



VSIT | Vidyalankar School of
Information Technology

CSI – VSIT Presents
1st E-Conference on

RECENT TRENDS IN IT

September 21 - 26, 2020

Vidyalankar School of Information Technology, Vidyalankar College Marg,
Wadala (East), Mumbai - 400037

One-week E-Conference on Recent Trends in IT | 1

About VSIT

Vidyalankar School of Information Technology is amongst the most popular colleges of the city offering undergraduate, postgraduate, and doctoral programmes in IT, Commerce, Management and Mass Media. Vidyalankar School of Information Technology is a college affiliated to the University of Mumbai and approved by the Government of Maharashtra.

Vidyalankar: The name synonymous with educational excellence and success is derived from the Sanskrit terms 'vidya' (knowledge) and 'alankar' (jewel). Team Vidyalankar focuses all its energies on spreading the radiance of the 'jewel' of knowledge and education globally.



The Vidyalankar Group of Educational Institutes is a prestigious education specialist that has established centrally recognized colleges and qualitative training institutes with branches across Maharashtra. Managed by the Vidyalankar Dnyanapeeth Trust established in 1960 by Prof. Chandrashekhar S. Deshpande, an academician par excellence, the Vidyalankar Group is marching ahead resolutely, ably steered by its current Chairperson Dr. Sanjeevani Deshpande and Mr. Vishwas Deshpande and Ms. Rashmi Deshpande (Managing Trustees).

The concept of aiming for 'student delight' nurtures a progressive student-centric learning environment at the institute. A well-planned curriculum offering the latest on the technological front, expert guidance from knowledgeable and proficient faculty, an aesthetically engaging campus equipped with all modern amenities, a full range of co-curricular and extra-curricular activities and a plethora of opportunities to enrich one's personality make the educational experience at Vidyalankar a truly rewarding one. Vidyalankar believes in a holistic methodology towards knowledge and education.

Vidyalankar was established in 1960 by Prof. Chandrashekhar S. Deshpande, a technocrat, visionary and a person blessed with extraordinary academic talent and immaculate engineering skills.



Vision

Our Vision is to establish a leading centre of imparting Quality Education in the field of Science, Commerce and Management with emphasis on:

- a. Ensuring that students learn the fundamental concepts in various disciplines.
- b. Motivating students to apply the Scientific & Technological knowledge to develop problem solving capabilities.
- c. Making students aware of the societal and environmental needs with specific appreciation of the emerging global context.

Mission

Our mission is to provide:

- a. An educational environment where students can reach their full potential in their chosen discipline and become responsible citizens without compromising in ethics.
- b. A scholarly environment where the talents of both, the faculty members and students are nurtured and used to create knowledge and technology for the benefit of the society.

Academics

B.Sc.IT | B.M.S | B.A.F | B.B.I | B.F.M | B.A.M.M.C(B.M.M) |

M.Sc.IT | M.Com(B & F) | M.Com(AA) | Ph.D

About CSI -VSIT

Overview

The Association strives to advance the theory, practice, and application of computer and information processing science and technology and maintains a high professional standard among its members. It promotes cooperation and exchange of technical information among its members, and to this end, holds various seminars and workshops, and, through its organization and other appropriate means. Students get exposed to latest technologies and industries through committee workshop and industry visits.

Goal

The Computer Society of India is a non-Profit professional meet to exchange views and information learn and share ideas. The wide spectrum of members is committed to the advancement of the theory and practice of Computer Engineering and Technology Systems, Science and Engineering, Information Processing and related Arts and Sciences. The Society also encourages and assists professionals to maintain the integrity and competence of the profession and fosters a sense of partnership amongst members. Besides the activities held at the Chapters and Student Branches, the Society also conducts periodic conferences, seminars, etc.

Scope

The mission of the CSI is to facilitate research, knowledge sharing, learning and career enhancement for all categories of IT professionals, while simultaneously inspiring and nurturing new entrants into the industry and helping them to integrate into the IT community. The CSI is also working closely with other industry associations, government bodies and academia to ensure that the benefits of IT advancement ultimately percolate down to every single citizen of India.

Activities

- 'One Week E-Conference' conducted by CSI-VSIT which comprised of seminars and workshops
- *One day 'ICT Quiz Contest'* with interesting takeaways.
- Workshop on '*Augmented Reality and Virtual Reality*' was piloted.
- Workshop on '*ANDROID Application Development*' was carried out for the students. Practical implementation of application building was explained with demonstration.

