Report on ATAL 5 Day FDP on "Internet of Things"

(14th -18th September,2020)

Organized By: -

Department of Computer Science and Technology, Central University of Jharkhand, Ranchi, 835205

Five day Faculty Development Program

Aim and Scope:

The main aim of the Workshop is aimed to provide a discussion platform for researchers who are working in the area of IOT. This workshop will be helpful to provide in-depth knowledge and hands-on- training of analyzing data generated from IOT. To develop, validate and store the models.

Tenure: - 14th to 18th September 2020

Sponsored by: - AICTE Training and Learning (ATAL) Program, New Delhi, India

Contents:

1) Objective
2) Eminent Speakers/Resource persons
3) Day Wise Report
4) Valedictory
5) Program Schedule
6) Media Coverage

Objectives

1) IoT: Introduction, Challenges and Applications.
2) IoT Sensor Node: Sensing, Actuating, Basics of Networking in IoT .
3) To do Case Study in IOT.
4) To learn Internet of Things for Next Generation Smart System.
5) Hands-on session on python tool kits.
6) Experimentation with Jypter, PaperMill and MLFlow.
7) Hands-on sessions on Machine and Deep learning algorithms.
8) To learn Smart homes of the future-an IoT Prospective.
9) To learn Soft set based data analytics and Pattern Warehousing in IoT applications.

Eminent Speakers / Resource Persons

Prof.(Dr) A.K Nayak, Immediate Past President CSI, Director IIBM &ZHI Patna

Prof. (Dr) A.K Nayak is immediate Past President of Computer Society of India with more than 31 years of experience in teaching, training, research in Computer Science, Information Technology and Management. He have participated in designing and implementation of Computer related Course curriculum for various Universities & Institutes, Authored and / or edited 21 books out of which 12 books are related to computer science and IT as well as Authored 81 Articles & Technical Papers, co-authored 43 papers, Edited 3 Newsletters & proceeding of 7 National Conferences & Seminars. Conducted more than 40 Executive Development Programmes for the Professionals of private & public sectors and also organized and / or participated in 65 National & International Conferences and Seminars. Presided, technical sessions and delivered key note address in many of them

Dr. Prashant Prashun, Assistant Professor, DCST, Central University of Jharkhand

Dr Prashant is currently Assistant Professor in DCST, Central University of Jharkhand. He is Ph.D from Bournemouth University, United Kingdom, and Master's Degree from University of Glasgow. He has 4 patents and various research papers to his credit. Prior joining academics he has worked for companies like Samsung Electronics and Zomato. He had received many honours and award during his career. Winner of top two startups @IIMKLive, IIM Kozhikode, Kerala, India. His research area focuses on Machine learning, Motion Analysis, Human Computer Interaction, Internet of Things, Computer Vision, and Medical Device Connectivity.

Mr. Gautam Hazari, Technical Director, GSMA, Greater London, United Kingdom

Gautam Hazari is the Technical Director at GSM Association which is based in London. He is insightful strategically driven technology leader with more than 20 years of robust experience in IT and Telecom Sectors. He works with the mobile operators around the world on Mobile Identity, 5G Securities, Cyber Security, Privacy, Blockchain and also with the extended industry, standards and regulatory bodies. He has been working in the telecom industry for the last 20 years on various domains including Identity, IoT, Charging and Payments, Security and other areas and holds patents on Identity and access control. He is a Blockchain enthusiast, a thought leader working with Industry players and speaks on making the digital world a safer place on various platforms around the world

Mr Rahul Kumar Solution Architect, KPIT Technologies GmbH, Germany

More than 15 Years of experience in Software Development, Mr Rahul have contributed significantly in bootstrapping ideas , developed frameworks and tools for semi-conductor, Automotive and Finance industries. Developed UI frameworks for desktop, distributed and cloud applications. He is Proficient in designing, developing and deploying world class software from scratch. Strong experience in creating AI, Machine learning platforms and ADAS.

Mr. Meenakshi Sundaram Koushik, Coach, Autonomous driving division, KPIT, Germany

Creative and entrepreneurial leader with a passion for hiring, developing, coaching/mentoring top talent, fostering a culture of innovation, empowerment & trust leveraging diversity. Skilled in defining and driving software strategy and vision in partnership with ecosystem within & external to the organization. Experience in product development for the healthcare & consumer electronics industries.

An IIT Kharagpur engineer at heart constantly learning and experimenting with new ideas and approaches.

Prof. Dilip Kumar Yadav, Head, Department of Computer Applications, NIT Jamshedpur

He completed his Ph.D. (Software Reliability) from IIT Kharagpur. He currently works as Professor and Head, Department of Computer Applications, National Institute of Technology, Jamshedpur. His research interest focuses on Software Reliability, Software Security, Soft Computing. He has more than 40 papers in SCI, Scopus and various conference papers to his credit.

Dr. Vivek Tiwari, Assistant Professor, IIIT Naya Raipur

Dr. Vivek Tiwari is an Assistant Professor in Department of Computer Science and Engineering at International Institute of Information Technology, Naya Raipur. He is the recipient of Young Scientist Fellowship for the year 2014-2016 by the Madhya Pradesh Council of Science & Technology, Govt of MP. He has handled an academic research project of 3.5 lac funded by IIT Bombay and MHRD under NMEICT mission. He has authored various research paper, book chapter, books published in National/ International Journal and conferences to his credit. He research interests are Pattern warehouse, Intrusion detection, Association Rule mining etc.

Dr. Divakar Yadav, Associate Professor, NIT Hamirpur

Dr. Divakar Yadav is working as Associate Professor in the Department pf Computer Science and Engineering, NIT Hamirpur. He has more than 20 years of teaching and research experience. Before joining NIT, he worked as Associate Professor at Madan Mohan Malaviya University of Technology, Gorakhppur (UP). He did his Post-Doctoral Fellowship from University of Carlos-III (Spain) in 2011-12, PhD (CSE) in 2010. His area of research includes Information Retrieval, Machine Learning, Soft Computing and E-Learning.

Mr. Shadab Hussain, Data Scientist, TheMathCompany

Mr. Shadab Hussain is a Data Scientist at TheMathCompany and working for clients in Fortune 5. Before, he worked at Proven Consult, Pluralsight and Infosys Ltd. He has delivered workshops/talks in many conferences globally like Electronics for You Conference Bangalore, MozFest London by Mozilla and many more. He was one of the Program Committee members of the world's best leading data science conference, i.e., Open Data Science Conference India 2019. He is also editor for Quantum computing India publication on medium. His areas of research interest include Machine learning, Deep learning, and Quantum Computing.

Prof. Kamal Raj Pardasani, Professor, Department of Mathematics, MANIT, Bhopal.

Has more than 30 years of teaching and research experience. Has more than 175 publications and has guided 40 PhD research scholars. Prof Pardasani has handled more than 8 projects/consultancy of Government costing 1 crore. He is lifetime member of various Professional bodies. He has been honored with various awards like Outstanding Young Person of India for Academic leadership and Accomplishment. His research interest focus on Computational Mathematics and Computer Apllications, Modeling and simulation, Data Science, Data Analytics , Data Warehousing and Mining, Financial Modeling etc.

Prof. Ramjeevan Singh Thakur, Professor, Department of Computer Applications, MANIT,

Prof Thakur has more than 15 years of experience and in which he has more than 190 publications to his credit. Prof Thakur has been Former Director of Indira Gandhi National Travel Central University, Regional Campus, Manipur in year 17-18. He has guided 20 PhD and his research area focus on Data Mining, Text Mining, NLP, Bioinformatics and Analysis, ANN, Soft Computing. He is life time member of Indian Society of Technical Education, CSI, and GAMS. Prof Thakur is also recipient of Young Scientist Award by DST.

