by $y \notin S$.

Example − If $S = \{1,1.2,1.7,2\}, 1 \in S$ but $1.5 \notin S$

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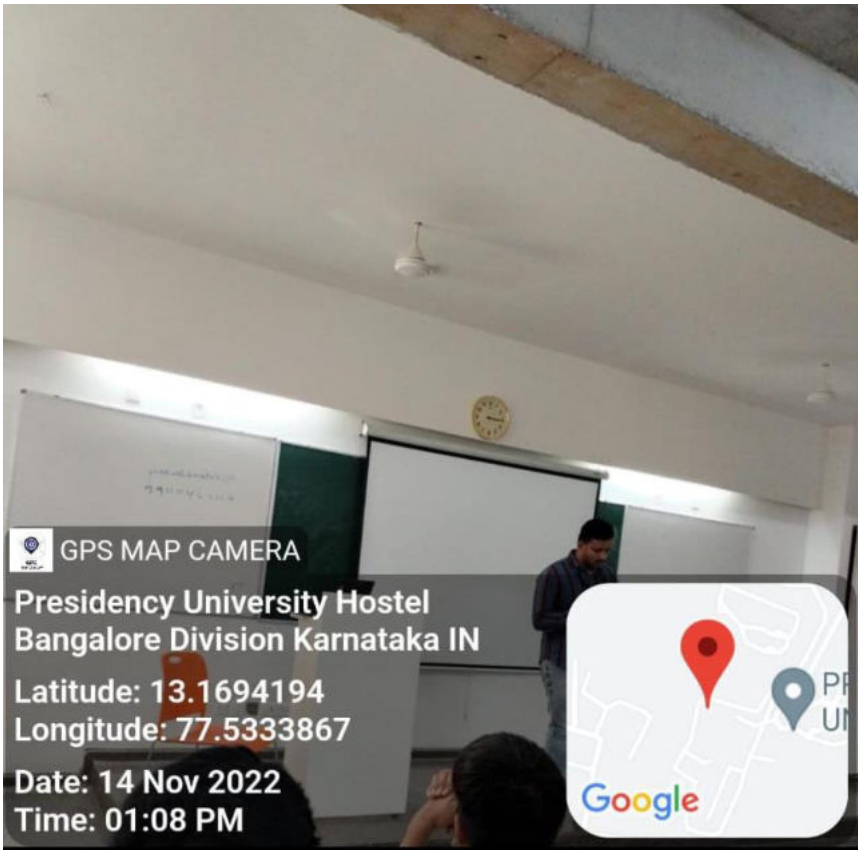

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Name of the Department: **CSE AI** Semester/Year: **I Semester / I Year**

Name of the Student: JOYCE MARY B Roll No: 20222AIE0003

Section: 1 Date & Time:11/04/2023, 10:50AM – 12:30PM

Course Code: **CSE5006** Course Title: **Knowledge Engineering and Expert Systems**

Paper Presentation

Paper presentation as a teaching-learning method was used on course-related topics to gain further knowledge of the latest trends in the subject. This teaching pedagogy helped the students to understand the importance of scientific learning through a book review. This set of learning skills provided the scientific update which is needed for research at the post-graduate level and helped them to understand the importance of the literature review. The followingis the list of students who have used paper presentations as one of the tools for the teaching-learning method. For this activity, Joyce presented a paper on BERT, a transformer model, which is used for many tasks nowadays in NLP and other similar areas.

Geo Tagged Photo:

Sandeep Mathias

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KOUSHIK.B
20201ISE0024

CLOUD COMPUTING

classmate
Date
Page

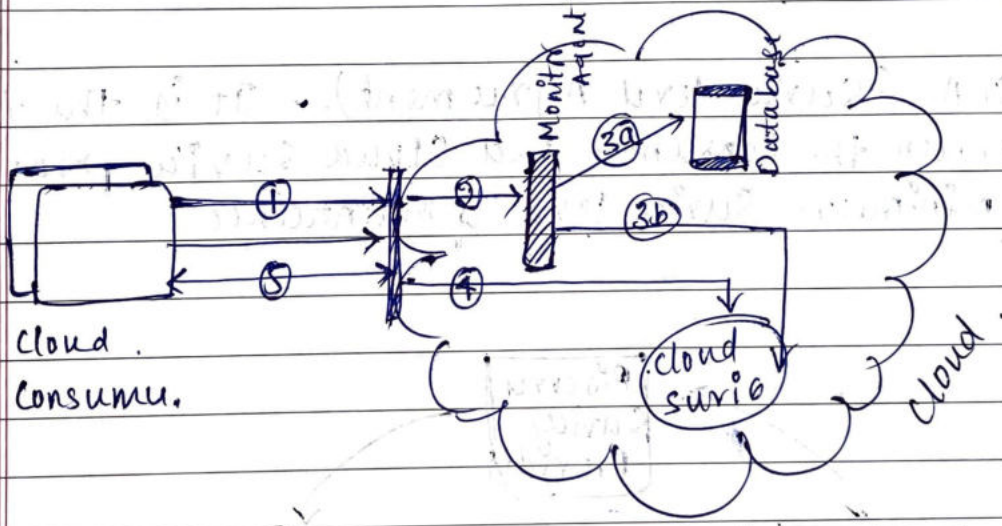
(1) What is an Agent. Discuss it role in cloud computing.

(2) Differentiate between SLA Monitor and Audit monitor.

9/10 good work

1 Answers:-

Agent is like interface between Cloud Service Consumer and cloud service provider.
Agent monitor that ~~the~~ what Cloud Consumer require from the Cloud Service provider.



4 ~~Cloud Consumer Req~~
Above figure shows how the interaction take place inbetween Monitoring Agent and between cloud Consumer and cloud service provider in the Cloud.

(6) Cloud Consumer send the requested for the cloud service to the cloud, ~~then~~ through Monitoring Agent.

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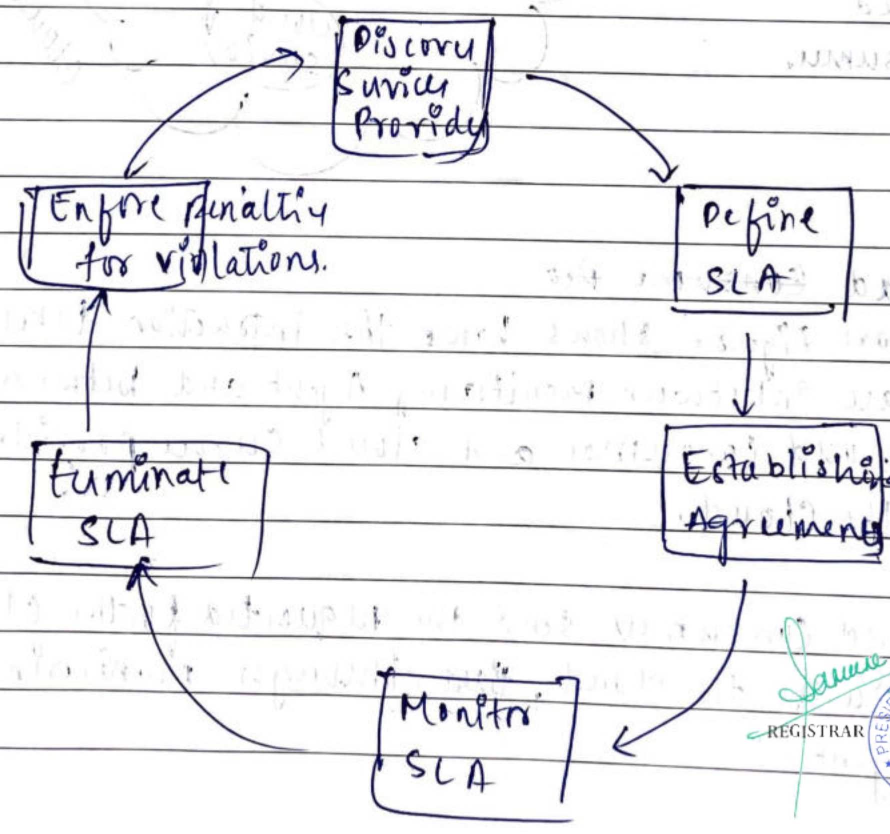
(b). then cloud Monitor Agent Search for the Consumers requirement in the cloud, which is Suitable for them or to their purpose: By looking into the cloud Availability.

(c) then cloud Service is provided to the Consumers.

(9) Difference between SLA Monitor and Audit Monitor.

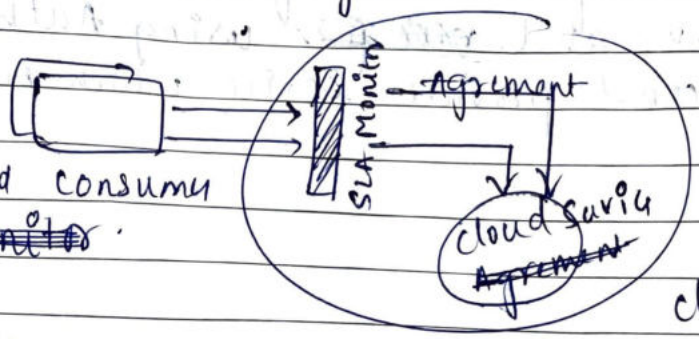
(A) SLA (Service level Agreement) - It is the Agreement between the Consumer and Cloud Service provider. that ensures minimum Service level of Maintaince.



~~Cloud Monitor~~.

SLA Monitors.

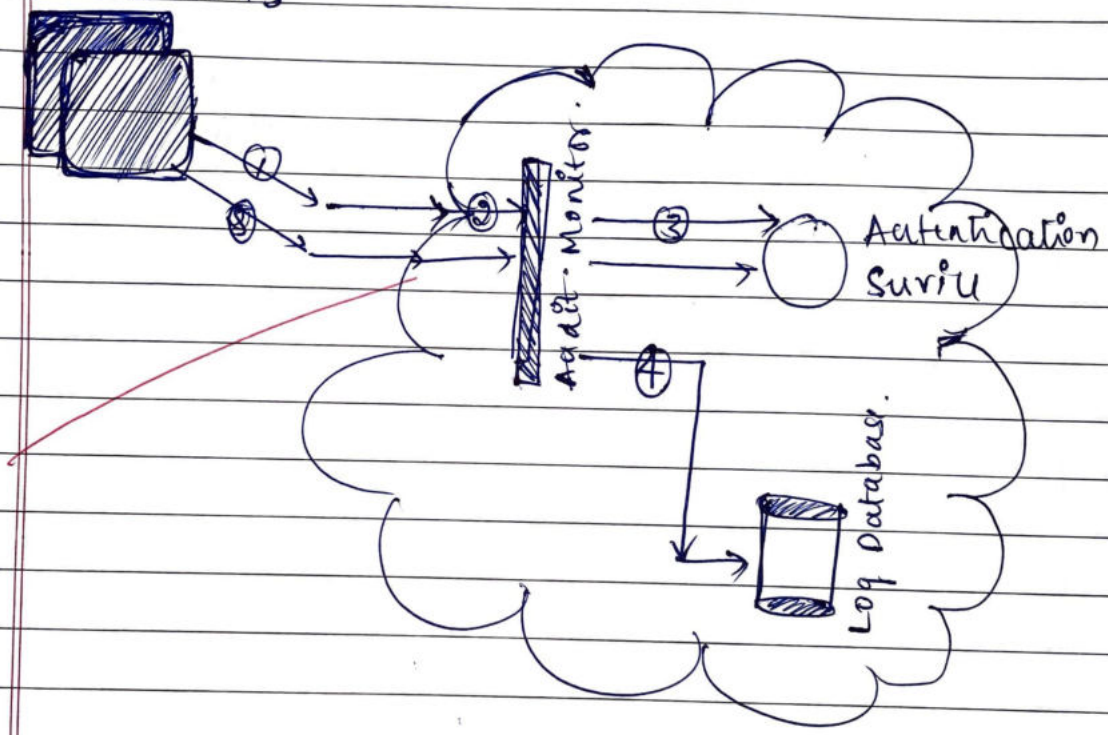
→ How Agreement is monitored between the Consumer and the cloud service provider. to make sure that there is no violation Happening in the SLA System.



~~Audit Monitor~~.

Audit Monitors.

cloud Consumer's



This figure shows How Audit monitor works. in the cloud.

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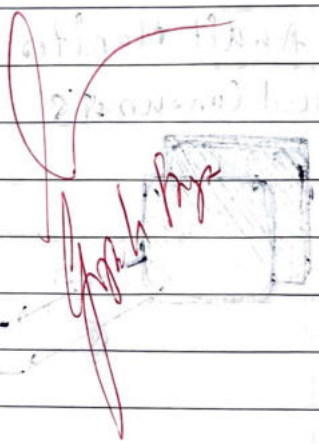
Audit Monitor :

- It is type of Software which Audit or Review the System, whether the user is verified or not for the cloud service usu. and using Authentication and provide service which is Available.



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Activity Schedule for Fall Semester AY 2022-23

Name of the Activity : **Project-Based Learning**

Academic Year : **2022 – 2023**

Semester : **VII**

Course code & Name : **CSE243–Natural Language Processing**

Course Instructor In-charge : **Dr. Sandeep Albert Mathais**

Faculty : **Dr. Sandeep Albert Mathias**

Mode of Instruction : **Online**

Peer Structure : **Students formed a number of groups and worked on a shared task.**

Activity Assigned

1. **Shared Task: Students performed a shared task and submitted systems and results.**
2. **Certification from Hackerrank on one of Java, Python, R, or Problem-Solving**
3. **Completion of *30 Days of Code* Challenge on Hackerrank.**

Assessment:

Type of Assessment: Submission

Task Assigned: Students have to finish the task and submit the certifications and badges to gain some marks. Students were also assessed on their performance of the shared task as a part of the end-term examination.

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School of Computer Science and Engineering & Information Science

Department of CSE

Activity Report
Academic Year 2022-2023
Odd Semester

Course Code : CSE 319	**Date : 22.11.2022**
Course Title : Machine Learning	**Time : 02.00 pm to 04.00 pm**
Sections : 7CSE 1-13, 7IST1,2	

Activity: Online seminar and presentations

Students presented different topics based on their interest and related to the course modules. Few of them explained machine learning algorithms with real time examples through online presentation. Few of them solved scenario based problem statements through their presentations.