Core Committee



Prof. Sanjeela Sagar
(Convenor)



Dr. Amita Jain
(Convenor)



Sameeksha Mestry
(Student Mentor)



Aditi Polekar
(Incharge)



Sailee Rao
(Incharge)



Akash Srivastav
(Marketing Head)



Karan Mamania
(Marketing Head)



Vrutti Solanki
(Registration Head)



Mustafa Kapadia
(Technical Head)



Rajeev Kaviskar
(Technical Head)



Prabhat Sarang
(Creative Head)



Rahul Jain
(Creative Head)



Yash Mali
(Creative Head)

Content Creation: By whole team including Shreya Sawant

Preface

We are very pleased to introduce the preceding's of six-day E-conference on recent trends in I.T. which was completed successfully by the help of our conveners, Prof. Sanjeela Sagar and Dr. Amita Jain. This E-conference was our very First conference which was held on online platform by CSI-VSIT Committee during this covid pandemic. This E-conference was held to enlighten the young minds about the recent trends in Information Technology which will be very useful for the future upcoming technologies. Some of the major trending topics which were included in this e conference were Machine Learning, Blockchain Technology, and smart home using Google assistant, Emotional Intelligence and Cloud technologies.

The first conference was on Machine Learning which was conducted by Ms. Bharti Yadav, who is a software trainer at Squad InfoTech. She gave us information about machine learning such as what is machine learning? , it's examples, it's various types and how Python makes ML easy , also she introduced us about libraries such as NumPy, Pandas, matplotlib and a small mini project based on the libraries. Bharti Yadav ma'am ended the session by saying that "In the field of IT we never stop learning irrespective of our position or knowledge as there are always new technology coming up."

The next conference was on Blockchain Technology which was delivered by Mr. AJIT JOSHI, who is a former secretary of CSI Mumbai chapter and now currently working at Red Hat Technologies. He started the session by giving a broad idea of blockchain technology, its uses in smart contracts, consensus, immutability and provenance and its use cases. He concluded his speech by addressing the criticisms and challenges, such as it being uncertain regulatory status, security, privacy, cost and challenges associated with audit, taxes and compliances faced by the emerging blockchain technology.

Mr. Saurabh Vaishya was the presenter for our third session on emotional intelligence, who is working with Build My Project, who has made internet-controlled robot known as Coro-bot. Next, he explained about implementation of Emotional Intelligence using Artificial Intelligence and Machine Learning. He even shared the GitHub repository to the code he used to detect human faces with the students so they in turn themselves can implement it. He concluded the session with the implementation of his OpenCV and NumPy.

Smart Home using google assistant was covered by Mr. Abhishek Paithankar on the fourth day of our E-conference. He is a technical training and project management executive in BuildMyProject and have proven work record for delivering more that 75+ workshops and technical training. He demonstrated a small experiment using Nodemcu and Arduino. He also had spoken about his recent inventions like ornithopter drone and Coro-bot.

The last session of the conference was held by Mr. Jignesh Chheda on cloud technologies. He is currently working as a technical project manager and subject matter expert for Microsoft Office 365 cloud in Wipro. He gave us information on what is cloud computing and its types, features and its benefits. With some examples followed by a small video on data centres and azure of AWS.

E-conferences on Recent Trends in I.T. was successfully held on Microsoft Teams by five honourable speakers who are industry experts, wonderful audience of 350+ and CSI-VSIT committee from 21st September to 26th September 2020 at 4.30 pm to 6.30 pm. The first day of conference started with welcoming and opening ceremony on MS Teams with short welcoming speeches. The conference was inaugurated by principal of VSIT, Dr. Rohini Kelkar with the presence of honourable Vice Principal Mr. Asif Rampurawala, CEO Dr. Sarika Chouhan of CSI-VSIT conveners Prof. Sanjeela Sagar and Dr. Amita Jain along with this faculties of VSIT.