Inaugural Session

Day 1

A five-day Faculty Development Programme (FDP) on "Internet of Things" (IoT) is conducted by the Department of Computer Science and Technology, Central University of Jharkhand (CUJ), Sponsored by AICTE Training and Learning (ATAL) Academy Programmes in Online mode from 14th -18th September. AICTE Training and Learning (ATAL) is conducting more than 460 Online FDP on various thrust areas. DCST, CUJ, Ranchi has prior organized a workshop on "Cyber Security" in September 2019 under this scheme.

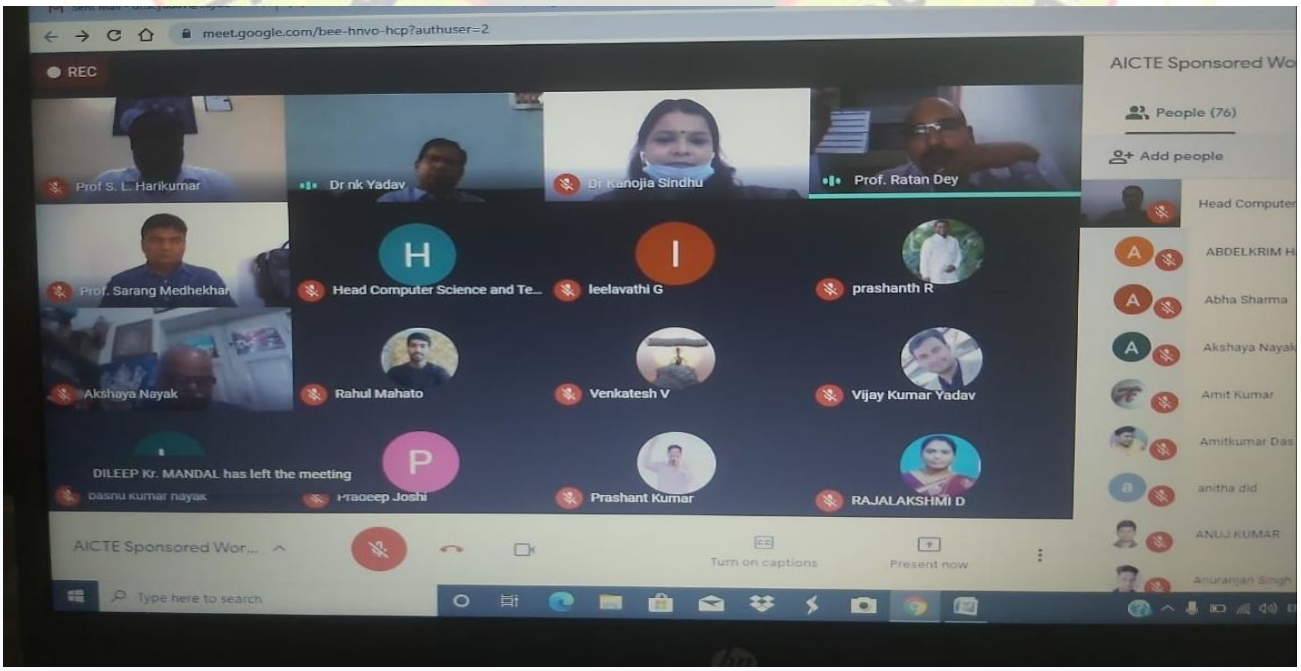
This workshop has been designed to provide information about the applications of the IoT and its challenges, in which there are about 183 participants from various parts of country has registered.

The workshop was inaugurated by Prof.R.K.Dey (VC-Acting, CUJ), Prof Nand Kumar Yadav "Indu" (Former VC, CUJ), Prof. A.K. Nayak (IPP, National Chairman Academic & Awards Committee-CSI), Prof. S.L. Harikumar(Registrar, CUJ), Prof. Sarang Medhekar (Dean, School of Natural Sciences), Prof. Subhash Chandra Yadav(Head, DCST, CUJ).

The delegates were welcomed by Prof. Sarang Medhekar and the Program Coordinator and Department Head Prof. S.C. Yadav gave information about the department and workshop. Also Prof. Harikumar (Registrar, CUJ) said that this FDP is a golden opportunity for the researchers who are in search of training from reliable sources like AICTE. I hope this FDP will live up to everyone's expectation Prof. R.K Dey said that IoT is a platform where embedded devices are connected to the Internet, which enables these connecting devices to communicate with each other like humans, and Prof. Nand Kumar Yadav said that the way the Internet has entered our village, it is clear that the age of the IOT has knocked at our doorstep, So, let's welcome this era with enthusiastic group of specialist and

researchers. Dr. Kanojia Sindhuben Babulal, Assistant Professor, DCST, CUJ, Jharkhand expressed the vote of thanks to all the guest and participants.

Prof Ratan Dey, Honorable Vice Chancellor Central University of Jharkhand, Ranchi giving inaugural address on 14/09/2020

