BYTE QUEST

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Department of Computer Science and Engineering

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Contents:

Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

- Good, bad or indifferent if you are not investing in new technology, you are going to be left behind.
  -Philip Green
- Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.
  -Stewart Brand

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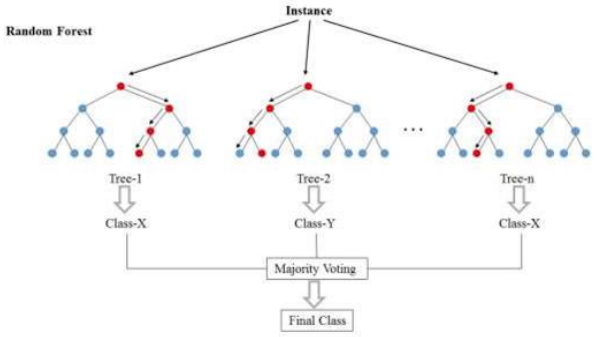
RANDOM FOREST

Random Forest is a trademark term for an ensemble of decision trees. In Random Forest, we've collection of decision trees (so known as "Forest"). To classify a new object based on attributes, each tree gives a classification and we say the tree "votes" for that class. The forest chooses the classification having the most votes (over all the trees in the forest).



Each tree is planted & grown as follows:

1. If the number of cases in the training set is N, then sample of N cases is taken at random but *with replacement*. This sample will be the training set for growing the tree.
2. If there are M input variables, a number m<<M is specified such that at each node, m variables are selected at random out of the M and the best split on these m is used to split the node. The value of m is held constant during the forest growing.
3. Each tree is grown to the largest extent possible. There is no pruning.

IMRAN (CSE -A 2/4)

LINEAR REGRESSION

It is used to estimate real values (cost of houses, number of calls, total sales etc.) based on continuous variable(s). Here, we establish relationship between independent and dependent variables by fitting a best line.

The best way to understand linear regression is to relive this experience of childhood. Let us say, you ask a child in fifth grade to arrange people in his class by increasing order of weight, without asking them their weights! What do you think the child will do? He / she would likely look (visually analyze) at the height and build of people and arrange them using a combination of these visible parameters. This is linear regression in real life!

Linear Regression is mainly of two types: Simple Linear Regression and Multiple Linear Regression. Simple Linear Regression is characterized by one independent variable. And, Multiple Linear Regression (as the name suggests) is characterized by multiple (more than 1) independent variables. While finding the best fit line, you can fit a polynomial or curvilinear regression. And these are known as polynomial or curvilinear regression.

IMRAN (CSE-A 2/4)

CLOUD COMPUTING

Cloud computing refers to any kind of hosted service delivered over the internet. These Services often include servers, databases, software, networks, analytics and other computing functions that can be operated through the cloud.
Files and programs stored in the cloud can be accessed anywhere by users on the service, eliminating the need to always be near physical hardware. The cloud is basically decentralized place to share information through satellite networks.
Every cloud application has a host, and the hosting company is responsible for maintaining the massive data centers that provide the security, storage capacity and computing power needed to maintain all of the information users send to the cloud.
Cloud computing makes the documents available everywhere because the data actually lives on a network of hosted servers that transmit data over the internet.

Cloud computing services are broken down into three major categories: software-as-a-service (SaaS), platform-as-a-service (Paas) and infrastructure-as-a-service (Iaas).

SaaS is the most common cloud service type. Many of us use it on a daily basis. The SaaS model makes software accessible through an app or web browser.

PaaS is a cloud environment supporting web application development and deployment. PaaS supports the full lifecycle of applications, helping users built, test, deploy, manage and update all in one place.

Iaas provides users with basic computer infrastructure capabilities like storage, servers and hardware all in the cloud.

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