Day 1: Machine learning on 21st September 2020



Ms. Bharti Yadav

INTRODUCTION:

- Ms. Bharti Yadav is currently working as Java and Python Trainer in Coder Technologies (Division of Squad Infotech Pvt. Ltd.) from last 1.5 year.
- She has completed graduation with distinction in Information Technologies and currently pursuing master's in computer science.
- A Software Trainer by profession with two and half years of experience in training. Passionate software trainer with expertise in Java and Python technologies like Java Servlets, JSP, Angular, Django, Machine Learning Libraries. Has

CONFERENCE DETAILS:

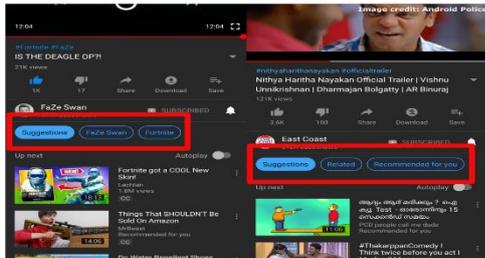
Machine Learning - The first day of E-Conference on “Recent Trends in IT” was held on Microsoft Teams under the guidance of VSIT and CSI-VSIT Committee on 21st September 2020. The conference was inaugurated by principal of VSIT, Dr. Rohini Kelkar.

Ms. Bharti Yadav, Trainer at Squad Infotech was the presenter for the day. She started with providing us with the agenda for the day. Including tools that are important for the students to get started with Machine Learning, ranging from IDE(s) to Libraries and skills required.

Machine Learning is a subset of AI. Before getting into AI we need to know machine learning. Deep Learning is based on multi- neuron concept, that is , let machine learn how we humans learn so they can be a substitute for human brain. Humans learn everything from experiences while machine learns from past data with the help of machine learning. To make a machine learn we need to feed them with data sets so they can learn from it.

Machine learning is a process of making the machine learn and process things how we humans do through providing them with data and appropriate algorithm combined in a modal through which they make human like predictions. Python is great tool to implement machine learning algorithms since it is easy to use and has a wide range of libraries and frameworks. NumPy and Pandas library are used in python for implementing machine learning modals. Matplotlib and Seaborn libraries are used to visualize the data created by the machine learning modals. This conference cleared all the students doubts about machine learning, it's uses, it's implementation and how to perfect it with practice. Bharti Yadav ma'am ended the session by saying that in the field of IT we never stop learning irrespective of our position or knowledge as there are always new technology coming up.

There were 220+ participants with a positive feedback.



Types of Machine Learning – At a Glance



Outcomes of this Conference:

- Knowledge about Machine Learning with some examples and types.
- Knowledge of implementing Python for Machine Learning.
- Some best libraries of Python for ML : NumPy, Pandas and Matplotlib with its uses and advantages.

Day 2: Blockchain on 22nd September 2020



Mr. Ajit Joshi

INTRODUCTION:

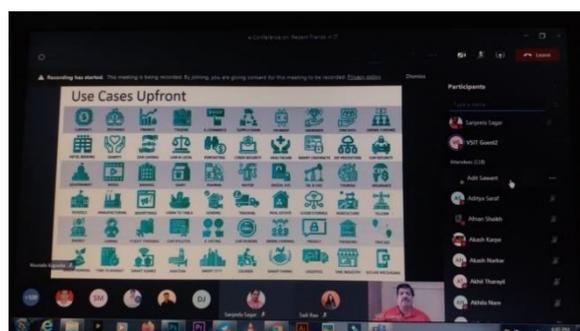
- Mr. Ajit Joshi is currently working as a National Alliance Manager at Red Hat for ISVs, IoT, embedded partners of India Region. Based at Mumbai. He is an engineer from VJTI Mumbai, TOGAF Foundations certified passionate about Blockchain technology.
- Former Secretary CSI Mumbai Chapter.
- Worked in Start-up ecosystem, regular speaker in academics and industry events. Also, a Channel Sales Professional, Experience in IT Distribution, and related Ecosystem of vars, Regional sis etc.

CONFERENCE DETAILS:

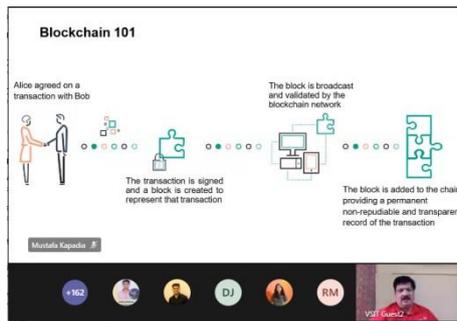
Blockchain Technology - The second day of E-Conference on “Recent Trends on IT” was held on Microsoft Teams under the guidance of VSIT and CSI-VSIT Committee on 21st September 2020.

Mr. Ajit Joshi, a National Alliance Manager at Red Hat was the presenter for the day. He started with providing us with the agenda for the day. He started the session by giving us a broad idea of blockchain, its use in smart contracts, consensus, immutability, and provenance and use cases.