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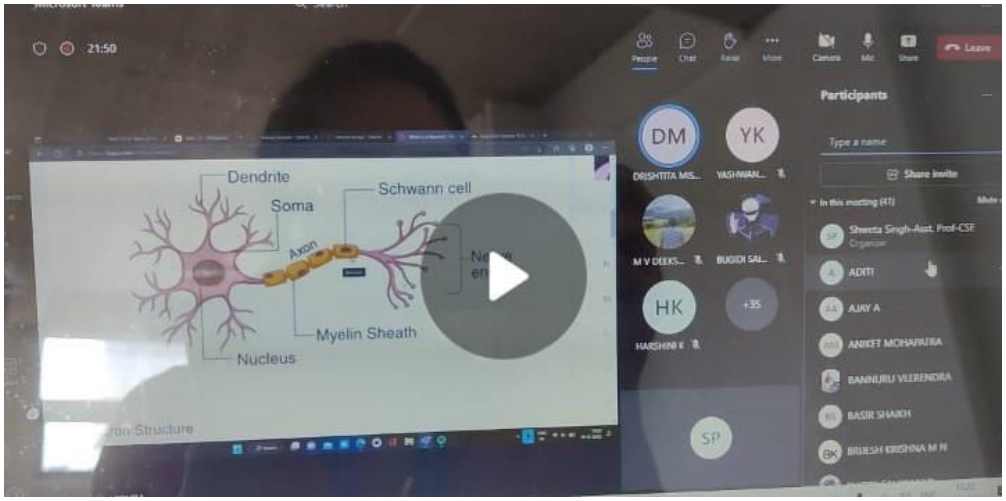
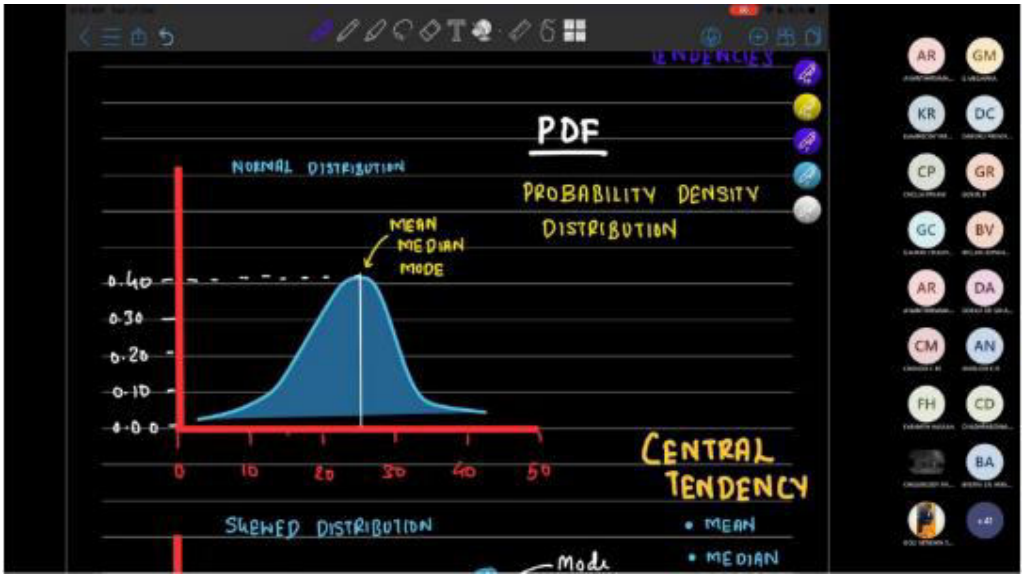
Snapshots





IC Signature Shweta

General Remarks if any

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School of Computer Science and Engineering & Information Science

Department of CSE

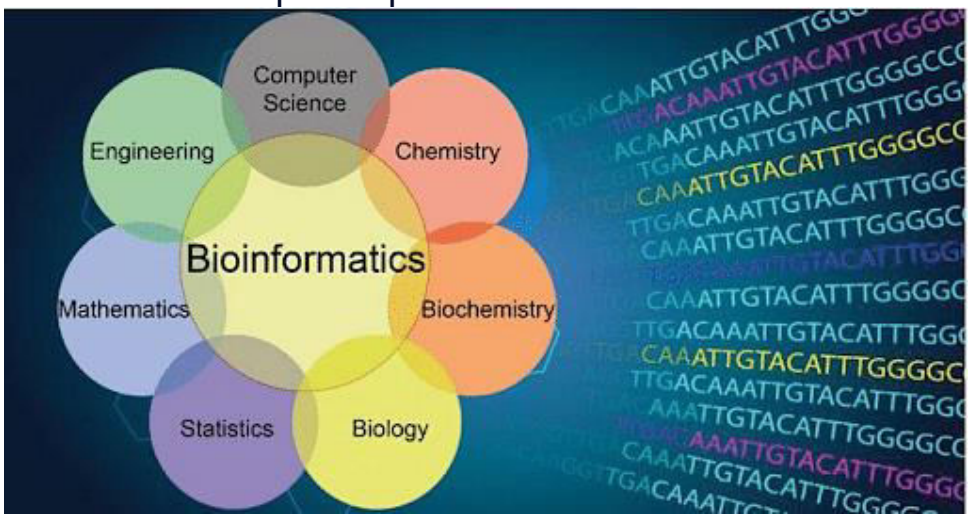
Activity Report
Academic Year 2022-2023
Odd Semester

Course Code : CSE 325/3069	**Date : 22.11.2022**
Course Title : Introduction to Bioinformatics	**Time : 11.20 pm**
Sections : Elective(5CSE 1 & 2)	

Activity: Presentation

Activity Learning Title: Advancement in bioinformatics field wrt applications.

Bioinformatics uses computational coding for several applications that involve finding gene and protein functions and sequences, developing evolutionary relationships, and analyzing the three-dimensional shapes of proteins.



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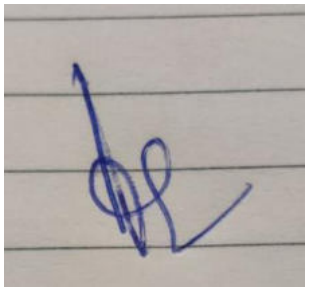

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General Remarks if any:

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Name of the Department: CSE	Semester/Year: 7th semester
Name of the Student: BAPTLA NAVEEN	Roll no: 20191COM247
Section: 7-COM1	Date & Time: 16-12-2022
Course code: CSE311	Course Title: DataWareHouse and Data Mining

Name of the Topic: A case study on: Detection of univariate outliers
Assessment:

- **Type of Assessment:** Presentation & Report writing on the selected case study
- **Task Assigned:** The student has to prepare a detailed presentation about the selected case study topic and justify how the application of big query helps in big data analytics from dataset.

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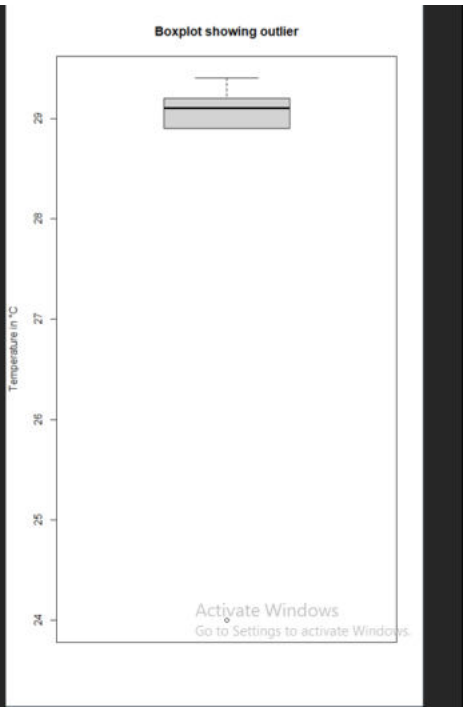
Finding outliers with boxplot

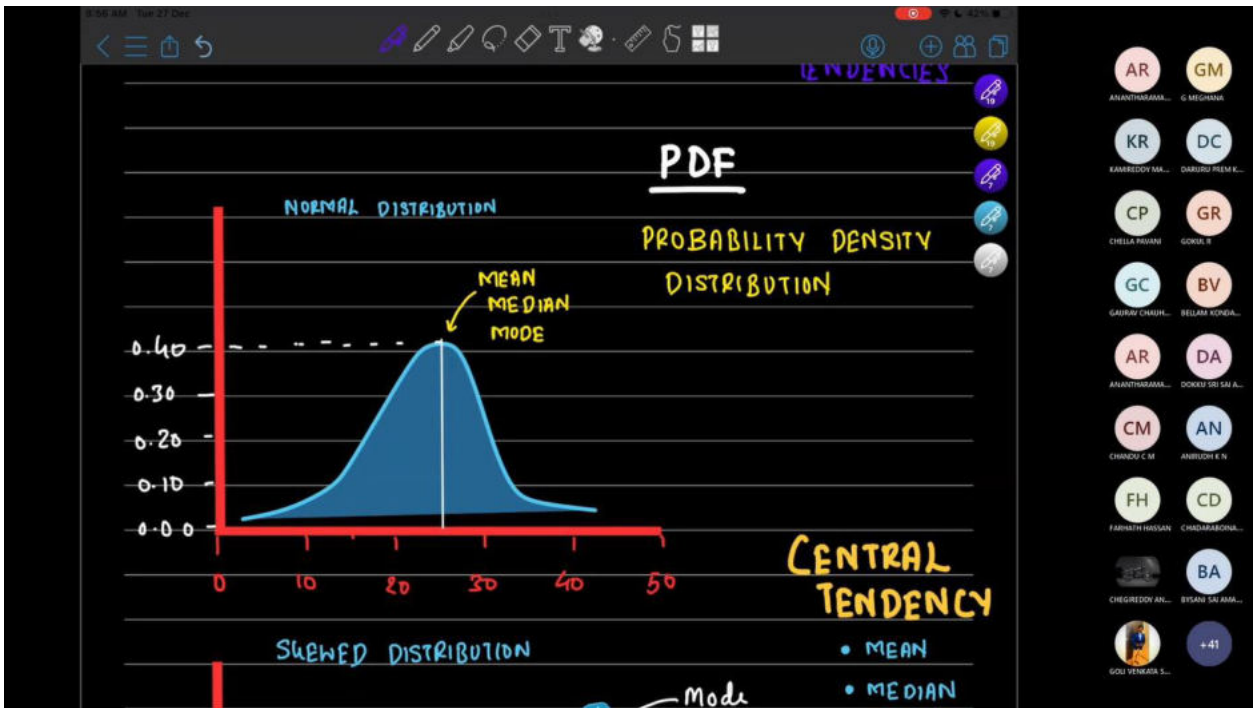
A boxplot plots univariate data using a five number summary:

- The smallest nonoutlier value
- The lower quartile
- The median
- The upper quartile
- The largest nonoutlier value

Values $1.5 \times IQR$ less than Q_1 or more than Q_3 are classified as outliers.

The region between $Q_1 - 1.5 \times IQR$ and $Q_3 + 1.5 \times IQR$ contains 99.3% of the data.





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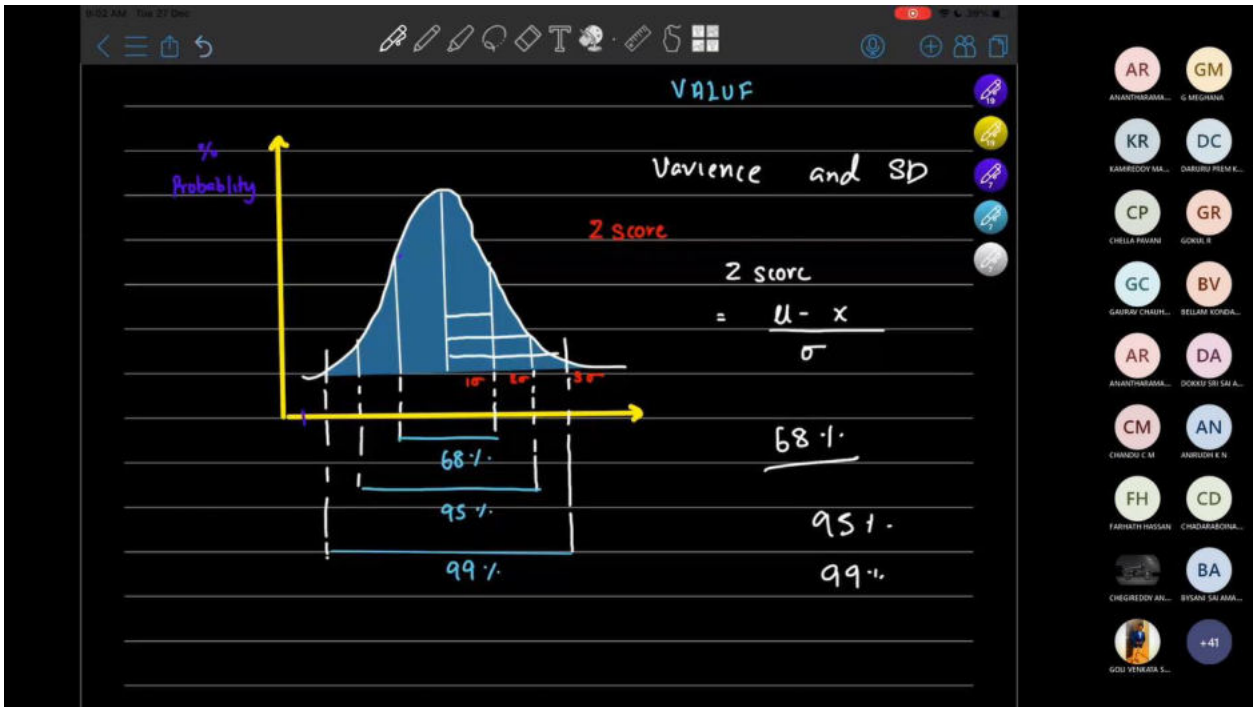

Remarks: Concepts related to Outliers detection, case study on univarient outlier detection topics from journal article. A group of students was given authority to select any case study topic of their choice and prepare a detailed presentation & report which will enhance their knowledge, presentation skills etc.,

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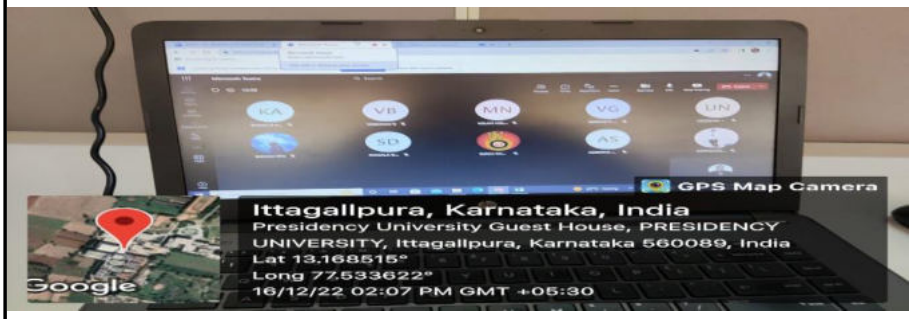

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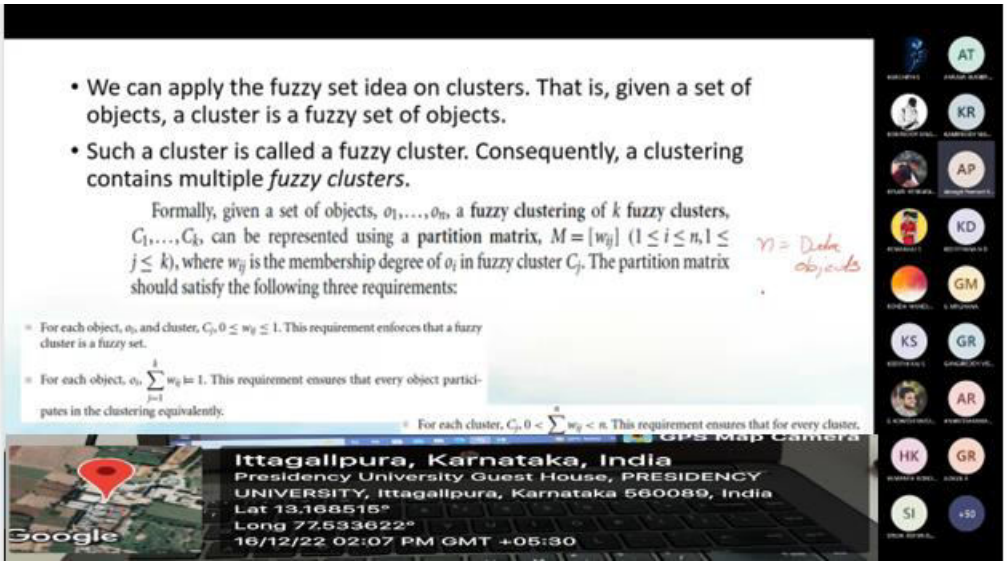

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Name of the Department: CSE	Semester/Year: 4th semester
Name of the Student:JOEL G DANIEL	Roll no: 20211CSE0541
Section: 4-CSE011	Date & Time: 24-05-2023
Course code: CSE2011	Course Title: DATA COMMUNICATIONS AND COMPUTER NETWORKS

Group Learning Activity

Group Learning Activity assigned to work on Simulating a Network and to understand the process of Data Flow in a Network.