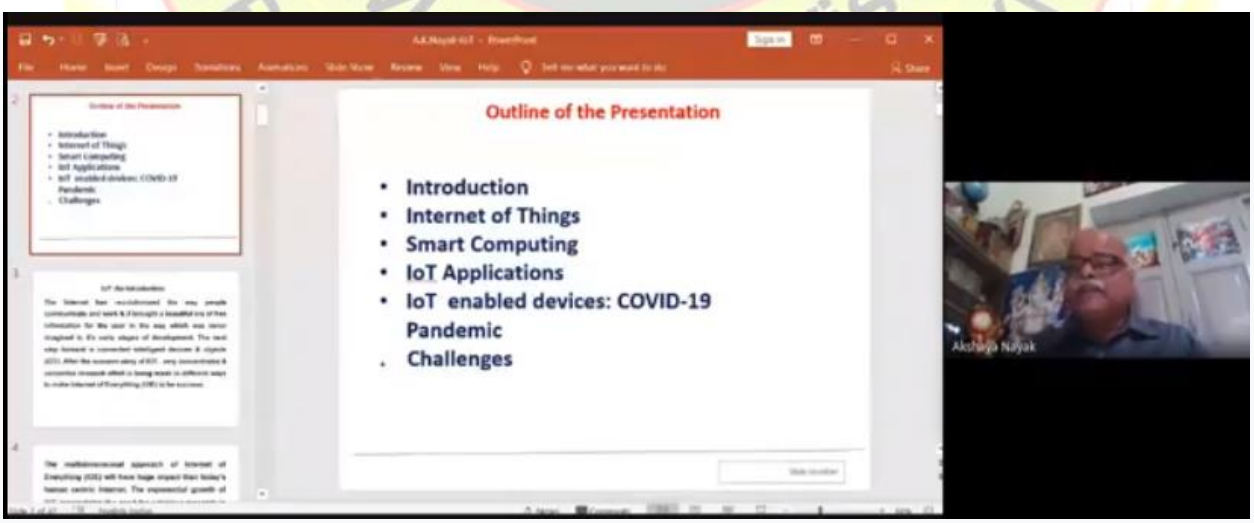


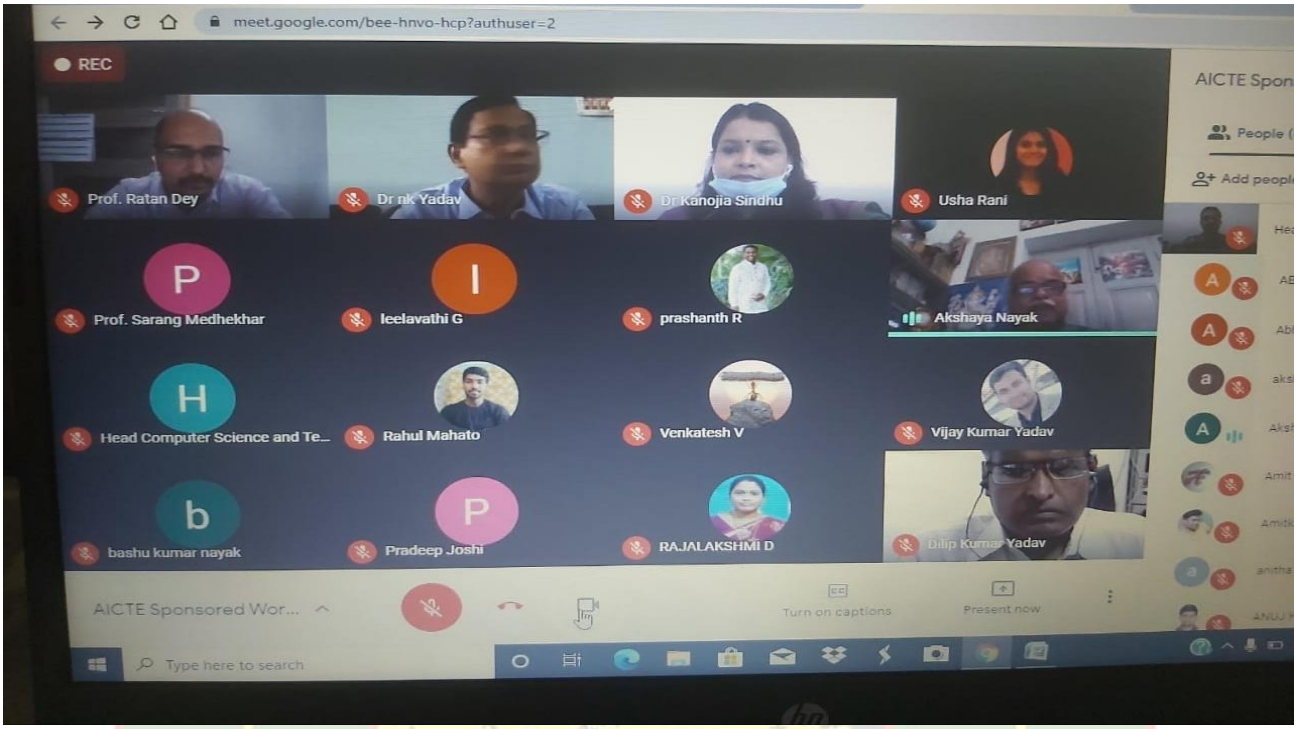
Day 1: - 14/09/2020 **Technical Session 1**

Topic: - IoT: Introduction, Challenges and Applications

Resource Person: - Prof A.K. Nayak, IPP, CSI & Director IIBM & ZHI

The **First Session** of Workshop was delivered by Prof A.K.Nayak in which he said that the world has witnessed many revolutions but nothing happened like IT revolution. Within the seven decades, starting from introduction & development, Society has experienced its exponential growth in power, capacity, & application domain by the development of many latest computing technologies like embedded computing, smart computing, sensor technology & high speed networking which resulted Internet of Things (IoT). Today this Technology IoT is going to impact every walk of our life in big way with its use & applications in Business, Industry, Service sector, Defense application, e-Governance , Online Education & many more. IoT will play a big role in Industry 4.0 by enabling the communications among the smart machines & in Education 4.0 by facilitating the functioning of virtual class room, virtual laboratory & virtual universities as a whole. First Key challenges would be video compression in multimedia communications as with increase in usage of IOT devices massive amount of data is in propagation. Second challenge is Quality of Service include in these video transmission.





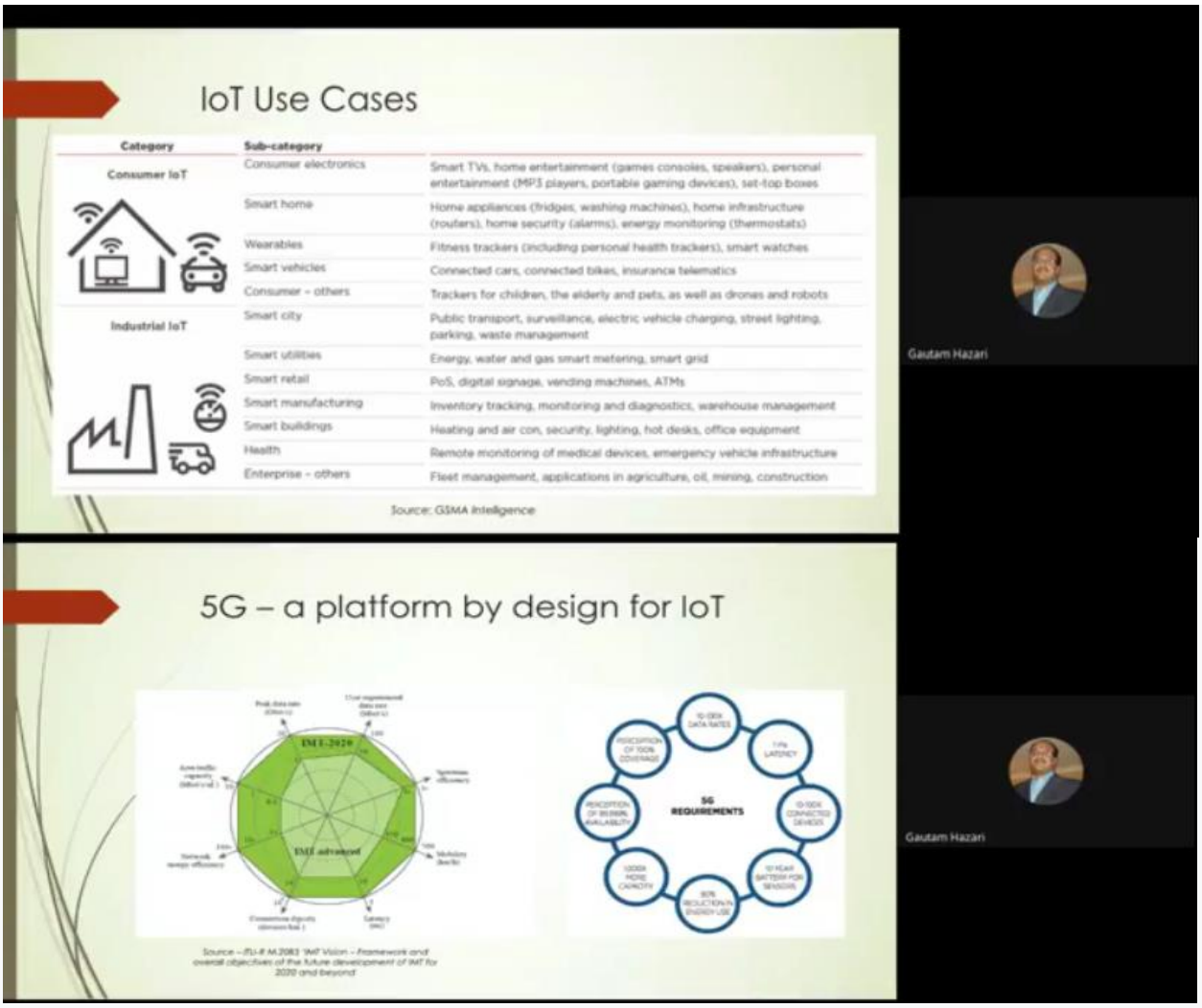
Technical Session 2

Topic: - IoT Sensor Node: Sensing, Actuating, Basics of Networking in IoT

Resource Person: - Mr Gautam Hazari, Technical Director, GSMA, London (UK)

On **Day 1 Session 2** was taken by Mr. Gautam Hazari, discussed about IOT Sensor Node, Sensing, Actuating and Basics of Network. He started his talk with IOT use cases. He also emphasized about 5G Platform by design for IOT as they are best suited for ling range IOT devices. As for many security is an afterthought for IOT users, so many techniques such as changing the default password and ,any more mechanism should be opted. Many of the real life example where IOT devices are prominently used like Wednesday, 8th of January 2019, a surgeon in Fujian performed remote hepatic lobectomy for the experimental animals of Mengchao Hepatobiliary Hospital 50 km away. The remote surgery was enabled by a various IoT sensors and actuators and backhauling on the ultra-low latency 5G network by Huawei and China Unicom, with a latency of 0.1 seconds (human visual reaction time is 0.25 seconds). Also he said while working with IOT devices one should keep in mind fixed and short range (e.g RFID, wifi, Zigbee etc) and long range devices(5G,

LORA, Weightless etc) as the characteristics and advantages and disadvantages would directly impact on the application.