Use cases of blockchain technology ranges from currency, e-commerce to smart cities and smart farms. Blockchain is a database that is decentralized and append only that is changes made to it cannot be reverted or corrupted. It records transactions between two parties in which both parties trust each other because of a distributed consensus protocol achieved by a network and ultimately secured through some cryptographic work.



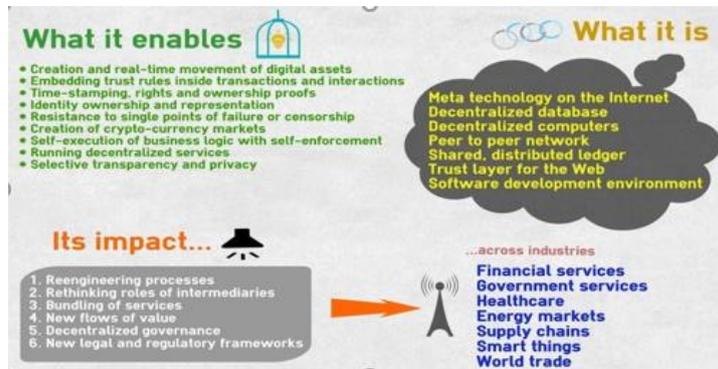
Then sir explains how a transaction takes place between two parties through blockchain technology. Let us take an example where Alice has agreed a transaction with Bob. The transaction is signed, and a block is created to represent that transaction. The block is broadcasted and validated by the blockchain network. The block is added to the chain providing a permanent and transparent record of the transaction.



Features provided by blockchain technology:

Blockchain technology includes a mix of decentralized database, process logic, cryptographic security and transparency designed for value exchange. A blockchain is a distributed database network that maintains a continuously growing ledger of data records. These data records are organized into blocks, validated against past records by a system of peer computers, and then “chained” to the previous records using cryptography to make the resulting list of records impossible to overwrite. Then sir moved on to the topic of Distributed Ledger. Its components are: Independent permissioned blockchain, distributed virtual machine (Turing-complete), Smart contract governing off-chain assets and network achieves settlement finally. Then key elements of Blockchain are: Storing of digital records, exchanging digital assets, and executing smart contracts.

Coming onto the impacts of blockchain technology:



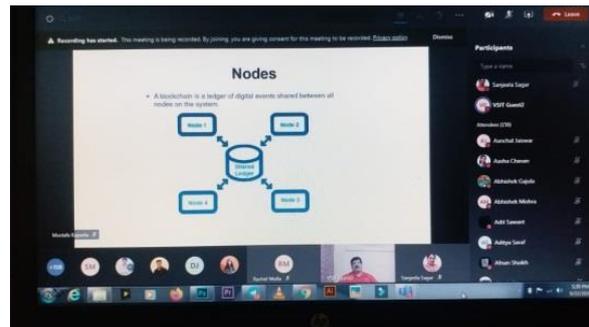
Basic Hash functions are discussed next though there are much complex hash functions used in practical use case. Distributed Ledger Technology (DLT) has grown rapidly but hurdles remain large-scale implementations. Then smart contracts implemented using blockchain technologies are compared with traditional contracts showing how more efficient smart contracts are.

Ajit sir then discusses consensus that is the process by which blockchain transaction are verified. Proof of stake, multi-signature and PBFT are some of its alternatives. Consensus is needed in a business network to share reference data and each member maintains their own nodes, forward changes to a central authority for collection and distribution. This is consolidated as consistent dataset reduces errors.

Immutability was discussed initially by Ajit sir, means that blockchain is append only that its previous transactions or records cannot be reverted or corrupted nor can be deleted form the database. Its use case is seen in financial sector where financial data in a large organization is

dispersed throughout many divisions and geographic where audit and compliance needs uncorrupted records of all key transactions occurred over a certain reporting period. This lowers the cost of audit and regulatory compliance.

To conclude, Ajit sir who is known as a knowledge factory gave the students an extensive introduction to much hyped blockchain technology and terms like consensus, immutability along with its extensive use cases today as well in the future of IT. Sir concluded his speech by addressing the criticisms and challenges face by the emerging blockchain technology such as it being a nascent technology, uncertain regulatory status, large energy consumption, control, security, privacy and cost and challenges associated with audit, taxes and compliance.



Total 205 participants attended the session and they have given very positive feedback and wants more session by Ajit Joshi Sir.