Assignment1:

1. Create a LAN Network for your home with 5 nodes (n0, n1, n2, n3, n4) using star topology with switch. Configure the network with IP address of 192.168.10.0/24. Transfer the packets from n0-n2 and n2-n3. Simulate the above network using cisco packet tracer.

2. The HCL Company wants to start one new branch in madiwala. Assume that you're the Network administrator for this new branch. The company has one Switch name (roll-no) define (2950-24) and six computers. Configure the network with IP address of 10.0.0.0/8. Test the network by transferring the packets from computer 1 to computer 4 and computer 2 to computer 3.

3. Our university started one administration office in whitefield. They have appointed you as a network administrator to that office and insisted you to create one LAN network with address of 40.0.0.0 having 5 PC's and one 2950-24 Switch. Test the network by transferring the packets from PC2 to PC5 and PC3 to PC1.

Assignment2:

How to connect client to server using socket in Python?

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```
import socket.
HOST = 127.0.0.1
PORT = 12345
s = socket.socket(socket.AF_INET, socket.socket_system)
    s.bind(HOST, PORT)
    s.lightend(s)
  print('server is listening for connections')

while true:
 conn, addr = s.accept()
  print('connected by' addr)

while true:
 data = conn.recv(1024).decode('utf=8')
  if notdata:
 print('rucived:', data)
 com.senddata.encode('utf=8')
 conn.close
 client side (client.pg);

 python

copy code
import socket
HOST: '127.0.0.1'
PORT = 12345
s = socket.socket(socket.AF_INET, socket.socket_stream)
    s.connect((HOST, PORT))

while true:
data = input("Enter a message to send or quit to
                exit")
```

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```
if data = ('quit');
break
s. senddata (data. encode ('Utf = 8')
recieved_data = s. receive (1024). decode ('Utf =8')
 print ('Recieved:', recieved_data)
  s. close.
```

Output. -①

```
C:/User/GNC/PyCharmProjects/server/venv/scripts/python.ex
C:/Users/GNC/PyCharmProjects/server/client.py
Socket created
Waiting for connections.
Connected with ('127.0.0.1', 51281) JOEL.
```

output - ②

```
Enter a message - Joel & Daniel.
Welcome to server.
Process finished with exit code 0.
```

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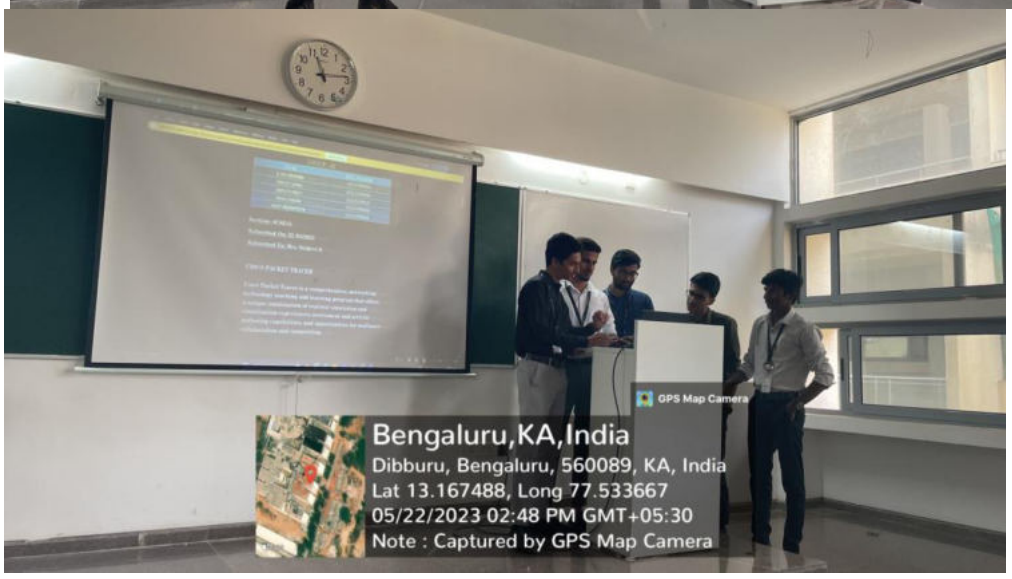

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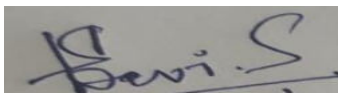

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Name of the Department: CSE
Semester/Year: 6th semester
Name of the Student: ADARSH M
Roll no: 20201CSE0543
Section: 6CSE7
Date & Time: 23-05-2023Course code: CSE2013
Course Title: Cloud Computing

Seminar(Self- Learning)

TOPIC:
Cloud Computing Technology Role in Agricultural Fields

AbUse of Cloud computing technology in agricultural areas has greater chance in the overall development of India. An effective implementation of cloud computing is encouraging in agricultural sector. Cloud Computing is emerging today as a commercial infrastructure that eliminates the need for maintaining expensive computing hardware, software, Information technology, staff, infrastructure, recourses and their maintenance. Cloud computing is a network-based environment that focuses on sharing computations, Cloud computing networks access to a shared pool of configurable networks, servers, storage, service, applications & other important computing resources. In modern era of cloud computing technology very helpful for centralized the all agricultura related data bank (Soil-related, weather, Research, Crop, Farmers, Agriculture marketing, fertilizers and pesticide information) in the cloud. In this paper, also discuss Computing model, characteristics, deployment model, cloud service model, cloud benefits and challenge of cloud computing in agriculture field.

Cloud computing is the provision of computer or IT infrastructure through the Internet. That is the provisioning of shared resources, software, applications and services over the internet to meet the elastic demand of the customer with minimum effort or interaction with the service provider. India is one of the largest producers of foods, grains and other products, but still agriculture and its production process are decentralized, unsophisticated and outdated methods being followed by the farmers, together with several constraints of the farmers and modernization is very slow. This results in an obvious gap between the supply and demand chains of the agricultural products. This will have a negative impact on the farmer's economic conditions as well the national income of the country. This bottleneck can be eliminated with the implementation of Cloud Computing facility in agricultural field. The centralized location has to be set up to store all the relevant data. It can include various, Separate databases Soil-related, weather-related, Research, Crop and Farmers-related data can all be stored at a single location, and data availability can be achieved. This data can be accessed by the end-users such as farmers, experts, consultants, researchers etc.. easily any time from any location through the devices that are connected to the cloud system.

ROLE OF CLOUD COMPUTING IN AGRICULTURE FIELD:

- Agriculture information data bank (crop, weather, soil, growth progress, farmer data & expert consultation)
- Store all the agriculture related information in a centralized cloud, which will be available to all the users at anytime, anywhere
- Management of all data related to land, location, area; soil and land characteristics through centralized decision support systems
- High integration & sharing of agricultural information
- It can be eliminate the farmer's limitations of technical knowledge & resources

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- Providing agricultural technology service & science
- Improvement of the agricultural products marketing
- Efficient use of agricultural resources
- Promote the circulation of agricultural product and service in wider level.

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PROS OF CLOUD COMPUTING IN AGRICULTURE:

> Say 'Goodbye' to costly systems: Cloud hosting enables the businesses to enjoy minimal expenditure. As everything can be done in the cloud, the local systems of the employees have very less to do with. It saves the dollars that are spent on costly devices.

> Access from innumerable options: Another advantage of cloud computing is accessing the environment of cloud not only from the system but through other amazing options. These options are tablets, netbooks and even mobile phones. It not only increases efficiency but enhances the services provided to the consumers. The requested orders, documents, and valuable files are available via a single touch.

> Software Expense: Cloud infrastructure eliminates the high software costs of the businesses. The numbers of software are already stored on the cloud servers. It removes the need for buying expensive software and paying for their licensing costs. The feature of time to time software upgrading retains your company's time and money.

> Lowers traditional servers' cost: Cloud for business removes the huge costs at the front for the servers of the enterprise. The extra costs associated with increasing memory, hard drive space and processing power are all abolished.

>Data Centralization: Another key benefit of cloud services is the centralized data. The information for multiple projects and different branch offices are stored in one location that can be accessed from remote places.

> Data Recovery: Cloud computing providers enables automatic data backup on the cloud system. The recovery of data when a hard drive crash is either not possible or may cost a huge amount of dollars or wastage of valuable time.

>Cloud Security: Cloud service vendor chooses only the highest secure for your information in data-centre. Moreover, for sensitive information in the cloud there are proper auditing, passwords, and encryptions.

>Free Cloud Storage: Cloud is the best platform to store all your valuable information. The storage is free, limitless and forever secure, unlike your system.

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Approved by AICTE, New Delhi

SCHOOL OF COMPUTER SCIENCE ENGINEERING & INFORMATION SCIENCE

Activity Report for Fall Semester AY 2022-23

Course Name: Cloud Computing

Course Code: CSE2013

Name of the Instructor In-Charge: Chandrakala H L.

Date: October 2022

Activity Name: Seminar

Topic: Latest technology in cloud

Topics which was not there in the syllabus were taken for the presentation in cloud computing was delivered by the students . This activity bought in lot of enthusiasm among the students and helped them to understand recent technologies and to understand requirement in the market. This activity is also mentioned as part of the course handout.

Topics : Green cloud computing

- Green cloud computing is developed to describe methods and ways to leverage technological breakthroughs such as computing and other sustainable IT resources for possible environmental advantages.
- A rising number of businesses throughout the globe have a substantial environmental effect. Green cloud computing highlights these effects and thereby comes with solutions with active aids.

Applications of Green Cloud Computing.

- E-commerce and Online Retail: Green cloud computing can be implemented in e-commerce platforms and online retail businesses to reduce energy consumption and minimize the carbon footprint associated with hosting and delivering online services.

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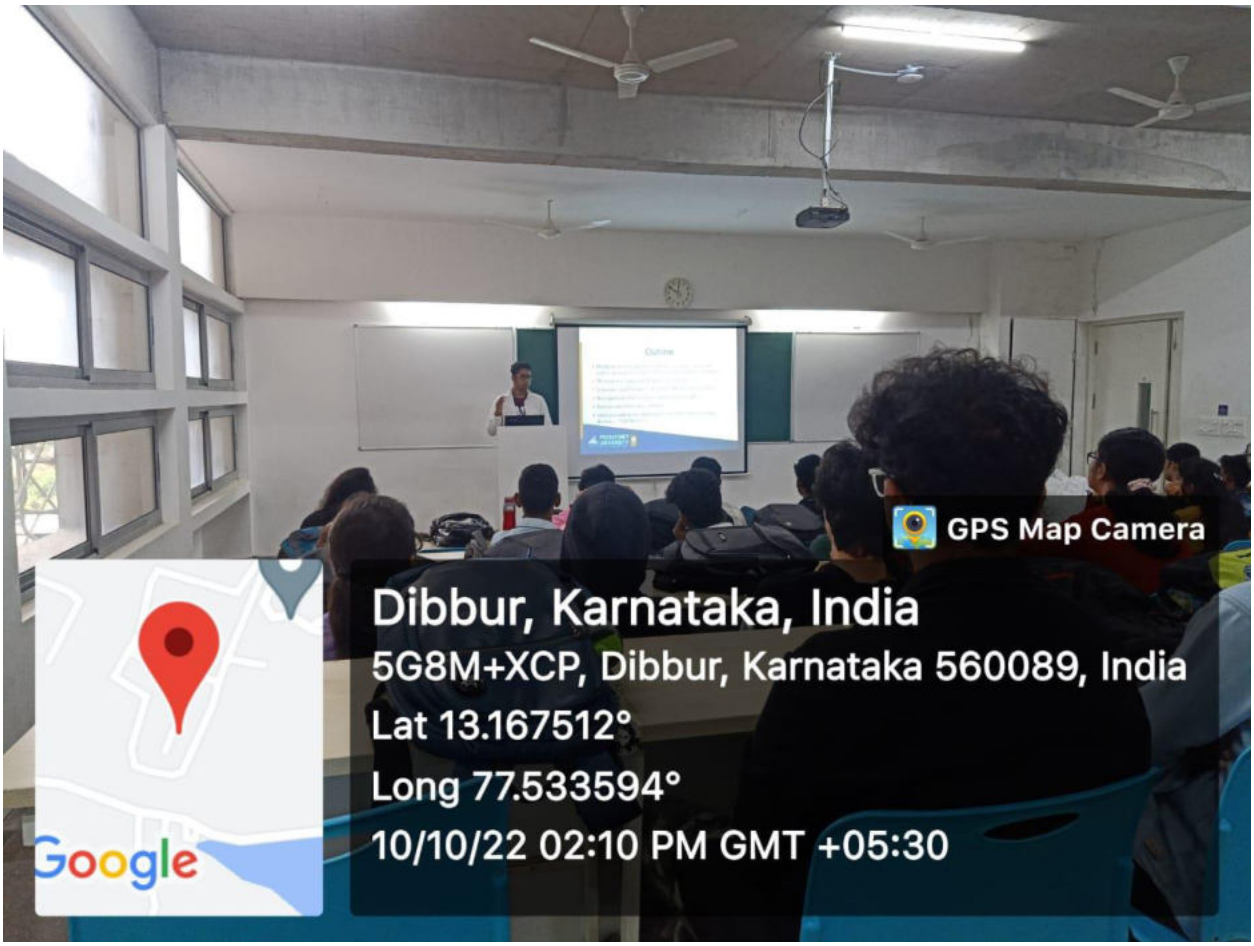
Internet of Things (IoT): IoT devices generate massive amounts of data that require storage and processing. Green cloud computing strategies can be used to manage and analyze IoT data in an energy-efficient manner, ensuring sustainability while harnessing the potential of IoT technologies



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Software engineering - 01
Assignment

Name : A. Deepthi

Sec : GCSE -03

Roll. NO : 20201CSE0242

Course Name : Software engineering

Course Code : CSE 2014

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Software engineering CSE2014
Assignment - 1

1) Explain in detail web app interface Design Principle.

