



Vidya Vikas Education Trust's

Universal College of Engineering

Gujarati Linguistic Minority Institution

"B+" NAAC Accreditation

Issue 10 | Edition 2 | May 2019



An Initiative By

ITSA

Department of Information Technology

#Satyavachan

"Do not Figure out
big plans at first,
but, begin slowly,
feel your ground
and proceed up
and up."

- Swami
Vivekananda

Highlights

- 1 | Technical Article
- 2 | Non-Technical Article
- 3 | Farewell 2K19
- 4 | Up coming Events

DESIGNED BY:

Ms. Mudra Doshi

► Technical Article

Cyber Security versus Network Security



The difference between cyber security and network security is quite simple. You could easily think about network security as being a subset of cyber security, but that's not helpful if you were to try and explain the difference between the two properly. Simply put, cyber security's primary concern is with threats that are external to the organization while network security is involved with the internal functioning of the organization's network infrastructure security requirements.

What is cyber security?

Merriam-Webster defines cyber security as “measures taken to protect a computer or computer system (as on the Internet) against unauthorized access or attack”. Common cyber security responsibilities include:

- Network protection from the Internet, local threats on the LAN and all external threats
- Regulating and monitoring traffic coming into and going out of the organization
- Testing user password security and conducting audits on user permissions
- Controlling antivirus and other products that protect the network
- Penetration testing of firewalls and routers
- Controlling access to the network from the Internet

What is network security?

Cisco defines network security as “any activity designed to protect the usability and integrity of your network and data. It includes both hardware and software technologies. Effective network security manages access to the network. It targets a variety of threats and stops them from entering or spreading on your network”. Competencies that are required include:

- Network maintenance and administration

- Monitoring of Internet usage, generating usage reports for management
- Maintaining usernames and passwords for users, setting user permissions
- Firewall and router maintenance and configuration
- Controlling Internet access for users on the network



•What's the difference?

There are differences between cyber security and network security, yes, but there are also plenty of areas where they overlap. Smaller organizations might have a small team that looks after both cyber security and network security within the organization, so the two areas are not separate from one another. Instead they share many similarities, but they focus on different areas.

- Transport layer encryption versus end-to-end encryption
- Understanding which protocol you are using to encrypt your traffic is more than just a lesson in abstract technical thinking. Each protocol method has its own areas where it is the most effective choice versus another similar protocol, so knowing what choices you have when establishing communications will make you a far more effective IT professional in the long run. Transport Layer Security and end-to-end encryption are both useful in certain instances, but how are the two of them different?

Ref: <https://resources.infosecinstitute.com/commonly-confused-security-topics/>

- Mrs. Yogita Mane

Half a face enough for recognition technology

Facial recognition technology works even when only half a face is visible, researchers from the **University of Bradford** have found.

Using artificial intelligence techniques, the team achieved 100 per cent recognition rates for both three-quarter and half faces. The study, published in *Future Generation Computer Systems*, is the first to use machine learning to test the recognition rates for different parts of the face. Lead researcher, Professor Hassan Ugail from the University of Bradford said: "The ability humans have to recognize faces is amazing, but research has shown it starts to falter when we can only see parts of a face. Computers can already perform better than humans in recognizing one face from a large number, so we wanted to see if they would be better at partial facial recognition as well."

The team used a machine learning technique known as a 'convolutional neural network', drawing on a feature extraction model called VGG -- one of the most popular and widely used for facial recognition.

They worked with a dataset containing multiple photos -- 2800 in total -- of 200 students and staff from FEI University in Brazil, with equal numbers of men and women.

For the first experiment, the team trained the model using only full facial images. They then ran an experiment to see how well the computer was able to recognize faces, even when shown only part of them. The computer recognized full faces 100 per cent of the time, but the team also had 100% success with three-quarter faces and with the top or right half of the face. However, the bottom half of the face was only correctly recognized 60 per cent of the time and eyes and nose on their own, just 40 per cent.

They then ran the experiment again, after training the model using partial facial images as well. This time, the scores significantly improved for the bottom half of the face, for eyes and nose on their own and even for faces with no eyes and nose visible, achieving around 90% correct identification. Individual facial parts, such as the nose, cheek, forehead or mouth had low recognition rates in both experiments.

Ref:<https://www.sciencedaily.com/releases/2019/05/190501114602.htm>

- Mrs. Jesleena G.



Non-Technical Article

5 Things to Remember When You Vote

#1 Your Vote, Your Say

If one has not voted, then one has no right to comment on nation's issues. Voting is not just a means to express that the nation matters; it is a huge privilege.

#2 What's the Big Deal if I Don't Vote?

A day may come on Election Day nobody turns up except those who are herded by political parties with money and whatever goading they are doing. This is an irresponsible way to exist.

#3 Vote Alone, not as Part of a Tribe

A democracy means every time, you evaluate what stance you want to take. And that is not a permanent stance.

#4 No to NOTA!

If we have handed over this nation into the hands of thieves, and we are sitting back here - and we don't even have the responsibility of voting - we are bigger thieves than them, isn't it?

#5 People are the Leaders!

Ref: <https://isha.sadhguru.org/in/en/wisdom/article/5-things-to-remember-when-you-vote>

- Mrs. Yogini Bazaz

Farewell 2K19

“Universal College of Engineering had Organized Farewell Party for BE students on 20th April 2019 and wishing them a Successful life ahead.



Wishing All the Best for future Exams



SUCCESS
is dependent on effort.

— Sophocles

ALL THE BEST

STTP Workshop from 25th June 2019 to 29th June 2019

Topic: Data Analytics using Python

Day 1

Before Lunch Break

1. Python Basics on python idle

After Lunch Break (Working with packages)

1. Python Framework for data science-Anaconda, ipython/jupyter

2. Read in data from different sources (including webpage data) and clean the data

3. Work with Python data science packages including Numpy, Pandas, Scikit and Matplotlib.

4. Quiz-1

Day 2

Before lunch break (Preprocessing)

1. Carry out data exploratory and preprocessing tasks such as tabulation, pivoting and data summarizing in Python

2. Work with real life data collected from different sources

After Lunch Break (Visualization)

3. Carry out data visualization

4. Quiz-2

Day 3

Before lunch Break

1. Machine learning algorithms
 - a. Classification-logistic, K-Nearest Neighbors, Support Vector Machine, Kernel SVM, Naive Bayes, Decision tree, random forest
 - b. Regression-Simple linear, Multiple linear, polynomial, support vector, decision tree, random forest

After lunch Break

2. Clustering- K-Means, Hierarchical
3. Quiz-3

Day 4

Before Lunch Break

1. Association Rule Learning-Apriori

After Lunch Break

2. Natural Language Processing-NLTK
3. Quiz-4

Day 5

1. Hands on Machine Learning using Microsoft Azure Portal