Outcomes of this Conference:

- Introduction to Block chain
- Smart Contracts
- Consensus , Immutability & Provenance Use Cases
- Criticism and Challenges

Day 3: Emotional Intelligence on 23rd September 2020



Mr. Saurabh Vaishya

INTRODUCTION:

- Mr. Saurabh Vaishya is currently working as a trainer, conducting corporate sessions on topics like Deep Learning, Data science, Artificial intelligence, Emotional intelligence, Machine Learning.
- Recently his team has developed India's first Internet controlled Robot. He has started career as a project developer for engineering students, developed engineering projects on website development, smart autonomous cars. Worked on different programming languages and have always upgraded his knowledge in programming languages by making new technology-based projects.
- He has conducted training for many private and Government Institutes including NIT's, IIT's. Done freelancing on Python, Artificial Intelligence, Machine Learning, Data science, Deep Learning and delivering Webinar series on newly introduced topic 'Emotional intelligence'.

CONFERENCE DETAILS:

Emotional Intelligence - The third day of E-Conference on "Recent Trends in IT" was held on Microsoft Teams under the guidance of VSIT and CSI-VSIT Committee on 23rd September 2020.

Mr. Saurabh Vaishya has developed India's first internet-controlled robot, Coro-Bot along with his team. He started the session by discussing about the internet-controlled robot, Coro-Bot that his team has created, and it's use cases both in and outside hospitals and in places like hotels. Ward boys, nurses are the frontline Corona warriors in our society who probably met COVID-19 positive patients for many times and for the longest duration. It is with a noble thought of helping these warriors that PNT Solutions came out with the idea of developing a robot which would dispense food, water and medicines to corona patients in their wards without necessity of physical presence of nurses and other care-givers. Coro-bots are deployed in Thane Municipal Corporation as well as in Veg Planet Hotel, Kharghar.

Next project by PNT solutions is Kavach for Indian Navy. PNT Solutions has developed a prototype of 'Kavach' for Indian Navy. Automation part was totally designed, developed, programmed & managed by PNT. Kavach is a naval decoy system to distract radar-guided missiles from their targets and act as a system for self-defence. The Kavach decoy system releases chaff made up of silver coated glass fibre. The chaff forms a clutter which remains suspended in the air so that the incoming guided missile confuses the chaff as the actual target and gets locked onto the chaff instead of the actual target. They have also got second order for the prototype of Kavach. PNT solutions have also created Ornithopter, Flying Bird which could be used for military applications such as aerial reconnaissance without alerting the enemies that they are under surveillance

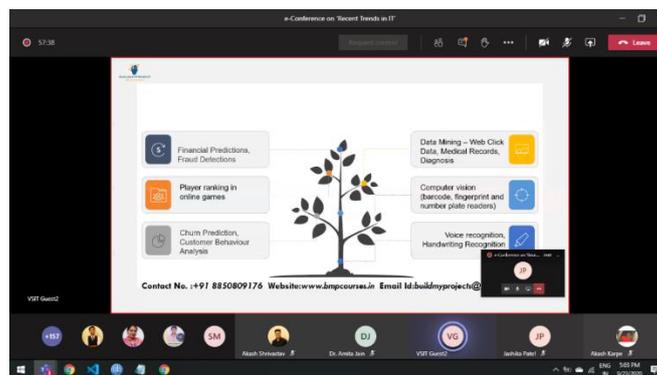
Next Saurabh sir talks about implementation of Emotional Intelligence using Artificial Intelligence and Machine Learning. He tells how knowing the programming and tools behind the artificial



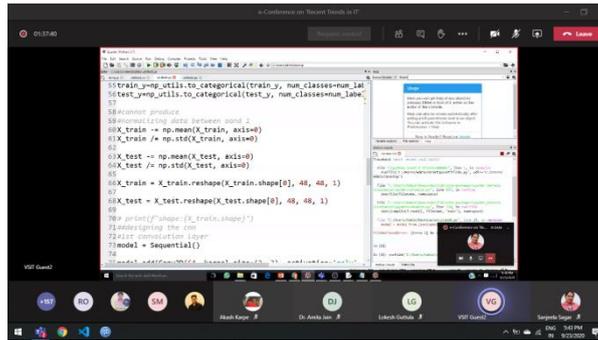
Intelligence is just 30% of total skills required to implement AI. The bulk or the rest 70% is the math behind Machine Learning without which implementing ML is not possible. You don't need to know a lot of math or compute difficult equations yourself, but you need to know how the mathematical equations work and what are they used for.