Ans:

* Anticipation: A web App should be designed to that it anticipates the we's next move.
* Communication: The interface should communicate the status of any activity initained by the war.
* Consistancy :- The web of navigation controls, menus, icons, and aesthics (eg. color, shape, layout).
* Controlled autonomy: The interface should facilitates user movement throughout the web app, but it should do so in a manner that enforces navigation conventions that have been established for the application.
* Efficiency :- The design of the web APP and its interface should optimize the user's wor efficiently, not the efficiency of the web engineer who designs and builds it or the client-server environment that executes it.
* Focus: The web app interface should stay followed on the user task at hand.
* fitt's haul : The law predicts that the time required to rapidly move to a target area is a function of ratio between the distance to the target and the width of the target.
* Human interface objects: A vast library of reusable human interface objects has been developed for web apps.
* Latency reduction: The web app should we use multie-tasking in a way that tests the user Proceed with work as if the operation has been Complete.

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* Learnability: A webapp interface should be designed to minimize learning time and once learned to minimize learning required when the webapp is revisited.

* maintain work Product integrity: A work product must be customatically saved so that it will not be lost if an error occur.

* reliability: All information presented through the interface should be readable by young & old.

* Track State: when appropriate, the state of the user instruction should be tracked and stored so that a user can logoff and return later to pick up where she left off.

* Visible navigation: A well designed web app interface Provides the illusion that user are in the same place with the brought to them.

2) Explain various types of Consumers and Coupling.

Cohesion is an individual of the relation functional Strength of a module.

Different types of Cohesion:

1. functional: Exhibited Primarily by operations that level of Cohesion occurs when a components Prefers a larged computation and then return a result.

2. layer: Exhibited by Packages, Components and classes a higher layer accesses the services of a lower layer, but lower layers do not allow to access higher Rank..

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cation: All operations that access the same data are defined within one class. in general, Each classes focus on the data in question classified and storing it.

Coupling is an individual of the relative interdepends among modules.

Different type of coupling:

1) Content coupling:- occurs when one component "simplicity" modifies data that is internal to another component. This value information hiding a Basic design concept.

2) Common coupling: occurs when a number of components all make all of a global variable ... although that is Sometimes necessary, common coupling can lead to uncon travelled error propagation and unforesion side efforts when changes are made.

3.) Control coupling: occur when operation A() invokes operation B() and parrel a control flag to B. The control flag then "direct logical flow within B.

4.) Stamp coupling: occurs when class B is declared as a type for an argument of an operation of class A Because class B is now a part of the definition of class A, modifying the system becomes more complex.

5. Data coupling: occurs when operation pass long strings of data arguments. The "bandwidth" of communication between classes and components grows and the complexity of the interface increases. Testing & maintaining is more difficult.

6) Routine Call Coupling: occurs when one operation involves another. This lead of coupling is common and is often quite necessary. However, it does increase the connectness of a system.

7) Type use Coupling: occcurs when components A uses a data type defined in component B.

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Name of the Department: CSE	Semester/Year: 6th semester
Name of the Student: BALACHANDREGOWDA P	Roll no: 20201CSE0734
Section: 5CSE10	Date & Time: 15-05-2023
Course code: CSE2014	Course Title: Software Engineering

Flipped Classroom

Flipping the classroom (also known as "inverting" a classroom) is a "pedagogy-first" approach to teaching in which course materials are introduced outside of class, and in-class time is re-purposed for inquiry, application, and assessment in order to better meet the needs of individual learners.

GIT/GITHUB

Git is a popular version control system. It was created by Linus Torvalds in 2005, and has been maintained by Junio Hamano since then.

It is used for:

- Tracking code changes
- Tracking who made changes
- Coding collaboration

- Git is not the same as GitHub.
- GitHub makes tools that use Git.
- GitHub is the largest host of source code in the world, and has been owned by Microsoft since 2018.

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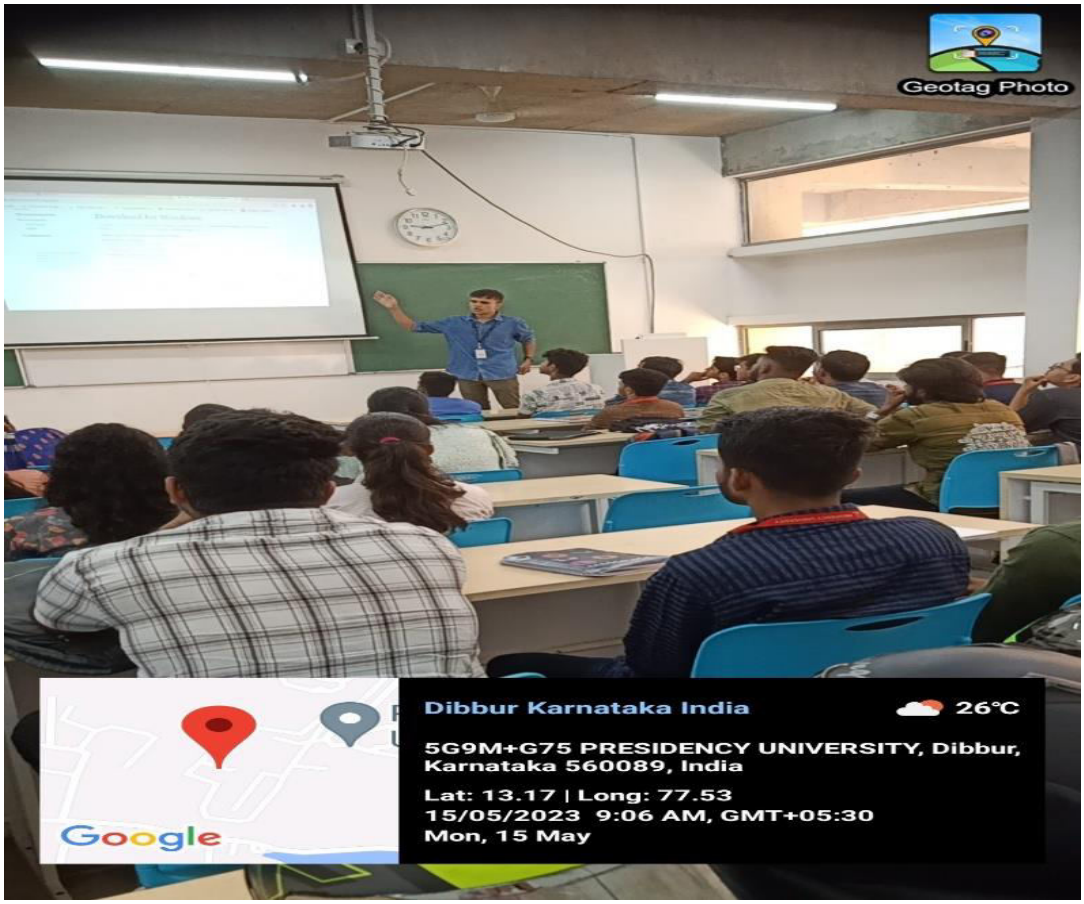

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Name of the Department: CSE-Blockchain Semester/Year: 5th semester

Name of the Student: SHREEPADA Y H Roll no: 20201CBC0001

Section: 5-CBC-01 Date & Time: 24-11-2022

Course code: CSE2014 Course Title: Software Engineering

Seminar(Participative- Learning)

Given hyper market example for the students ask them to collect requirements and analyse it. Study of various tools in the software development. Concepts related to practical application of Requirement Analysis can be applied to any market and its trend, we take the example of hyper market was realized also how it will affect the development of software or application etc.,

Hypermarket SRS

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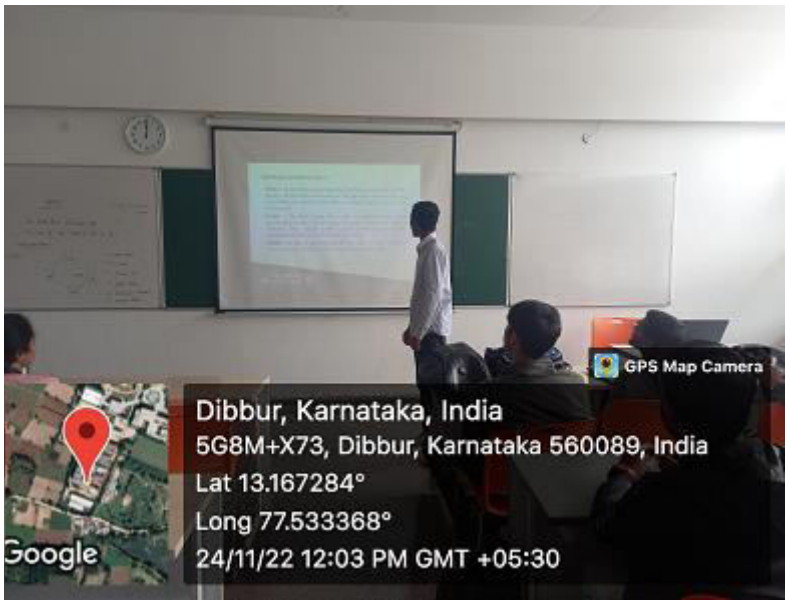

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Name of the Department: CSE-CBC | Semester/Year: 5th Sem / 3rd Year

Name of the Student: Sinchan Shetty | Roll no: 20201CBC0009

Section: 6-CBC-01 | Date & Time: 26-12-2022

Course code: CSE2019 | Course Title: Foundation of Blockchain Technology

Student Certifications

Students has undergone few Blockchain course like Introduction to Blockchain, Ethereum Fundamentas, Blockchain Developer trainings as a part of Assignment which is evaluated for 20 Marks. The same content is presented by individual student in the classroom.

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HYPERLEDGER TRAINING PARTNER

HYPERLEDGER FOUNDATION ASSOCIATE MEMBER

KERALA BLOCKCHAIN ACADEMY

CERTIFICATE OF COMPLETION

This is to certify that **Shaik Meeravali**
has completed the **Ethereum Fundamentals Program** offered by Kerala Blockchain Academy (KBA) in online mode.

KBA

Dr. Asharaf S.
Director, KBA

K-DISC

Dr. K. M. Abraham
Chairman, K-DISC

22/12/2022

Thiruvar

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IIITMK-KBA-HFF-OL-25944

HYPERLEDGER TRAINING PARTNER

HYPERLEDGER FOUNDATION ASSOCIATE MEMBER

KERALA BLOCKCHAIN ACADEMY

CERTIFICATE OF COMPLETION

This is to certify that Pratheek SR has completed the Hyperledger Fabric Fundamentals Program offered by Kerala Blockchain Academy (KBA) in online mode.

KBA

Dr. Asharaf S.
Director, KBA

K-DISC

Dr. K. M. Abraham
Chairman, K-DISC

23/12/2022
Thiruvananthapuram

Scan to verify this certificate

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Name of the Department: CBC | Semester/Year:5th semester/2023

Name of the Student: Mr NIKHIL K ROHIDEKAR | Roll no: 20201CBC0026

Section: CBC -1 | Date & Time: 20/12/2022

Course code: CSE2020 | Course Title: Blockchain Technology and Applications

Case Studies- Presentation

A case study is an in-depth, detailed study of a particular case (or cases) within a real-world context. This method was used to gain in-depth knowledge of the relevant course. The students are asked to prepare the topic in different applications of Blockchain and present in a group. This teaching pedagogy helped the students to understand the applications of Blockchain in different domains of the real world. It helps them to explore the implementation of Blockchain in different industries also.

Students participated in a group and presented the topic "Blockchain in Manufacturing Industry". This helps them to improve their skills through participative learning.

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Name of the Department: CSE	Semester/Year: 4th semester
Name of the Student: SANJAY N	Roll no:20211ISD0002
Section: 4ISD1	Date & Time: 27-03-2023
Course code: CSE2025	Course Title: Business Continuity and Risk Analysis

Flipped Classroom

Flipping the classroom (also known as "inverting" a classroom) is a "pedagogy-first" approach to teaching in which course materials are introduced outside of class, and in-class time is re-purposed for inquiry, application, and assessment in order to better meet the needs of individual learners.

Rising Three Methods:

The "rising three methods" is a bullish, five candle continuation pattern which signals an interruption, but not a reversal, of the ongoing uptrend.

The candlestick pattern is made of two long candlesticks in the direction of the trend i.e uptrend in this case. at the beginning and end, with three shorter counter-trend candlesticks in the middle.

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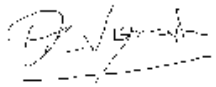

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Name of the Department: CSE-CCS | Semester/Year: 6th Sem / 3rd Year

Name of the Student: KAUSTUBH | Roll no: 20201CCS0084

Section: 6-CCS-02 | Date & Time: 26-05-2023

Course code: CSE2040 | Course Title: Cyber Threats for IoT and Cloud

Cyber Threat tools demonstration (Self- Learning)

Book review as a teaching-learning method on course-related topics was used to gain in-depth knowledgeof the relevant field with the help of books/e-books/online resources. Book/Article review helps the teacher to orient slow and advanced learners towards research and current news by incorporating scientific review. This teaching pedagogy helped the students to understand the importance of scientific learning through a book review. This set of learning skills provided the scientific update which is needed for research at the post-graduate level and helped them to understand the importance of the literature review. The followingis the list of students who have used book/article review as one of the tools for the teaching-learning method.

NodeMCU vulnerability showcase

This project showcases a vulnerability in NodeMCU ESP8266 that allows man-in-the-middle (MITM) attacks to be easily possible on the IoT device and steal the data that is being sent from NodeMCU to the server. The project demonstrates how an attacker can intercept the data being sent from NodeMCU to a server using ARP spoofing and how the data can be stolen as it is sent over the network in plaintext. Introduction The NodeMCU ESP8266 is a popular Internet of Things (IoT) device that uses built-in Wi-Fi to connect to the internet. It can be programmed using Lua or Arduino IDE, and is widely used in many IoT projects. However, it is vulnerable to Man-in-the-Middle (MITM) attacks, where an attacker can intercept and steal the data being sent from NodeMCU to the server. This project demonstrates how to perform a MITM attack on NodeMCU and how to prevent it using Elliptic Curve Cryptography. Project Overview This project involves two phases. In the first phase, we connect a BMP280 sensor to NodeMCU and collect temperature, barometric pressure, and altitude data from the sensor. NodeMCU then sends this data to ThingSpeak, a cloud-based IoT platform, using its built-in Wi-Fi module. In the second phase, we demonstrate how to perform a MITM attack on NodeMCU using a MacBook as the attacker machine. Finally, we implement Elliptic Curve Cryptography to secure the data being sent from NodeMCU to the server.