Technical Session 3

Topic: - Smart Homes of the future- an IoT Prospective

Resource Person: - Dr. Prashant Prashun, Assistant Professor, DCST, CUJ

Our third Speaker in **Session 3 for first Day**, Dr. Prashant Prashun elaborated about Smart Home for Future and IOT perspectives. He started with wonderful

quotation of Steve Jobs, the founder of Apple Inc. rightly said about "connecting the dots".

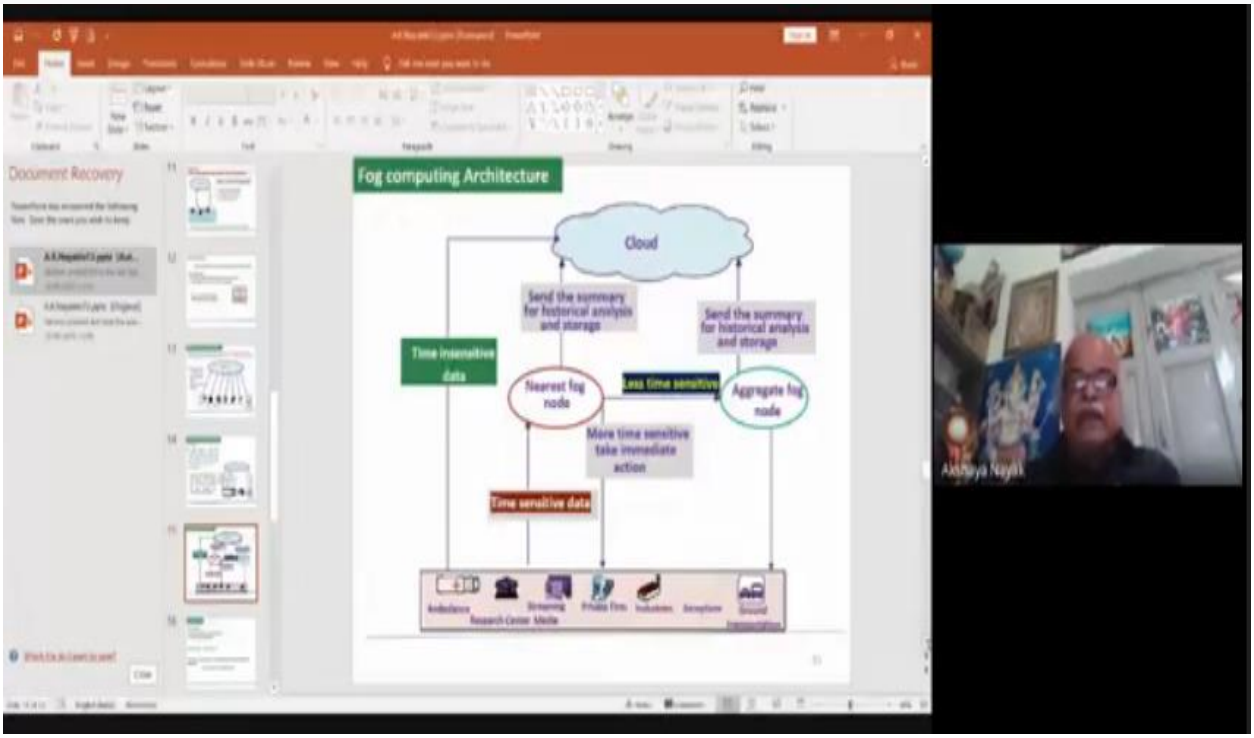
Discussing about Smart Home he said Extended family may not be a thing of the past, it's the future home to 'internet of things'. Smart home in its trial run is nothing but an amalgamation of comforts aligned with necessities that can serve both the abled and the disabled alike with them gestures surreal. Also he focused on challenge of making user friendly smart homes for elderly persons as operating electronic devices and also at the same time as many of the devices are wearable it can also help monitor the well-being of elderly people who lives alone.

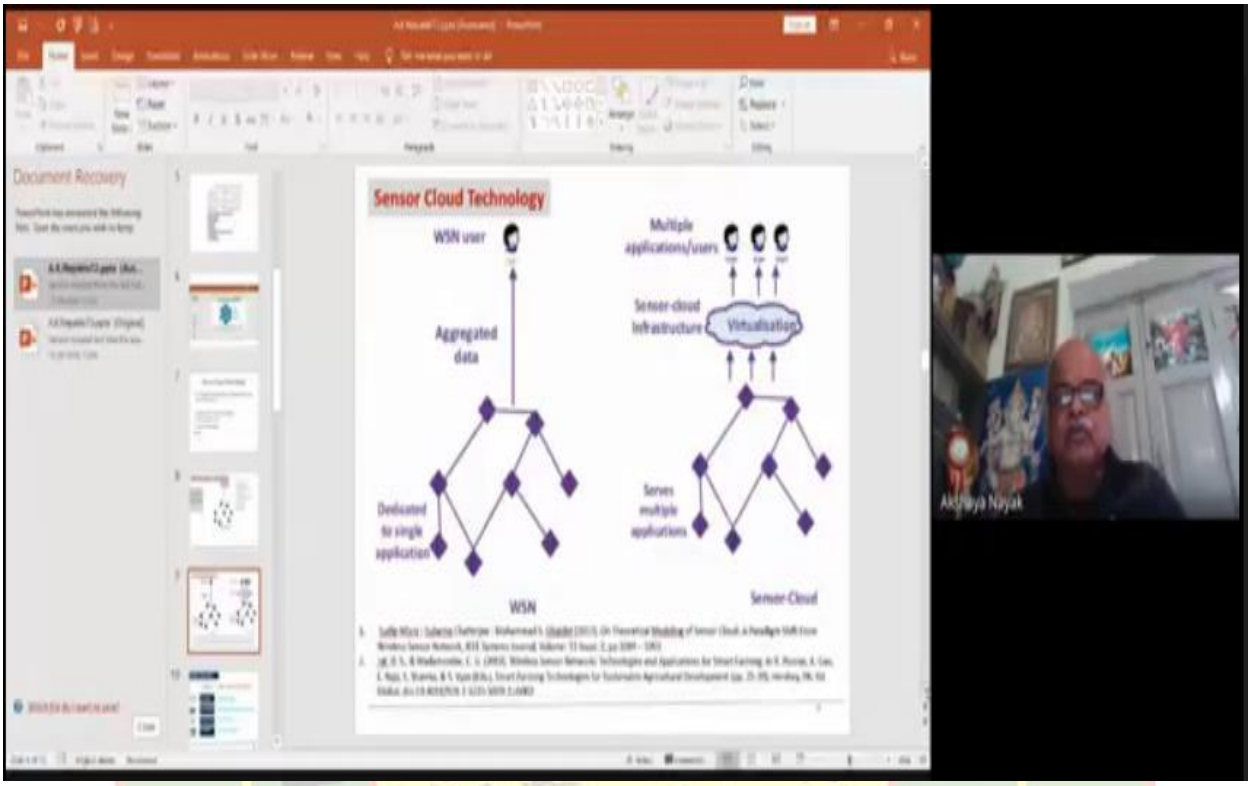
Day 2: - 15/09/2020 **Technical Session 4**