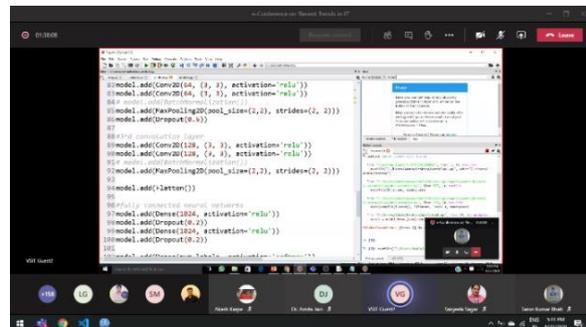
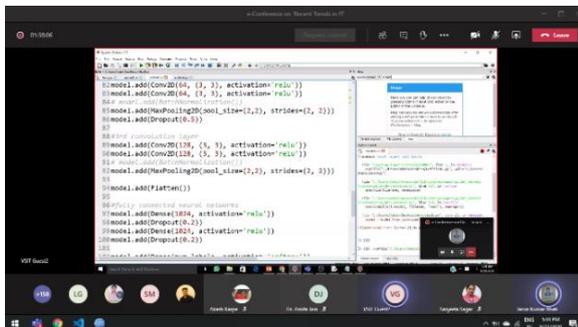
Saurabh Sir then proceeds onto the categories of Machine Learning which are: Supervised Training, Unsupervised Training and Reinforcement Training. Then he provides the students with applications of Machine Learning.



Sir next shows live demonstration of how we can use Machine Learning to detect faces in a video. He uses Python and it's libraries NumPy and OpenCV to show us how it actually done.



To conclude, it was a fantastic and a very informative session by Saurabh Vaishya. He gave the perfect amount of knowledge that students need about ML and AI to get started with Emotional Intelligence. He even demonstrated live and explained some of the code that helps the machine detect human faces and draw a box around it. He also answered most of the students doubts and questions cheerfully and accurately. He even shared the GitHub repository to the code he used to detect human faces with the students so they in turn themselves can implement it.



203 participants attended the session. They were so happy and inspired by the session that they now want a course on “Emotional Intelligence” by BuildMyProject.

Outcomes of this Conference:

- Knowledge about ML and AI to get started with Emotional Intelligence.
- He demonstrated whole live session and explained some of the code that helps the machine detect human faces and draw a box around it.
- He answered most of the students doubts and questions cheerfully and accurately.
- He shared the GitHub repository to the code he used to detect human faces with the students so they in turn themselves can implement it.

Day 4: Smart Home using Google Assistant on 24th September 2020



Mr. Abhishek Paithankar

INTRODUCTION:

- Mr. Abhishek Paithankar has recently developed India's first Internet Controlled Robot i.e. CoRo-Bot in the fight against Covid-19. He has delivered trainings on IoT, Raspberry pi, Machine Learning, Artificial Intelligence, Deep Learning in IIT's, NIT's Private & Govt. Institutes. He is a certified Adobe trainer for IoT in GNI, college of Hyderabad. Started his career by delivering trainings on Robotics.
- A Technical expert and a passionate trainer having a vast experience in Research & Development, Technical Training and Project Management, and have a proven work record of delivering more than 75+ workshops and Technical Training in various technologies and domains including IITs, NITs and other premier educational organizations.

CONFERENCE DETAILS:

Smart Home Using Google Assistant - The fourth day of e-conference on "Recent Trends In IT" organized by CSI-VSIT committee was held on Microsoft Teams on 24th September 2020.