Tools Required

- NodeMCU ESP8266
- BMP280 Sensor
- MacBook or any other computer with Wireshark and Mitmproxy installed

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- Arduino IDE or Lua to program NodeMCU
- ThingSpeak account

Phase 1: Collecting Data from Sensor and Sending to ThingSpeak

1. Connect the BMP280 sensor to NodeMCU. The BMP280 has SDA and SCL pins that should be connected to D2 and D1 pins on NodeMCU, respectively. The VCC and GND pins should be connected to the 3V3 and G pins on NodeMCU, respectively.
2. Open the Arduino IDE or Lua editor and write a code to collect data from the sensor and send it to ThingSpeak using the Wi-Fi module of NodeMCU. The code should also display the collected data on the Serial Monitor. The code can be found in the file bmp_to_thingspeak.ino in this repository. Make sure that you have installed the required libraries like Adafruit_BMP280, ESP8266WiFi, and ThingSpeak.
3. Upload the code to NodeMCU using the Arduino IDE or Lua editor.
4. Create a ThingSpeak account and create a channel to receive the data from NodeMCU. Note down the Channel ID and API Key.
5. Power on NodeMCU and verify that it is sending data to ThingSpeak by checking the Serial Monitor and the ThingSpeak channel.

Phase 2: Performing MITM Attack on NodeMCU

1. Install Wireshark on the MacBook or any other computer that will be used as the attacker machine.
2. Connect the MacBook and NodeMCU to the same Wi-Fi network.
    a. Next, we will perform a Man-in-the-Middle (MITM) attack to intercept the traffic between NodeMCU and the server. For this purpose, we will use mitmproxy, a popular open-source tool
    b. for intercepting, modifying, and replaying HTTP/HTTPS traffic.
3. Download mitmproxy:
    a. mitmproxy can be installed on macOS using the Homebrew package manager. Open the terminal and type the following command to install mitmproxy:
    b. brew install mitmproxy
4. List devices on the network:
    a. Type the following command to list all the devices connected to the same network:
    b. arp -a
5. Enable IP forwarding:
    a. To enable IP forwarding, type the following command:
    b. sudo sysctl -w net.inet.ip.forwarding=1
6. Perform ARP spoofing:
    a. Use the following command to perform ARP spoofing:
    b. arpspoof -i en0 -r -t
    c. Here, -i specifies the interface (in this case, it is Wi-Fi), -r makes the attack bidirectional, -t specifies the target (NodeMCU), and is the IP address of the router, and is the IP address of NodeMCU. Note that the order of and can be reversed.
7. Enable port forwarding:
    a. To capture the traffic between NodeMCU and the server, we need to forward the port through which the data is being sent to mitmproxy. Use the following command to do so:
    b. echo "rdr pass inet proto tcp from any to any port -> 127.0.0.1 port " | sudo pfctl -ef –
    c. In this case, the requests are sent via HTTP, so we need to forward port 80 to the desired port (8080 in this case, as we will be running mitmproxy on port 8080).
    d. For Linux, you can use iptables to forward the port.
8. Run mitmproxy:
    a. Use the following command to start mitmproxy:
    b. mitmproxy --mode transparent --showhost -p -k
    c. Here, --mode transparent specifies the mode of attack (transparent means the victim won't be aware of the attack), -- showhost shows the host name of the server, -p specifies the port on which mitmproxy is running (8080 in this case), and -k disables TLS verification (since we are intercepting HTTPS traffic).
    d. Wait for data from NodeMCU:
    e. Now, you can see the data that is being sent from NodeMCU to the server. Note that the data is not encrypted, so sensitive data can be easily stolen.

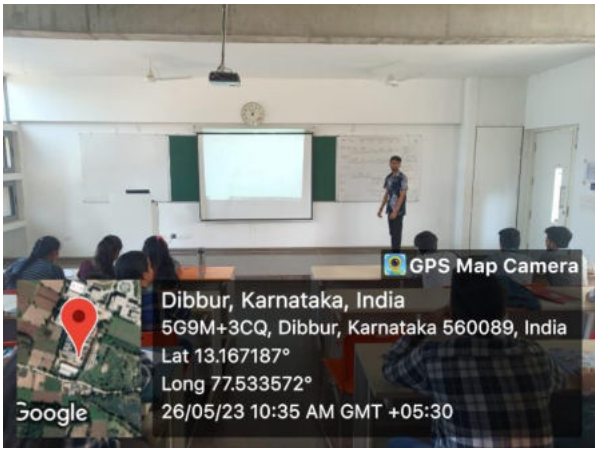
9. Revert port forwarding rule (optional):
    a. Once you have finished intercepting the traffic, use the following command to revert the port forwarding rule:
    b. sudo pfctl -f /etc/pf.conf
    c. For Linux, use the appropriate iptables command to revert the port forwarding rule.
    d. Finally, to ensure the security of the data being sent from NodeMCU, it is recommended using elliptic curve cryptography instead of RSA, as RSA requires a lot of processing power and is vulnerable to timing attacks.

Phase 3: Adding Security to the Project, (Implementing Elliptic Curve Cryptography)

The data being sent from nodemcu was not encrypted. Sensitive data can be easily stolen. Solution: RSA cannot be used as it requires more computational power. Hence we use elliptic curve cryptography as it is suitable for low-powered devices. We can add security to the project by following these steps:

- Go to sage math website and read the documentation on how to implement ECC on iot devices.
- Write the C implementation for ECC on nodemcu.
- Done!

Geo tagged selfie image:



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Name of the Department: CSE-ISE | Semester/Year: 6th semester

Name of the Student: ADNAAN AHMED SIDDIQUI | Roll no: 20201ISE0014

Section: 6-ISE-01 | Date : 2-05-2023

Course code: CSE2150 | Course Title: Information Retieval

Review-Article

Review article preparation as a teaching-learning method on course-related topics was used to gain in-depth knowledgeof the relevant field with the help of Published papers/e-books/online resources. Review article preparation and publications helps the teacher to orient slow and advanced learners toward research and current news by incorporating scientific review. This teaching pedagogy helped the students to understand the importance of scientific learning through an article review. This set of learning skills provided the scientific update needed for post-graduate research and helped them understand the importance of the literature review. The followingis the list of students who have used article reviews as one of the tools for the teaching-learning method.

NEURAL NETWORK MODEL

Adnaan Ahmed Siddiqui [1], Raghavendra N [1] , Sakshi Pandey [1] and Vasudha N [1], Rupam Bhagawati [2]

[1] Student, Presidency University, Bengaluru, [2] Asst. Prof-CSE, Presidency University, Bangalore

Abstract

Neural networks have gained widespread popularity due to their ability to learn and generalize patterns from large datasets, making them a valuable tool in machine learning and artificial intelligence applications. This research paper provides a comprehensive overview of the neural network model, its applications, recent trends, and its effectiveness.

The paper begins by explaining the basic structure and functioning of neural networks, consisting of interconnected artificial neurons that communicate to perform specific tasks. The remainder of the study explores the numerous uses of neural network models in fields as diverse as robotics, speech recognition, natural language processing, picture recognition, and speech synthesis. The authors explore how neural networks are used to solve complex problems in finance, healthcare, and transportation. The paper also presents recent trends and advancements in the neural network model, including deep learning, transfer learning, and reinforcement learning, and discusses the challenges and opportunities that arise with these developments.Finally, the paper evaluates the effectiveness of neural network models in various applications and compares their performance to traditional machine learning algorithms. The authors also discuss the advantages and limitations of neural network models and provide insights into their potential impact on various industries in the future.

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Overall, this research paper provides a comprehensive analysis of the neural network model and its potential implications for the future. It is useful for researchers, practitioners, and stakeholders who want to gain a better understanding of the current state of the art in neural networks and their applications

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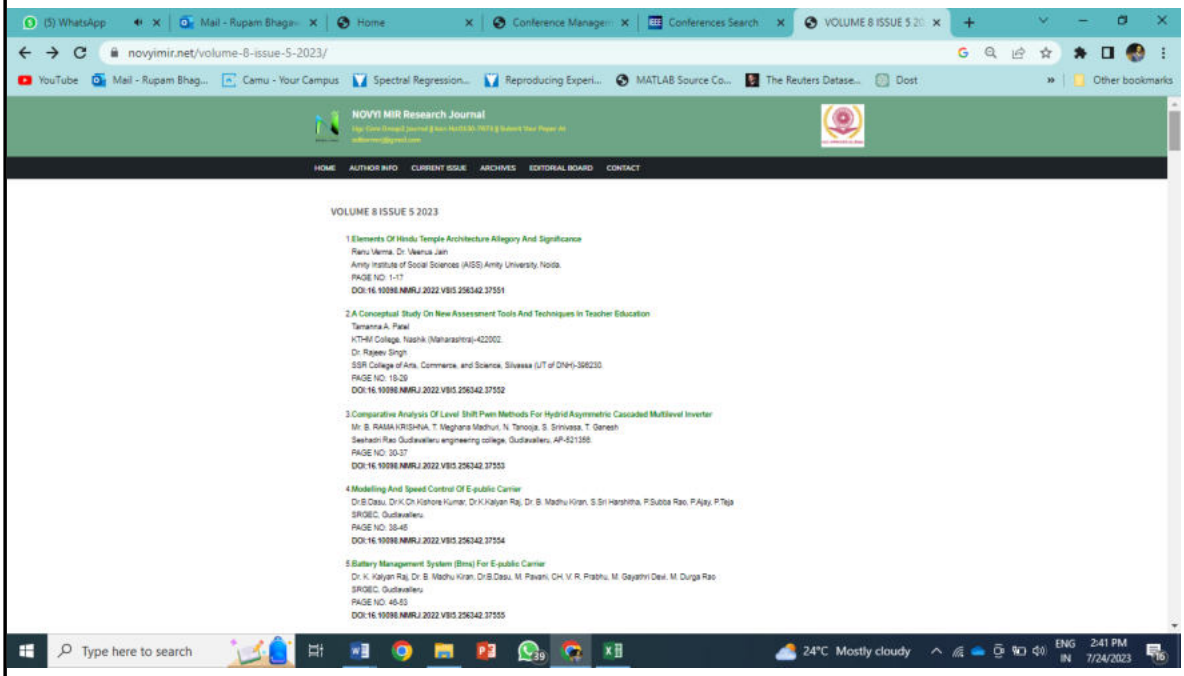

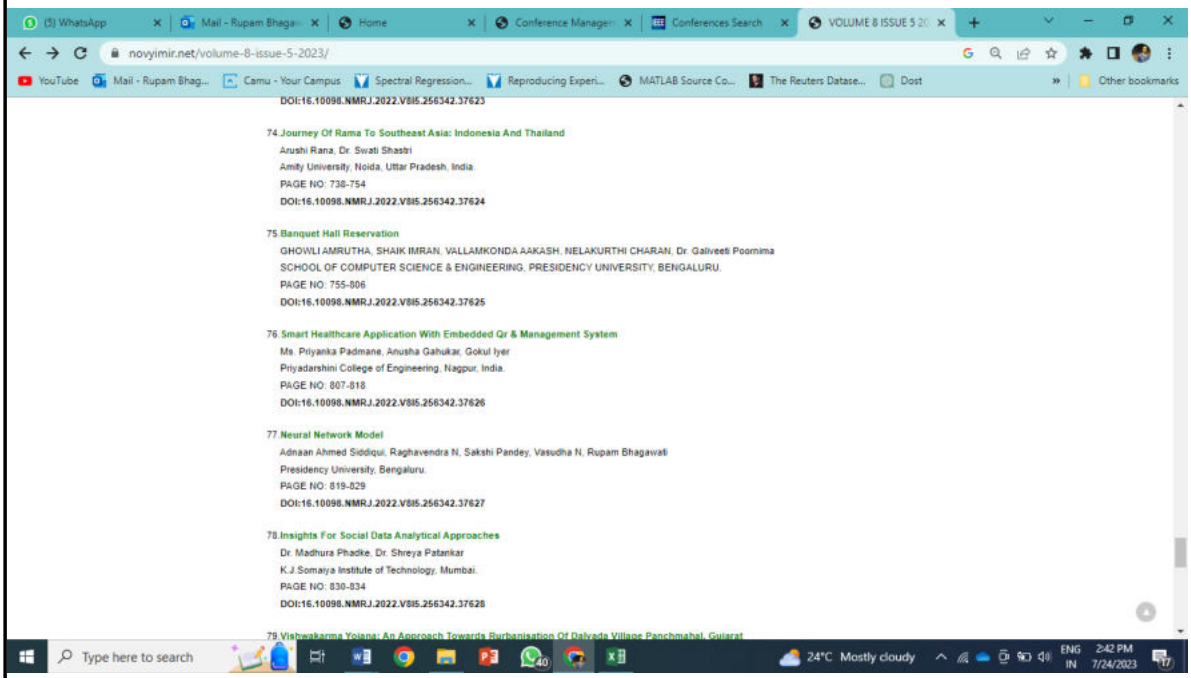

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Name of the Department: CSE | Semester/Year: 4th semester

Name of the Student:Aanchal Pandey | Roll no: 20211LCS0004

Section: 6CSE2 | Date & Time: 24-05-2023

Course code: CSE2052 | Course Title: Distributed Systems

Presentation(Participative Learning)

Presentation(Seminar) as a teaching-learning method on course-related topics was used to gain in-depth knowledge of the relevant field with the help of books/e-books/online resources. Participatory Learning Technique (PLT) is a way of organizing the classroom that motivates learners to participate in the act of teaching, a peer-based learning process. In this way, learning is focused on increased student participation, so it is basically student centered.

SEARCH ENGINE

Introduction:

Search engines use automated software programs known as *Spiders* or *Robots* to survey the Web and build their databases. Web documents are retrieved by these programs and analyzed. Data collected from each web page are then added to the search engine index. When you enter a query at a search engine site, your input is checked against the search engine's index of all the web pages it has analyzed. The best URLs are then returned to you as hits, ranked in order with the best results at the top.