Topic: - IoT & Technology Integration

Resource Person: - Prof A.K. Nayak, IPP, CSI & Director IIBM & ZHI

The **Day-2 session 4** was handled by Prof.A.K.Nayak, on IoT & Technology Integration. IOT integration means making independently designed application and data work well together. As IOT is network of network he focused on integration of IOT devices, IOT data on IOT platform. Cloud and Sensor are important for IOT integration. Also he discussed how to handle the problem of cloud ie latency, bandwidth, autonomy and privacy. Further he discussed about fog computing and the need of Fog Computing. Fog computing is a decentralized computing infrastructure in which data, compute, storage and applications are located somewhere between the data source and the cloud. Like edge computing, fog computing brings the advantages and power of the cloud closer to where data is created and acted upon. To overcome many of disadvantage of fog computing, roof computing can be used



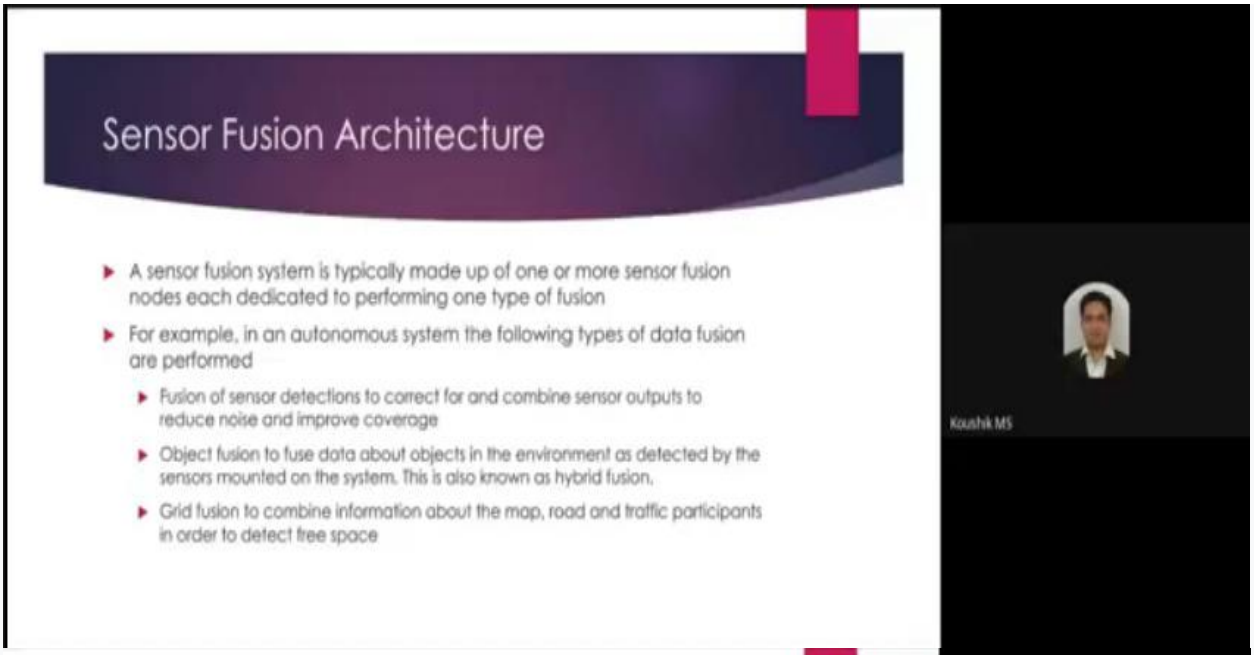


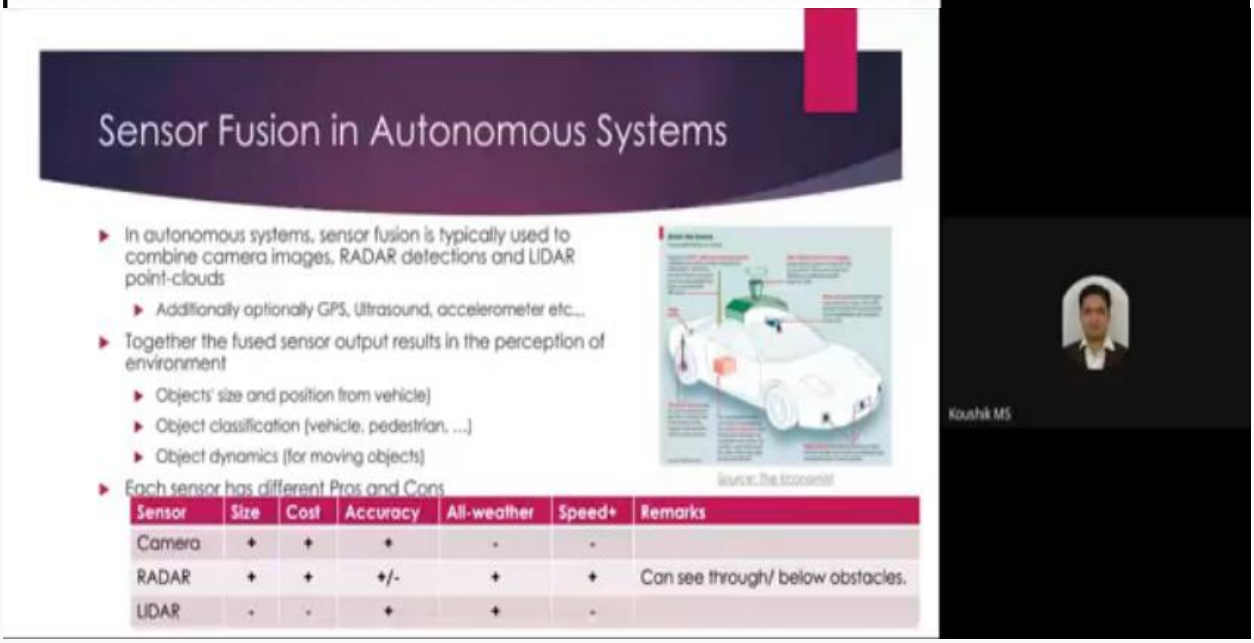
Technical Session 5

Topic: - Sensor Fusion

Resource Person: - Mr. MS Koushik, Autonomous Driving Division, KPIT Germany

The **Day 2, Session 5** was handled by MS Koushik. Starting his discussion about autonomous vehicles, tracking, prediction & estimation he took us to view of importance of Sensor fusion, Cooperative sensor fusion, complementary sensors, and sensor fusion network. He said that as there are various types of sensors and all of them have different perspective and view. In autonomous cars/systems sensor fusion is typically used to combine camera images, RADAR detections and LIDAR point clouds. As we know our sensor are small battery constrained devices collecting data from the devices requires proper integration strategy. Because if proper integration would not be there data could be lost. Also fused sensor output results in the perception of environment. He also said that as at different temperature RADAR behaves differently by knowing the temperature on can correct the perception of data





Technical Session 6

Topic: - Internet of Threats

Resource Person: - Mr. Rahul Kumar, Solution Architect, KPIT Germany

The Day 2 Session 6 was dealt by Mr. Rahul Kumar on Internet of Threats topic which includes theoretical as well as practical session for the participants. He said

as an IOT device includes Internet connectivity at all the time, Internet of threats issues. When we talk about communication in TCP/ OSI we know there are several layers. Different layer have different attacks. Using Github platform we tried to explain about secure lifecycle and penetration tesing. Few important link that were shared on which practical implementation was shown

For windows versions before windows 10 ### Run without docker 1. Install Python (3.8.5) from https://www.python.org/downloads/ 2.