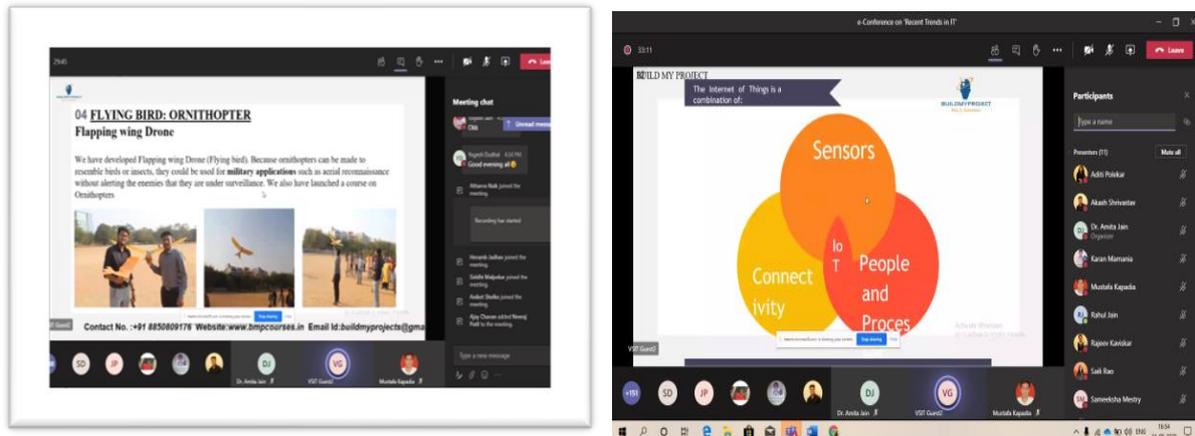
Mr. Abhishek Paithankar, a technical and project Management executive in BuildMyProject was introduced by CSI-VSIT committee member. He and his team had developed India's first internet-controlled robot called "CORO - BOT".

He started the session by giving us a broad idea of Google assistant, its uses and how the smart home could be built using Google assistant. He explained that "Smart Home" refers to the automatic and electronic control of household features, activities, and appliances. There are three main elements of a smart home system: sensors, controllers, and actuators. The utilities and features of our home can be easily controlled via internet.

Sir explained how the IOT is beneficial for inventions which is the concept behind the google assistant – controlled smart home. The Internet of Things (IoT) concept is used in connecting various types of objects like smart phones, personal computer and tablets to the internet, which brings new-fangled type of communication between things and things, and things and people. Internet of things is a combination sensors, connectivity, people and processes. The Internets of Things technology is used to come in with innovative idea and large development space for smart homes to improve the living standards of life.

Sir discussed about the internet-controlled robot: "Coro-Bot" which he along with his team had developed. He explained how this bot is serving to corona patients in hospitals. Ward boys, nurses are the frontline Corona warriors in our society who probably encounter COVID-19 positive patients for many times and for the longest duration. It is with a noble thought of helping these warriors that they came out with the idea of developing a robot which would dispense food, water and medicines to corona patients in their wards without the necessity of physical presence of nurses and other care-givers. Also, it is being used at various other places

like restaurants, hotels etc. Coro-bots are deployed in Thane Municipal Corporation as well as in Veg Planet Hotel, Kharghar.



Outcomes of this Conference:

- It was a well-planned and very informative session by Mr. Abhishek Paithankar.
- He gave the valuable information about the implementation of Internet of Things that students need to get started with new invention-ideas.
- He introduced some IOT devices like Arduino and Nodemcu Pinout to the participants and answered every query enthusiastically.

Day 6: Cloud Technologies on 26th September 2020



Mr. Jignesh Chheda

INTRODUCTION:

- Mr. Jignesh Chheda is currently working as technical project manager and Subject matter expert for Microsoft Office 365 cloud. He has more than 6 years completed in Wipro for Microsoft Business Unit in Wipro. He has pursued diploma in Electronics and Telecommunication from Shah & Anchor Kutchhi Polytechnic, BSc IT from Vidyalankar School of Information Technology and M Tech IT from Vellore Institute of Technology.
- In VSIT he was a Creative head for the year 2013 for Vigour, participated in all CSI events and started CSI community for the year 2015, Technical Secretary of Student council year 2014.
- In Wipro he was an Active Directory, Skype for Business, MS Teams, Microsoft Exchange server is the key area for MS technologies.

CONFERENCE DETAILS:

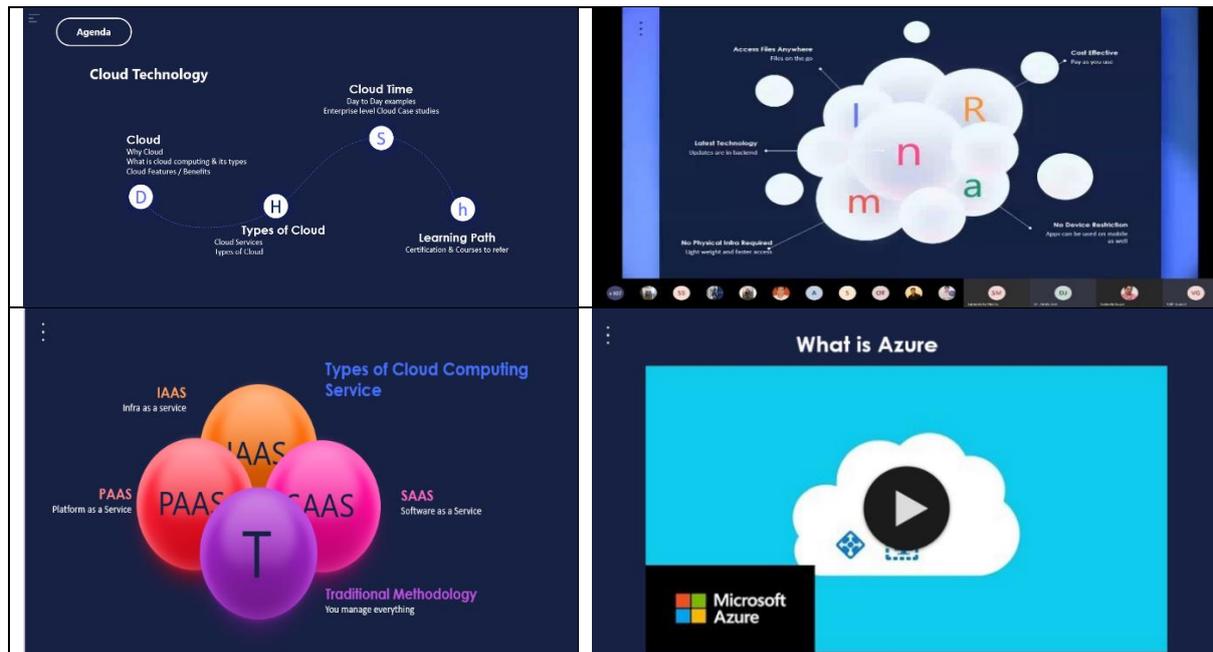
Cloud computing - It is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centres available to many users over the Internet. Cloud computing services cover a vast range of options now, from the basics of storage, networking, and processing power through to natural language processing and artificial intelligence as well as standard office applications. Almost any service that does not require us to be physically close to the computer hardware that we are using can now be delivered via the cloud.

He also explained the various features of using cloud technology i.e. flexibility, global scalability, reliability, cost efficient, more scalable and disaster recovery with more security. He also discussed some examples of cloud computing like Gmail or the cloud back-up of the photos on your smartphone. Netflix relies on cloud computing services to run its video streaming service and its other business systems too and have a number of other organisations.

Cloud computing can be broken down into three cloud computing models. Infrastructure-as-a-Service (IaaS) which refers to the fundamental building blocks of computing that can be rented: physical or virtual servers, storage, and networking. Platform-as-a-Service (PaaS) includes middleware, database management, operating systems, and development tools. Software-as-a-Service (SaaS) is the delivery of applications-as-a-service, probably the version of cloud computing that most people are used to on a day-to-day basis. He also explained types of cloud computing: public cloud, private cloud, hybrid cloud and multi-cloud.

It was very informative and interactive session by Mr. Jignesh Chheda. He provided useful knowledge to the students about the benefits and proper use of “Cloud Computing”. He solved every student’s doubt very enthusiastically and he ended the session by saying that in the field of IT we never stop learning irrespective of our position or knowledge as there are always new

technology coming up, so be explorer and a good learner. There were 185 participants in the session.



Outcomes of this Conference:

- Brief information of what is Cloud Technology
- Very useful knowledge about the benefits and proper use of “Cloud Computing”.
- Sir solved every student’s doubt very enthusiastically and he ended the session by saying that in the field of IT we never stop learning irrespective of our position or knowledge as there are always new technology coming up, so be explorer and a good learner.



Summary

Booklet of VSIT's first E-Conference on "Recent Trends in IT" is now ending. We as a Core-committee of CSI-VSIT Mumbai Chapter would like to take this opportunity to extend our sincere gratitude and appreciation to all of you, for your invaluable contributions in making this event a great success.

We had a wonderful journey of five days which was interesting and informative. Through a wide range of keynote speeches and discussions, we have been presented with current and upcoming trends in IT Industry. We hope that you liked the information shared and you will convey your experiences with others from near and far, and that a cordial relationship established among us during this Conference will further strengthen. But, of course, the real measure of this conference success lies in how it will affect you or more precisely, how it will affect the actions you will take while implementing these concepts.

We look forward to organize new events, workshops, and seminars for you all. We hope that all of us will imply the knowledge what we have gained through this conference. Before we conclude, we would like to invite all of you for all the events we are planning further. Thank you for attending this conference and have a safe journey ahead.