Features

1. Cross Platform
2. Distributed
3. Transparency
4. Open Source

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SCHOOL OF COMPUTER SCIENCE ENGINEERING & INFORMATION SCIENCE

Activity Report for Fall Semester AY 2021-22

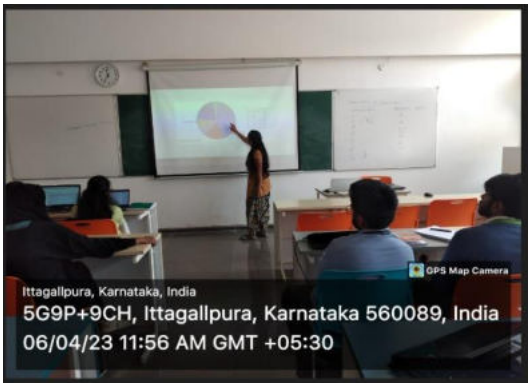
Course Name: ENTERPRISE NETWORK DESIGN

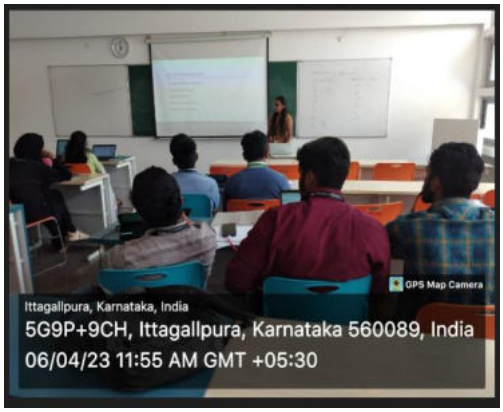
Course Code: CSE2053

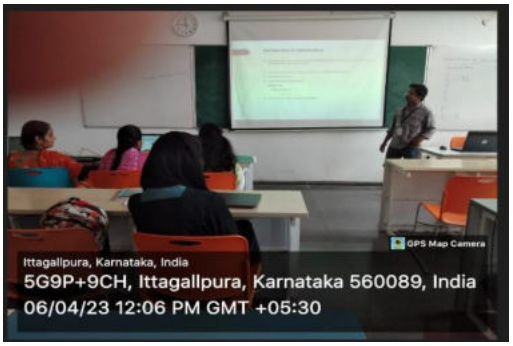
Name of the Instructor In-Charge: Dr. S.RADHA RAMMOHAN

Date: October 2022

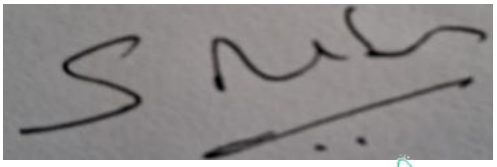
Topics in the course pertaining to the Enterprise Network Design and the methods of dealing with were delivered by the students through Problems Solving of Subnets, Design Mapping , Surpised Quizzes, Workshop and Group activity for problem solving. These activities triggered interest enthusiasm among the students and helped them to understand the course better.







Signature of Instructor In-Charge:



Dr. S.RADHARAMMOHAN

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Name of the Department: Computer Science & Engineering Semester/Year: 4th/2nd

Name of the Faculty: YOGEETHA B R Section: 4-IST-1

Name of the Student: Vijay Vardhan M RollNo: 20211IST0019

Course code: CSE2054 Course Title: Storage Area Networks

Article Review

A Study On Green Cloud Computing Effecting Global Warming

Vijay Vardhan M
Department Of Computer Science And Engineering
Presidency University,Banglore,560064

Introduction

Green computing (also known as green IT or sustainable IT) is the design, manufacture, use and disposal of computers, chips, other technology components and peripherals in a way that limits the harmful impact on the environment, including reducing carbon emissions and the energy consumed by manufacturers, data centers and end-users. Green computing also encompasses choosing sustainably sourced raw materials, reducing electronic waste and promoting sustainability through the use of renewable resources.

The potential for green computing to have a positive impact on the environment is considerable.The information and communication technology (ICT) sector is responsible for between 1.8% and 3.9% of global greenhouse gas emissions.Moreover, data centers account for 3% of annual total energy consumption — an increase of 100%Green Cloud Architecture (GCA) The study of Pandya has mentioned GCA as a way of redesigning the architecture of data centers compatible with environmental sustainability. in the last decade.“The energy demands and carbon output of computing and the entire ICT sector must be dramatically moderated if climate change is to be slowed in time to avoid catastrophic environmental damage,” according to a report published by the Association for Computing Machinery.Every aspect of modern information technology — from the smallest chip to the largest data center — carries a carbon price tag, and green computing seeks to reduce that carbon price tag.Technology makers play a role in green computing, as do the corporations, organizations, governments and individuals that use technology.

This paper is an attempt to bring those creative solutions to light and open a debate around the new discipline of Green Cloud Computing.It evaluates the performance of energy by calculating the ratio of energy used as a whole against the energy utilized by the IT resources alone.It tends to provide a long-term solution to both private and public cloud-based services by removing the unsustainable part in the cloud architecture and making the services more ecologically friendly.

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Literature survey

1) **Green Cloud Computing :**
Authors -Mrs. Ashwini Sheth, Mr. Sachin Bhosale , Mr. Pranay Pawar

The same activities of the cloud computing will be performed with less equipment and less energy consumption both for users and green data centres, due to enhanced resource efficiency. The energy is systematic computing during a world of carbon limits and climate legislation makes green IT a necessity from a compliance standpoint the maximum amount as an operations standpoint. The power of the servers and their efficiencies are the foremost important factors for reducing energy consumption.

Conclusion:It can minimize paper wastage , energy consumption from nonrenewable sources and replace it with renewable energy consumption and tax incentives to rebates are offer by both the local government and federal agencies. The virtualization techniques can be improved by the migration of workload between machines, alongside VM migration, between geographically distributed data centres.

2) A Study on Green Cloud Computing :
Authors - Ankita Atrey, Nikita Jain and Iyengar N.Ch.S.N

Cloud computing was introduced as a means to an end for customer's worldwide, providing high performance at a cheaper cost when compared to dedicated high-performance computing machines. This provisionrequires huge data-centers to be tightly-coupled with the system, the increasing use of which yields heavy consumption of energy and huge emission of CO2. Since energy has been a prime concern of late, this issue generated the importance of green cloud computing that provides techniques and algorithms to reduce energy wastage by incorporating its reuse.

Conclusion: Green cloud computing architecture gives less carbon emission which indicates that energy will also decrease because Co2 emission and energy consumption.The alternate use of energies to the archieture such as solar energy ,locating datacentres in cold climatic regions and usage of river water to reduce cooling cost.Various approaches approaches like virtualization, Power Management, Recycling of material and telecommuting of green cloud computing are discussed.

3) Green Cloud Computing: A Literature Survey
Authors- Laura-Diana Radu

Green cloud computing development is influenced by green data centre which is designed to achieve maximum energy efficiency with minimum environment impact includes lightning , electrical, mechanical, building and computer systems. These data centres use low-emission

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material for buildings , use alternative energy sources, and consume minimum power resources for operation and maintenance for all equipment.

Conclusion: Reduction of carbon footprints and (e-)waste and it highlights the interest and effortsof sustainable technological evolution.The dynamic allocation of resources and energy, the reduction of execution costs and time of the tasks, and the reduction of energy consumption are the major issues of green cloud .Although aVM allocation strategy could reduce energy consumption and expenses.

4) A brief note on green cloud computing :
Author - Ahamed Rameez Mohamed Nizzad

Global warming has become a key concern that has created increased awareness and concerns on issues related to the environment, air pollution etc. ThereforeGreen cloud computing focuses on the study and design of producing energy efficient ways which are less impactful to the environment. It is said that the IT industry produces over 2% CO2 emission which is similar to the emission by aviation industry and it is growing at the rate of 6% where it is expected to be emitting 12% by year 2025. It also focuses on adopting energy efficient practices in the utilization of technologies in general and cloud computing.

Conclusion:The concept of green energy and the models proposed are measured and monitored the emissions of CO2 in the use of cloud computing. It provides anemerging area to study and propose a suitable working model of green cloud computing adoption which are less likely to create CO2 emission

5) Green Computing: Current Research Trends
Author - Biswajit Saha

Green computingaddresses environmental sustainability primarily by focussing on design, manufacture, use and disposal of computer and other related devices in an eco friendly way

Conclusion: It mainly focuses on the reduction in use of hazardous materials, maximizing output from the product during its lifetime while minimizing energy consumption and also reusability or recyclability and biodegradability of used products and wastes.

6) A SURVEY ON GREEN CLOUD COMPUTING
Author - Jai A. MehtaPanktiK.Nanavati,Vishant K. Mehta

With the rising computational demand and data storage in today's world, cloud computing has developed into a wide research fieldGlobal climate changes, such as increased CO2 emissions and energy shortages, could result as a result of this.As a consequence, "Green Cloud Computing," which is capable of generating explications that are both cost- effective and energy-efficient IT resources, is a must.Using computers and other devices more effectively would result in increased resource usage, energy efficient peripherals, and reduced electronic waste.

Conclusion:They refer to the large number of data centres with smaller sizes than the normal data centres which are large in sizes and lesser in number.The creation of nano data centres helps in reducing the energy consumption by 30 percent.They are distributed around the world and are interconnected.They are portable and can be used anywhere including remote locations or for temporary use.They help in the reduction of downtime with a decrease in response time.

7) Green Cloud Computing: An Approach Towards Sustainability
Author – Gopala Krishna Sriram

Sustainable development cannot be achieved unless and until the field of cloud computing is switched towards green energy. Green cloud computing denotes cloud computing operations that rely on renewable energy. Because it is among the key fields in local and international business, formulating a green cloud computing technique is at the heart of sustainable development and mitigating the impact of climate change.

Conclusion:the world switches from the non-renewable source of energy towards sustainable and green energy. It tends to build on the circular economy and improve the energy efficiency of the entire cloud computing industry which is deemed one of the major contributors to global carbon emissions.

8) Implementation of Green Technology in Cloud Computing
Author - Anushka Shrivastava,Radhika Nigam's, Punit Gupta

Cloud computing has grown into a large research subject as a result of the increasing heuristic demand and information storage in current environment.Green cloud computing, as a result, speaks to the environmentally sustainable use of hardware and software and related resources through the installation of energy efficient computer systems and peripherals.Therefore this technology is commonly referred to as Green Information Technology , is a potential option for lowering energy utilization.

Conclusion:Green IT aims to minimize energy usage and create a cloud computing environment that is both sustainable and ecologically benign.This study looks at how sustainable cloud computing may assist cloud data centers to save energy and minimize CO2 emissions.

9) **Green Cloud Computing for Sustainable Environment: A Review**

Viney Goyal1 , Shivani Garg2

Cloud computing has transformed into an a fantastic solution for dealing with the problems of high-capacity data storage andprocessing, featuring with such as cheap cost, fast speed, on-demand, and pay-per-use. Despite significant expansion in the era ofcloud computing and associated services, considering the lack of fieldwork and a lot of hurdles, the implementation ofenvironmental clouds is still in the process. Green computingresearch emphasis on developing efficient clouds with environmentally friendly characteristics such as energy monitoring,virtualization, high efficiency computing, balancing the burden, green data centers, as well as extensibility, and recycling, amongothers.

Conclusion:Green computing research emphasis on developing efficient clouds with environmentally friendly characteristics such as energy monitoring, virtualization, high efficiency computing, balancing the burden, green data centers, as well as extensibility, and recycling, among others.

Problem :An increase in the consumption of energy and space the CO2 emission and E-Waste

Solution :: By using green energy the CO2 emission will come under control and will be Eco-friendly and it also helps to Minimizes e-wastes. Nano data centres are large number of data centres with smaller sizes than the normal data centres which are large in sizes and lesser in number.The creation of nano data centres helps in reducing the energy consumption by 30 percent

References

I. https://www.researchgate.net/publication/352477773_Green_Cloud_Computing

II. https://www.researchgate.net/publication/270527144_A_Study_on_Green_Cloud_Computing

III. https://www.researchgate.net/publication/321414288_Green_Cloud_Computing_A_Literature_Survey

IV. https://www.researchgate.net/publication/348806946_A_brief_note_on_green_cloud_computing

V. https://www.researchgate.net/publication/325360535_Green_Computing_Current_Research_Trends

VI. https://www.researchgate.net/publication/354639641_A_SURVEY_ON_GREEN_CLOUD_COMPUTING

VII. https://www.researchgate.net/publication/358226740_Green_Cloud_Computing_An_Approach_Towards_Sustainability

VIII. https://www.researchgate.net/publication/361728167_Implementation_of_Green_Technology_in_Cloud_Computing

IX. https://sdbc.ac.in/ijaic/Research%20Paper%20DOC/Viney%20Goyal.pdf

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Ms. Yogeetha B R

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Name of the Department: CSE-Big Data	Semester/Year: 6th semester
Name of the Student: Jayachandran, Sriram, Jeevan, Saisaran	Roll no: 20201CBD009, 06, 47, 24
Section: 6-CBD-01	Date & Time: 28-03-2023
Course code: CSE3034	Course Title: Big Data Security and Privacy

Seminar Presentation

The main objective of this paper is to provide efficient storage of information with enhanced security. The hybrid system combines conventional homogeneous encrypting technique with another unbalanced information distribution approach for retrieving information in a protected manner. This encryption approach is used which facilitates the safe retrieval of stored data in less amount of time.

Kerberos Security

What is Kerberos?

Kerberos is a secured network authentication protocol that provides strong authentication for client/server applications without transferring the password over the network. Kerberos works by using time-sensitive tickets that are generated using the symmetric key cryptography. Kerberos was the three-headed dog that guarded the gates of Hades.

The three heads of Kerberos in the security paradigm are:

1. The user who is trying to authenticate
2. The service to which the client is trying to authenticate.
3. Kerberos security server known as **Key Distribution Center (KDC)**, which is trusted by both the user and the service. The KDC stores the secret keys (passwords) for the users and services that would like to communicate with each other.

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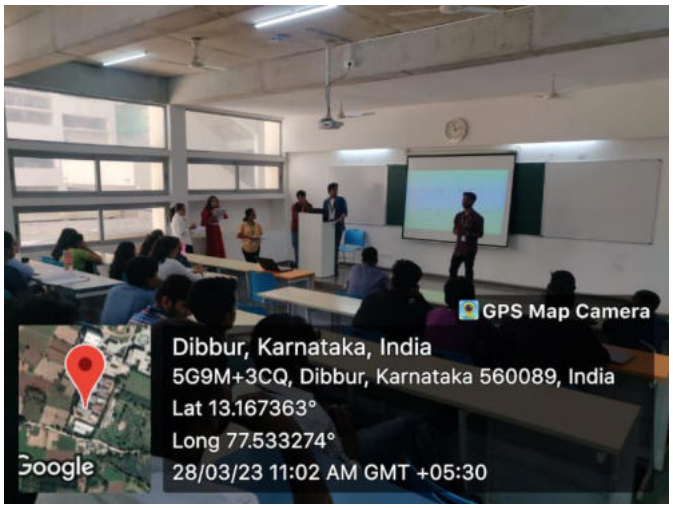

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Name of the Department: CSE	Semester/Year: 6th semester
Name of the Student: YUSUF KIRAN	Roll no: 20201CSE0123
Section: 6-CSE-03	Date & Time: 14-11-2022
Course code: CSE3040	Course Title: Agile Structures and Frame works

ACTIVITY REPORT

Seminar Presentation

Title: Agile Framework Core Values

Agile Framework Core Values

There are a few scaled agile framework core values on which the agile methodologies work. These can be rightfully called the pillars of the agile framework. Let us discuss them in detail.