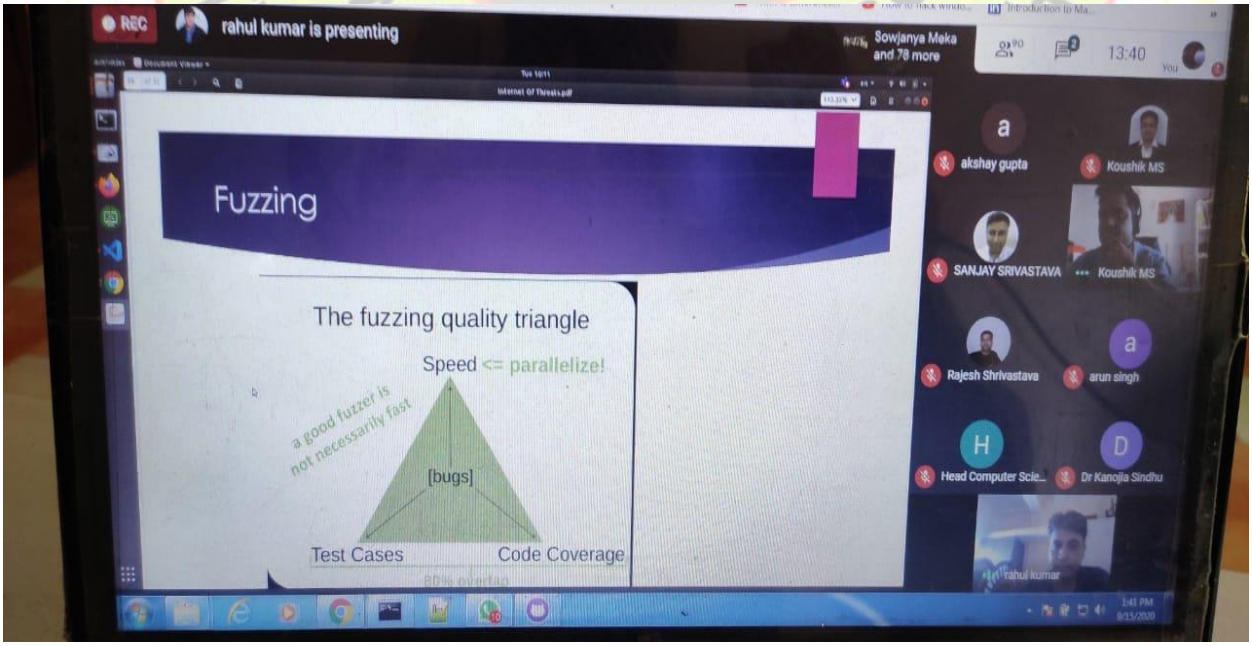
Install Flask using steps listed [here](https://flask.palletsprojects.com/en/1.1.x/installation/).

Install Virtualbox and create a ubuntu virtual machine using https://www.krizna.com/windows-7/install-ubuntu-windows-7-virtualbox/

For those having docker install issues, please download and install latest python (3.8.5) from https://www.python.org/downloads/

please use PIP to install Flask, see this link: https://flask.palletsprojects.com/en/1.1.x/installation/

or those with pre win-10, the readme is updated here: https://github.com/koushik-ms/Starter/tree/windows-pre10




Internet Of Threats
Let's explain some terminology
Likelihood (of success)
Exploit
Vulnerability
Threat
Preventive Control
Asset/V alue
Impact (of threat to asset)
Controls are also named Safeguards
Detective Control
always require each other
Corrective Control
rahul kumar


You are presenting
You're presenting to everyone
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Head Computer Science and Technology

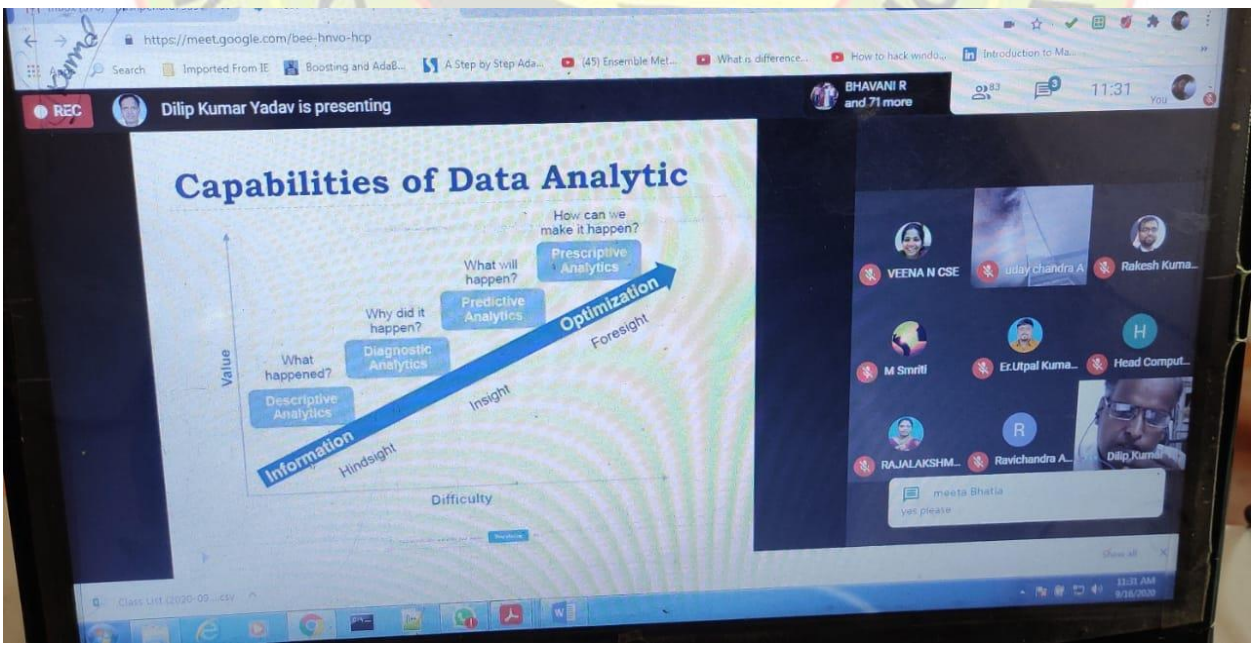
Day 3: - 16/09/2020 **Technical Session 7 & 8**

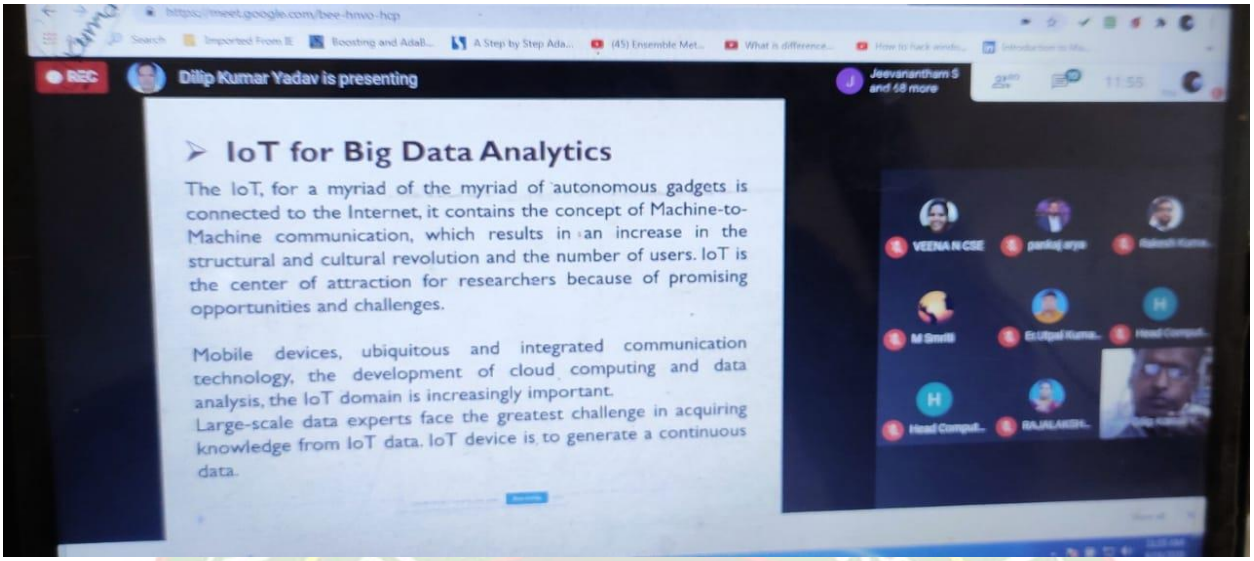
Topic1: - Introduction to Data Analytic: Challenges and Issues in Data Analytics

Topic2: - Regression Analysis: Linear and Non Linear Regression

Resource Person: - Prof. Dilip Kumar Yadav, Head, Department of Computer Applications, NIT Jamshedpur

On Day 3 in **session 7 and session 8** which was taken by Prof. Dilip Kumar Yadav. He had two hour session that day and his session was based on Introduction on Data Analytic: Challenges and Issues in Data Analytics. Emphasizing on 3 pillars of data analytics i.e people, process and technology he discussed about challenges of data visualization. One of the challenging issues in IoT is Data Analytics as the volume of data is massive and is still increasing tremendously per second. And for this issue Cloud Computing, Bio-Computing, Quantum Computing need to be taken care of. He also discussed about Splunk which is a real time intelligent platform to search for data generated by machine as Splunk is the combination of big data and cloud technology. It allows the user to process a large data via we interface. Plotting of graph and report was shown practically. He discussed about tools like Apache Hadopp & Mapreduce, Apache mahout, Apache spark.