1. Individuals and Interactions over processes and tools

One of the primary objectives of agile frameworks is to prioritize individuals and communications over processes and tools. Every agile methodology framework considers people as its critical asset and values their role in the application development process.

2. Working Software over Comprehensive Documentation

The methodology focuses on delivering a product that meets the client's requirements. In Agile, there is lesser emphasis on curating extensive documentation, and more on developing software as per client requirements. Instead of maintaining the documents that track all the progress in a project, the development team focuses on delivering a product that functions as expected.

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3. Customer Collaboration Over Contract Negotiation

Gone are the days when contracts were kings, and organizations put their time and effort into framing them. Instead, according to agile principles, the focus is on continuously improving. So, the teams focus on collaborating with the customers rather than sticking to one document.

4. Responding to Change Over Following a Plan

The trouble with static plans is that they do not adapt to the change, and this stiffness may result in overall project failure. Agile methodologies address this problem by adapting to the changes brought about by technological advancements and facilitating quick and efficient adjustments as necessary.

These are the values that students learn in Leading SAFe training to learn. It helps them get familiar with the basics of agile methodology and use it to deliver high-quality end products right on time!

Most Popular Agile Frameworks

Listed below are the agile framework examples that any professional in this domain should know about. Moreover, if you are looking forward to building a career in project development, you would have to take up an Agile certification training program under which you will get trained in Agile frameworks in elaboration. Some of the agile frameworks are:

1. Scrum

The project managers name the scrum framework in Agile as one of the mostpopular Agile frameworks. The primary idea behind scrum methodology is to divide the project into smaller tasks, called sprints. The team assigned to complete this project would focus on completing one task at a time, eventually leading to developing the end product.

Initially, a software company designed the scrum methodology. However, organizations in different domains started using it because of its adaptability and flexibility. Three pillars of this methodology are:

- **Transparency:** It is maintained by using a common language that everyone understands.
- **Inspection:** Inspection of products at each stage to ensure the quality of the end product.
- **Adaptation**: It signifies how Scrum focuses on getting in sync with the change, even during the execution phase.

2. eXtreme Programming (XP)

XP works on the philosophy of agile, which is to produce high-quality software for the end user and diving tasks in such a manner that the life of a developer gets easier. The primary objective of this type of agile process isto accommodate the changes in the software requirements. Some benefitsof using this framework include cutting costs for software development organizations and ensuring employee retention rates.

The twelve supporting processes specific to the world of software development are:

1. Planning game
2. Small releases
3. Customer acceptance tests
4. Simple design
5. Pair programming
6. Test-driven development
7. Refactoring
8. Continuous integration
9. Collective code ownership
10. Coding standards
11. Metaphor
12. Sustainable pace

3. Dynamic Systems Development Method (DDSM)

This agile method is all about accepting and accommodating that rework is often necessary during the application development phase. The team following this strategy ensures that each task completed is reversible and change always gets welcomed. The eight principles of the dynamic systems development method are:

- Focus on the business need
- Deliver on time
- Collaborate
- Never compromise quality
- Build incrementally from firm foundations
- Develop iteratively
- Communicate continuously and clearly
- Demonstrate control

4. Feature-Driven Development (FDD)

The software products you deliver to your client require upgrades. Therefore, they keep launching newer versions to ensure that their product matches the market requirements and that their users enjoy a technically advanced, feature-rich product. With feature driven development process, developers can accommodate the newer version expectations. Using this method, they can make a new and better product. The project lifecycle under FDD includesthe following steps:

- Develop an overall model
- Build a features list
- Plan by feature
- Design by feature
- Build by feature

5. Adaptive Software Development (ASD)

ASD is one of the most common frameworks of agile that focuses on adaptability. It adapts to technical and requirement changes and ensures the end product remains competitive enough to survive in the market. The highlights of this agile methodology are:

- Supports on-time and even before-time product delivery
- It enhances the transparency that the developer has with the client
- Products developed with this method are more adaptive and intuitive.

6. The Crystal Method

Out of the agile frameworks list, the crystal method is the one that supports the core value of agility. It focuses more on communication and interaction amongst individuals rather than processes and tools. The teams using the crystal method find the scope of change and incorporate it into the end

product. Additionally, they believe that every project is ever-changing, so they must always be accommodating of future upgradation.

7. Lean Software Development (LSD)

In this agile framework approach, the team goes with the vision that they have to produce the minimum viable product before the launch. They ask the user what they like or dislike about the product and what features they will want to add to it. Based on this information, they keep iterating the productby launching newer versions.

It is a highly streamlined approach that lets you add more functionality in a short span of time. The best part is that it saves a lot of time and effort, and you have clarity that the newer version will have user acceptance.

8. Disciplined Agile (DA)

This agile method prioritizes individuals and offers little guidance to thedevelopment teams. It is remarkably similar to the crystal method and has few similarities with a list of agile frameworks, like Kanban. The highlight feature of this methodology is that it gathers the best from all the frameworks and comes up with a development strategy that proves fruitful.

9. Scaled Agile Framework (SAFe)

The product teams use SAFe for successful product deliveries, and the development teams use it to create a safe environment for product development. Additionally, this agile method also helps solve many issues that people in big organizations often face during software productdevelopment.

As scaling in agile came into question, SAFe became the first in the list of frameworks for scaling agile. It works best on creating layered solutions for complex problems. There are scaled agile framework certifications by

multiple institutes that the professionals in this industry take up to scale up their careers. If you are also looking for such certification programs, opt for KnowledgeHut's SAFe Agilist certification course.

10. Rapid Application Development (RAD)

As the name suggests, it is an agile framework primarily focusing on creating software products and iterating them more frequently based on user feedback. There are four phases of this model, namely:

- Requirements planning
- User design
- Rapid construction
- Cutover

The highlights of this framework are that it allows rapid iteration at a low cost and helps in continuous product improvement. The best part is that it is ideal for every product development, irrespective of the nature of the business.

11. Kanban

It is a simple, visual means of managing projects. It was initially just a scheduling method to help with timely project completion. However, it soon became a mainstream method that can help track progress, segment tasks, and analyze the results! It can help identify the issues and waste and reducesthe waiting time.

Which Agile Framework is Best?

Every agile framework has its pros and cons, and each fits into some scenario or the other. Therefore, you can do a fair agile frameworks comparison, choosing the one that best caters to your needs and takes you closer to successful project delivery. However, if you must name one out ofall the options, Scrum will top the list.

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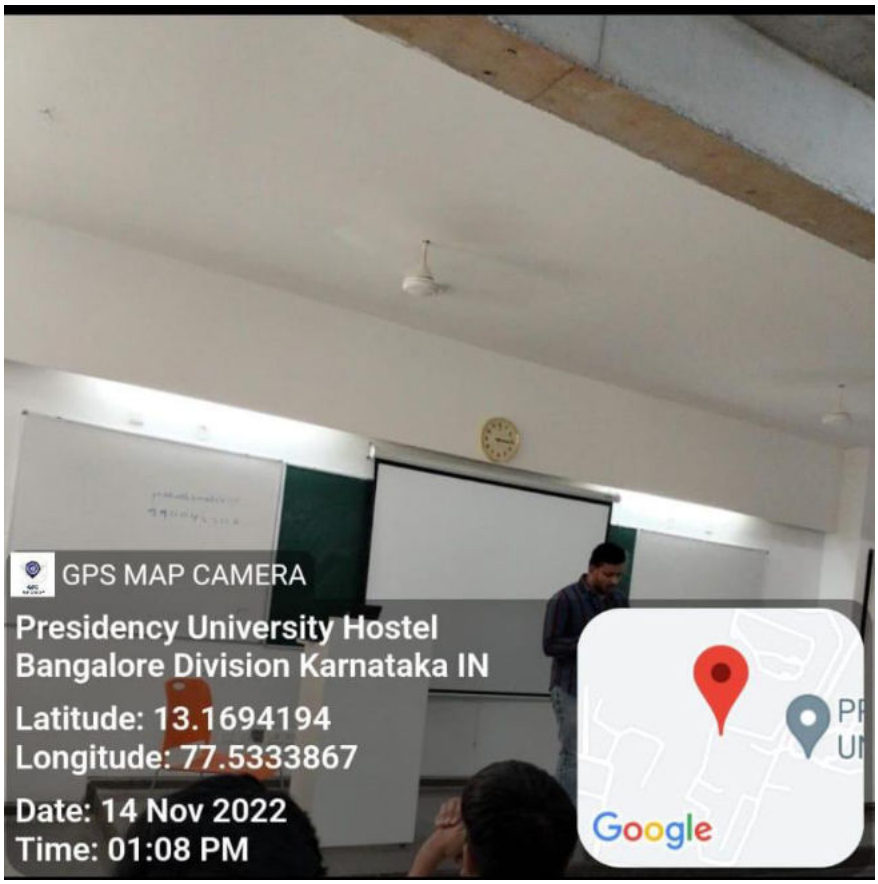

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PRESIDENCY UNIVERSITY BANGALORE Registrar

Name of the Department: **CSE** Semester/Year: **VI Semester**

Course code: **CSE3055** Course Title: Wireless communication in IOT

Participative Learning

Activity: Seminar on HTTP

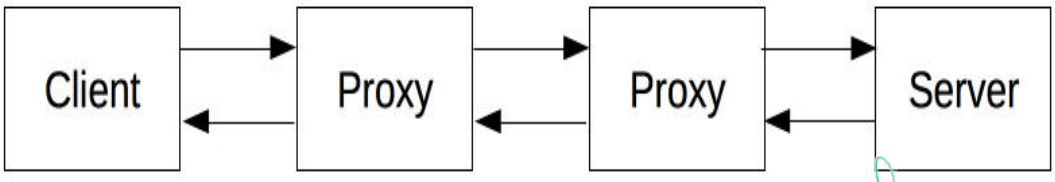
STUDENT NAME: PRANAV SAI K 20201CIT0051 (6CIT1)

HTTP is a protocol for fetching resources such as HTML documents. It is the foundation of any data exchange on the Web and it is a client-server protocol, which means requests are initiated by the recipient, usually the Web browser. A complete document is reconstructed from the different sub-documents fetched, for instance, text, layout description, images, videos, scripts, and more. Clients and servers communicate by exchanging individual messages (as opposed to a stream of data). The messages sent by the client, usually a Web browser, are called *requests* and the messages sent by the server as an answer are called *responses* Designed in the early 1990s, HTTP is an extensible protocol which has evolved over time. It is an application layer protocol that is sent over TCP, or over a TLS-encrypted TCP connection, though any reliable transport protocol could theoretically be used. Due to its extensibility, it is used to not only fetch hypertext documents, but also images and videos or to post content to servers, like with HTML form results. HTTP can also be used to fetch parts of documents to update Web pages on demand

Components of HTTP-based systems

HTTP is a client-server protocol: requests are sent by one entity, the user-agent (or a proxy on behalf of it). Most of the time the user-agent is a Web browser, but it can be anything, for example, a robot that crawls the Web to populate and maintain a search engine index.

Each individual request is sent to a server, which handles it and provides an answer called the *response*. Between the client and the server there are numerous entities, collectively called proxies, which perform different operations and act as gateways or caches, for example.



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In reality, there are more computers between a browser and the server handling the request: there are routers, modems, and more. Thanks to the layered design of the Web, these are hidden in the network and transport layers. HTTP is on top, at the application layer. Although important for diagnosing network problems, the underlying layers are mostly irrelevant to the description of HTTP.

event handler if no type-specific event handler was established.

Conclusion

HTTP is an extensible protocol that is easy to use. The client-server structure, combined with the ability to add headers, allows HTTP to advance along with the extended capabilities of the Web.

Though HTTP/2 adds some complexity by embedding HTTP messages in frames to improve performance, the basic structure of messages has stayed the same since HTTP/1.0. Session flow remains simple, allowing it to be investigated and debugged with a simple HTTP message monitor

Geo tagged image:

Mr. Lakshmisha S K
Assistant Professor

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PRESIDENCY UNIVERSITY Registrar BANGALORE

Name of the Department: CSE-IOT | Semester/Year: 6th semester

Name of the Student: Y.SAI KIRAN | Roll no: 20201CIT0042

Section: 6-CIT-01 | Date & Time: 19-05-2023

Course code: CSE3066 | Course Title: Mobile Application for IoT

Seminar Presentation

Seminar Title: HTTP (Hyper Text Transfer Protocol)

HTTP

- HTTP stands for **HyperText Transfer Protocol**.
- It is a protocol used to access the data on the World Wide Web (www).
  - The HTTP protocol can be used to transfer the data in the form of plain text, hypertext, audio, video, and so on.
- This protocol is known as HyperText Transfer Protocol because of its efficiency that allows us to use in a hypertext environment where there are rapid jumps from one document to another document.
- HTTP is similar to the FTP as it also transfers the files from one host to another host. But, HTTP is simpler than FTP as HTTP uses only one connection, i.e., no control connection to transfer the files.
- HTTP is used to carry the data in the form of MIME-like format.
- HTTP is similar to SMTP as the data is transferred between client and server. The HTTP differs from the SMTP in the way the messages are sent from the client to the server and from server
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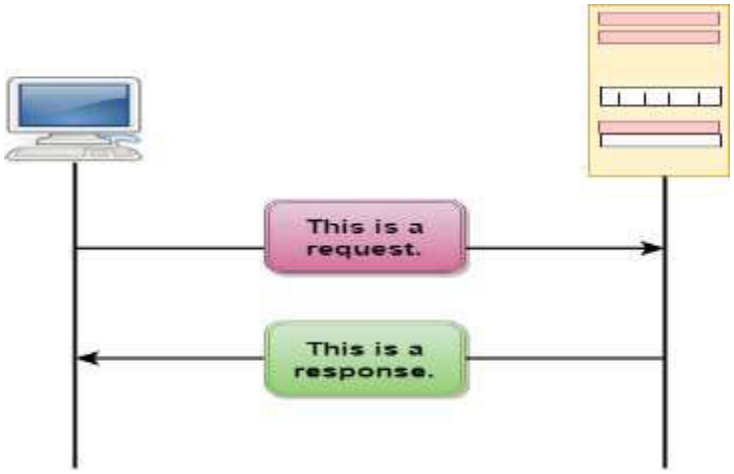
- to the client. SMTP messages are stored and forwarded while HTTP messages are delivered immediately.

Features of HTTP:

- **Connectionless protocol:** HTTP is a connectionless protocol. HTTP client initiates a request and waits for a response from the server. When the server receives the request, the server processes the request and sends back the response to the HTTP client after which the client disconnects the connection. The connection between client and server exist only during the current request and response time only.
- **Media independent:** HTTP protocol is a media independent as data can be sent as long as both the client and server know how to handle the data content. It is required for both the client and server to specify the content type in MIME-type header.
-

- **Stateless:** HTTP is a stateless protocol as both the client and server know each other only during the current request. Due to this nature of the protocol, both the client and server do not retain the information between various requests of the web pages.

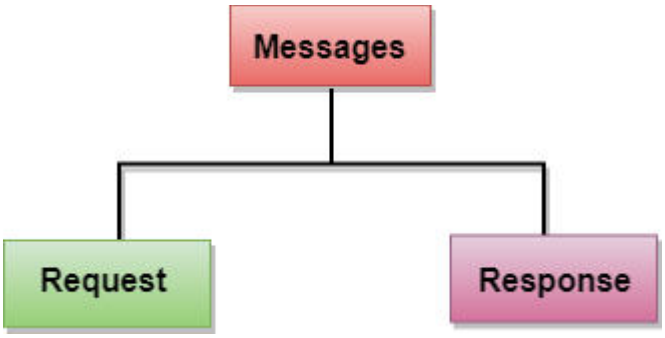
HTTP Transactions



The above figure shows the HTTP transaction between client and server. The client initiates a transaction by sending a request message to the server. The server replies to the request message by sending a response message.

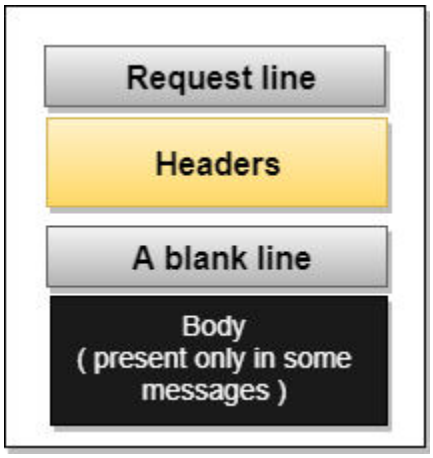
Messages

HTTP messages are of two types: request and response. Both the message types follow the same message format.



Request Message: The request message is sent by the client that consists of a request line, headers, and sometimes a body.

Response Message: The response message is sent by the server to the client that consists of a status line, headers, and sometimes a body.



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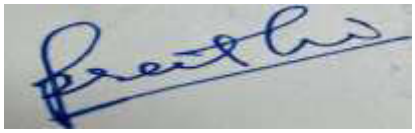

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(Established under the Presidency University Act, 2013 of the Karnataka Act 41 of 2013)

School of Computer Science and Engineering & Information Science

Department of CSE

Activity Report

Academic Year 2022-2023

EVEN Semester

Course Code : CSE 3123 **Course Title : Search Engine Optimization** **Sections : B.Tech ISE**	**Date : 05/05/2023** **Time : 9:00-9:50**

Activity 1:

Activity Learning Title: Use of various types of SEO tools

Keyword suggestion tool:

Keyword	Activity	CTR	CPC	Categories
snapchat	51676481	18.58%	$0.06	Unknown Category
instagram	361536042	6.64%	$0.09	Unknown Category
whatsapp	197755438	15.26%	$0.15	Unknown Category

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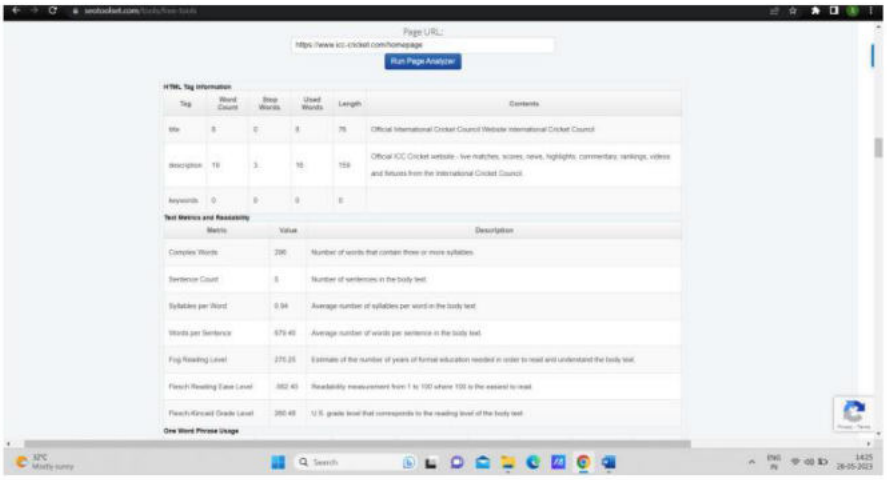
Single page analyser:



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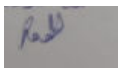

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Name of the Department: ISE	Semester/Year: 5th semester
Name of the Student:Thejas	Roll no: 20201ISE0054
Section: 5ISE2	Date & Time: 21-11-2022
Course code: CSE3125	Course Title: Service Oriented architecture

Book /Article Review(Self- Learning)

Book review as a teaching-learning method on course-related topics was used to gain in-depth knowledgeof the relevant field with the help of books/e-books/online resources. Book/Article review helps the teacher to orient slow and advanced learners towards research and current news by incorporating scientific review. This teaching pedagogy helped the students to understand the importance of scientific learning through a book review. This set of learning skills provided the scientific update which is needed for research at the post-graduate level and helped them to understand the importance of the literature review. The followingis the list of students who have used book/article review as one of the tools for the teaching-learning method.

WSDL-related XML Schema language

Introduction:

a.The hierarchical structure of XML documents can be formally defined by creating an XSD schema

b.Hence an XML document is considered an instance of its corresponding schema

c.The structure established within an XSD schema (shown in the Figur) contains a series of rules and constraints to which XML document instances must comply with

d.XSD schemas can be embedded or imported into WSDL definitions

Features

1. Text data description.
2. Data described using markup language.
3. Excellent for long-term data storage and data reusability

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Name of the Department: M.Tech	Semester/Year: 8th semester
Name of the Student: Mohammed Hannan Ahmed	Roll no: 20191COM0130
Section: 8-M.Tech	Date & Time: 08-05-2023
Course code: CSE5004	Course Title: Essentials of Programming in Python

Seminar (Self- Learning)

Seminars and presentations are extremely beneficial to students since they enable them to evaluate, stay up to date on current events, comprehend concepts, and build their network. As it relates to development initiatives, to share their knowledge and thoughts. Seminars allow you to expand your knowledge and stay current with technological advancements.

MACHINE LEARNING

Introduction:

Machine learning is a branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy. Supervised and Unsupervised learning are the two techniques of machine learning.

Features

1. Supervised Learning algorithms
2. Unsupervised Learning algorithms
3. Clustering Cross Validation
4. Dimensionality Reduction
5. Ensemble methods
6. Feature extraction
7. Feature selection
8. Open Source

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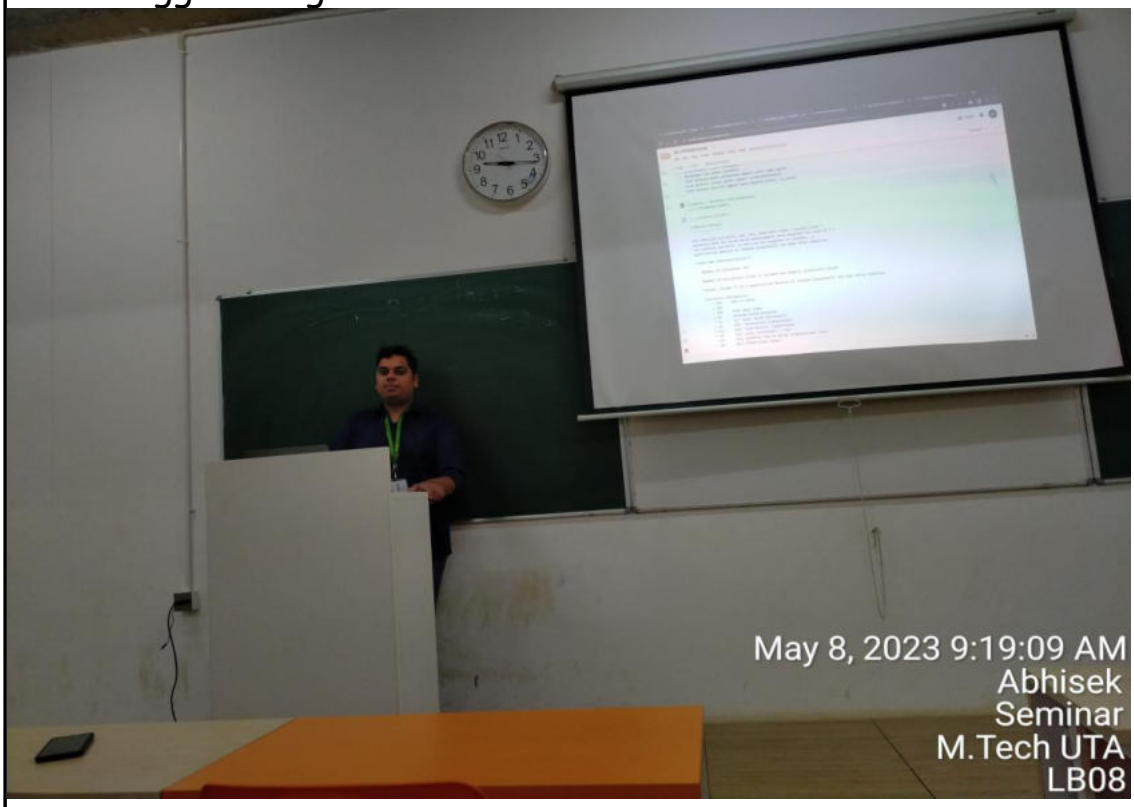

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Name of the Department: M.TECH (DATA SCIENCE)	Semester/Year: 1ST semester
Name of the Students: VAMSI SRAVANTH MAHENDRA DA ,	Roll no: 20222DSC0004
Section: 1-DS-1	Date & Time: 20-03-2023 & 02:43 PM
Course code: CSE5009	Course Title: DATA ANALYTICS AND VISUALIZATION

(Collaborative - Learning)

Collaborative learning as a teaching-learning method on course-related topics was used to gain in-depth knowledge of the relevant field with the help of books/e-books/online resources. Collaborative learning helps the teacher to orient slow and advanced learners towards research and current news by incorporating scientific review. This teaching pedagogy helped the students to understand the importance of scientific learning through a book review. This set of learning skills provided the scientific update which is needed for research at the post-graduate level and helped them to understand the importance of the literature review. The followingis the list of students who have used collaborative learning as one of the tools for the teaching-learning method.

Principal Component Analysis (PCA)

It is an algebraic technique for converting a set of observations of possibly correlated variables into the set of values of liner uncorrelated variables.

All principal components are chosen to describe most of the available variance in the variable, and all principal components are orthogonal to each other. In all the sets of the principal component first principal component will always have the maximum variance.

- PCA can be used for finding interrelations between various variables in the data.
- PCA can be used for interpreting and visualizing the data sets.
- PCA can also be used for visualizing genetic distance and connection between populations.
- PCA also makes analysis simple with the decrease in the number of variables.

Principal component analyzations are usually executed on a square symmetric matrix, and this can be a pure sum of squares and cross products matrix or correlation matrix or covariance matrix. The correlation matrix is used if there is a major difference in the individual variance.

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N. Syed Siraj Ahmed

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Activity Learning for ODD Semester AY 2022-23

Name of the Department: CSE | Semester/Year: 1st semester

Section: M. Tech. (AI & DS) | Date & Time: 11-04-2023

Course code: CSE5013 | Course Title: Soft Computing Techniques

Activity Name: Participative Learning

A teaching and learning strategy that puts the learner first is called participatory learning. It promotes active learning, small groups, tangible resources, free-flowing discussion, and peer teaching. The Participatory Learning Technique is a classroom management strategy that encourages students to take part in the teaching process, which is a peer-based one. Learning is essentially student centered in this sense since it is concentrated on increasing student participation. Students that actively participate in class become more interested in the material, are pushed to develop ideas, and are required to support their statements with examples. Simply put, it forces students to exert more effort.

GA operators - Encoding, Crossover, Selection

An operator called a genetic operator is one that genetic algorithms employ to direct the algorithm towards a certain problem's solution. The method relies on the cooperation of three primary types of operators (mutation, crossover, and selection), which are described above.

In a genetic algorithm, the object variables are mapped to a string code using an encoding function, and the string code is mapped to its object variable using a decoding function.

A genetic operator called crossover is used to change a chromosome's programming from one generation to the next. In sexual reproduction, crossover occurs. To produce superior progeny, two strings are randomly selected from the mating pool and crossed. The encoding method will determine the method that is used.

A genetic algorithm or more general evolutionary algorithm's selection stage is where specific genomes are chosen from a population for further breeding. The next generation's candidate solutions are likewise chosen using selection methods. Elitism or elitist selection is the practice of keeping the best people from one generation in the next untouched. It is a successful (modest) variation on how a new population is often created.

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School of Computer Science and Engineering & Information Science

Department of CSE

Activity Report
Academic Year 2022-2023
EVEN Semester

Course Code : CSE 5016	**Date : 30.03.2023**
Course Title : Essentials for Machine Learning	**Time : 02.10 pm to 04.00 pm**
Sections : MTech AIE & DSC	

Activity Name 1: Project Based Learning

Activity Learning Title: An Application Implementation using PCA in python (Project Based Learning)

Application: Dimensionality reduction using Principal Component Analysis for ECG Imaging

Tool: Jupyter Notebook (Python Programming)

Dataset : ECG Image Data

This consolidated report presents an implementation of Dimensionality reduction using Principal Component Analysis for ECG Imaging. The goal of these assignments was skill development using project based learning. Students participated enthusiastically and attained maximum benefit from this activity.

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Sample Document:

model training

```
from sklearn.model_selection import train_test_split

x_train,x_test,y_train,y_test= train_test_split(scaled_data, y, test_size = 0.2, random_state = 30)

from sklearn.linear_model import LogisticRegression

model = LogisticRegression()

model.fit(x_train, y_train) #training the model
     LogisticRegression()

model.score(x_test, y_test) # seeing the accuracy of the model
     0.9722222222222222
```

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Course Code : CSE 5016	**Date : 06.04.2023**
Course Title : Essentials for Machine Learning	**Time : 02.10 pm to 04.00 pm**
Sections : MTech AIE & DSC	

Activity 2:

Activity Learning Title: Monte Carle Simulation (Self Learning)

Topic: Monte Carle Simulation
Learning Time: 30 minutes
Presenting Time: 5mins for each student
Question & Answers: 15 minutes
Resources used : Internet and Textbook

This consolidated report presents that self learning activity conducted in class room. The topic given is "**Monte Carle Simulation"**. The goal of this activity is to improve participative learning and presenting skills. For Learning 30 mins are given, later Students presented what they have learned in front of their classmates. Students participated enthusiastically and attained maximum benefit from this activity.

M. Swapna

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