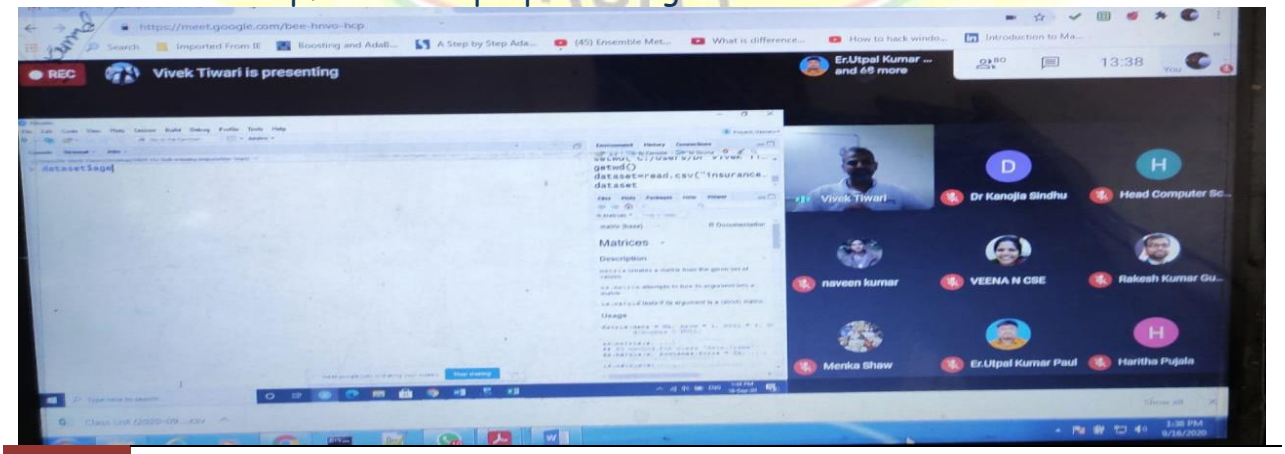


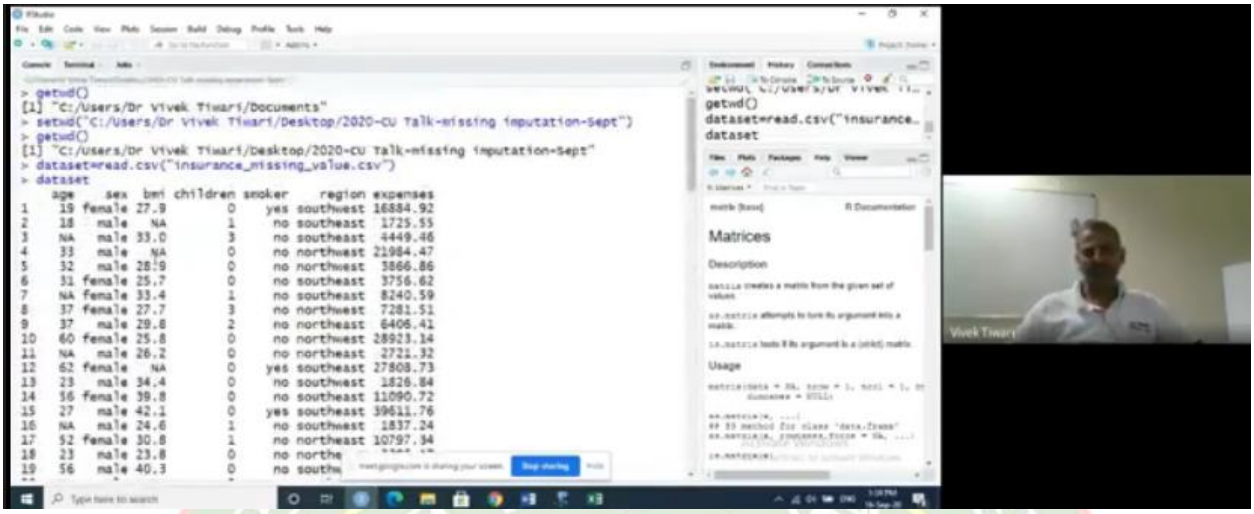
Technical Session 9

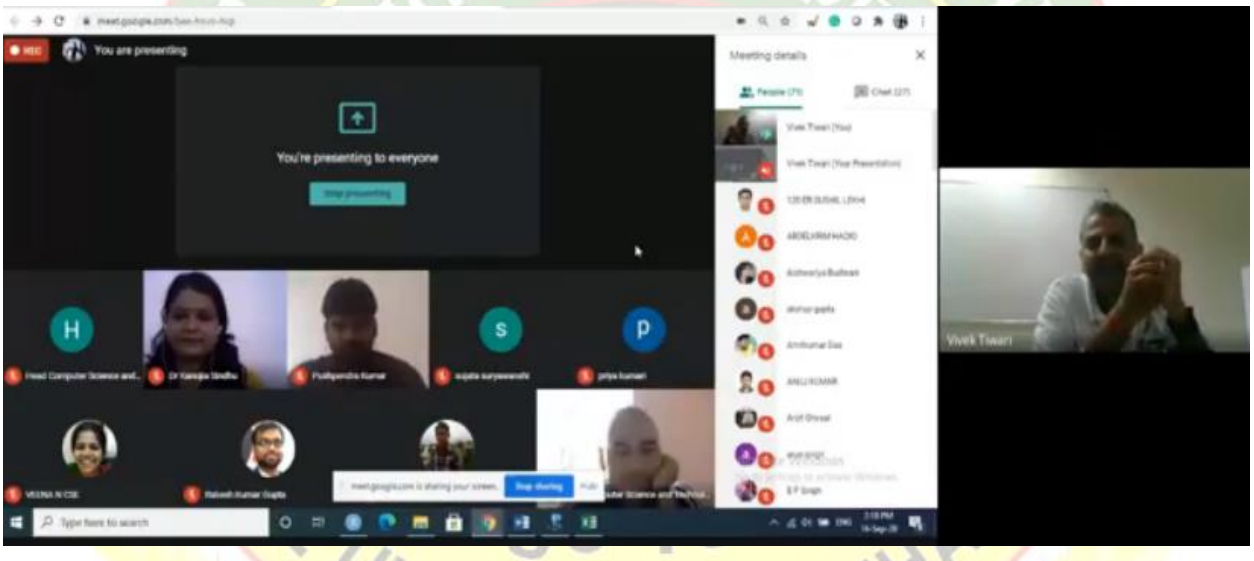
Topic: - Data Preparation & Imputation (Hands-on Session)

Resource Person: - Dr. Vivek Tiwari, Assistant Professor, Department of Computer Science and Engineering, IIIT-Naya Raipur

Day 3 Session 9 was by Dr. Vivek Tiwari was a Hands-on Session. He discussed about data preparation and imputation with R programming. He said as Data may be corrupted while moving due to various reasons. Adding to his discussion he elaborated about various data preprocessing techniques like Data cleaning, transformation, Data Reduction etc. He had practical hands on session explaining how to deal with missing data in the database and to how to do imputation. How to calculate the missing rate of data was discussed and practically shown. Also he discussed about many various function that are available in R programming language which could be helpful in Data preprocessing.







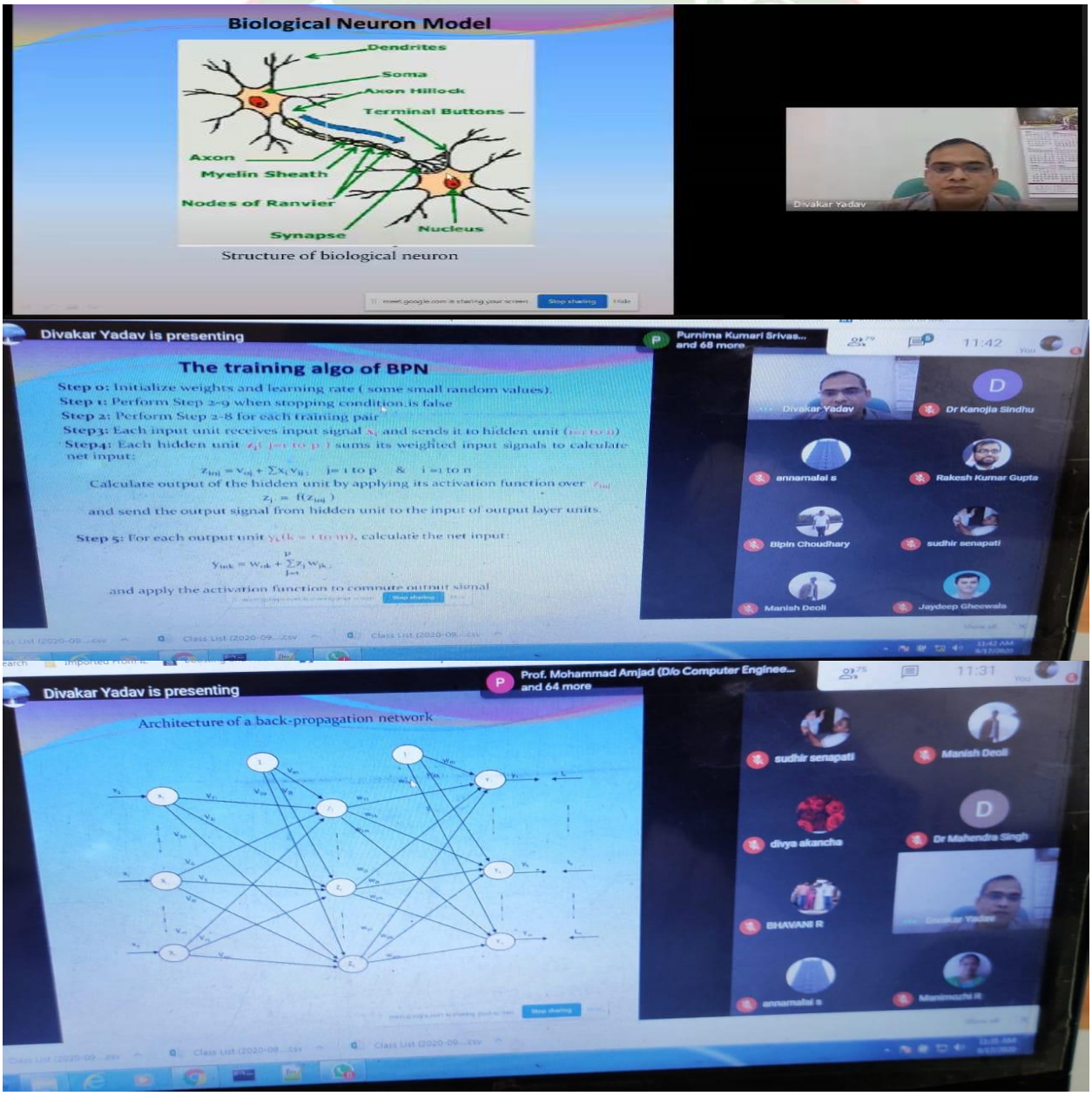
Day 4: - 17/09/2020 **Technical Session 10**

Topic: - Artificial Neural Network

Resource Person: - Dr. Divakar Yadav, Associate Professor, Computer Science & Engineering, NIT Hamirpur

Day 4 **Session 10** was taken by Dr. Divakar Yadav. He discussed about Artificial neural network its advantages and disadvantages followed by b back propogatation, neural Network. Why neural network is important? In addition he said ANNs and AI provide the scientific foundation for many other growing commercial technologies such as machine learning, expert systems, natural language

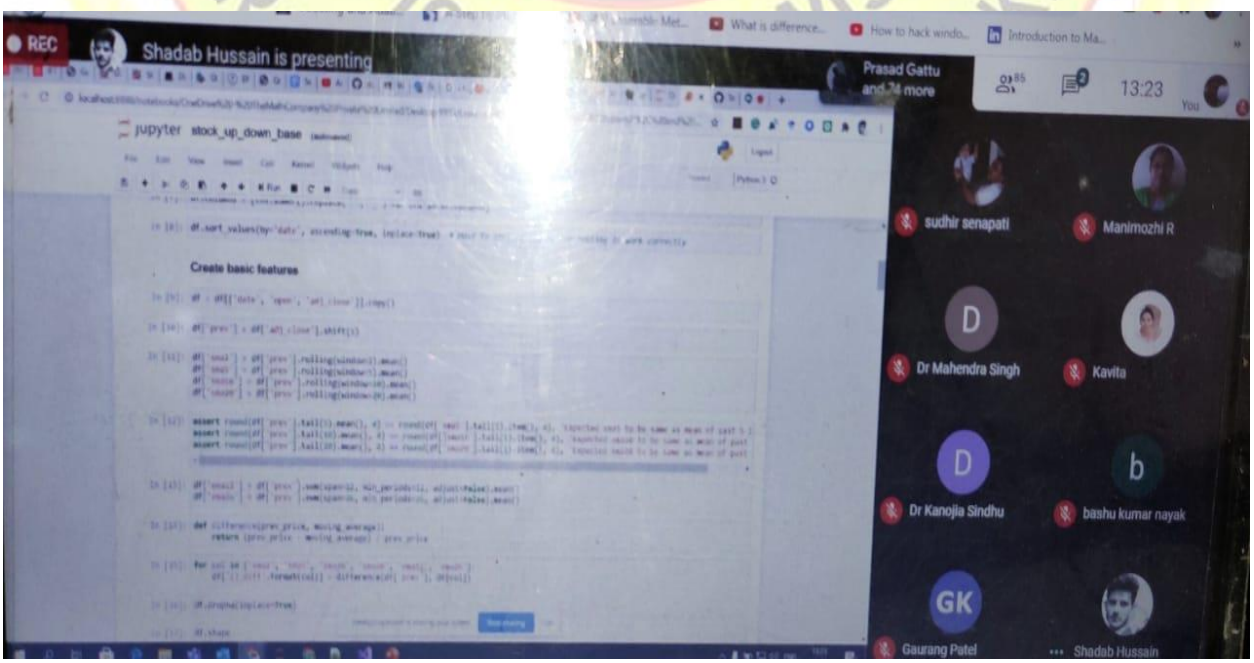
processing, computer vision and robotics, speech recognition systems, automatic programming, and computer-aid. The main focus of Dr. Divakar was on Back Propagation networks as while back propagating the learning system works well and also with high precision. Also for IoT devices energy will be a major challenge and emerging nonvolatile memory may help reduce this energy usage. These are some of advantages of back propagation worth to be considered for future IoT and Embedded devices.

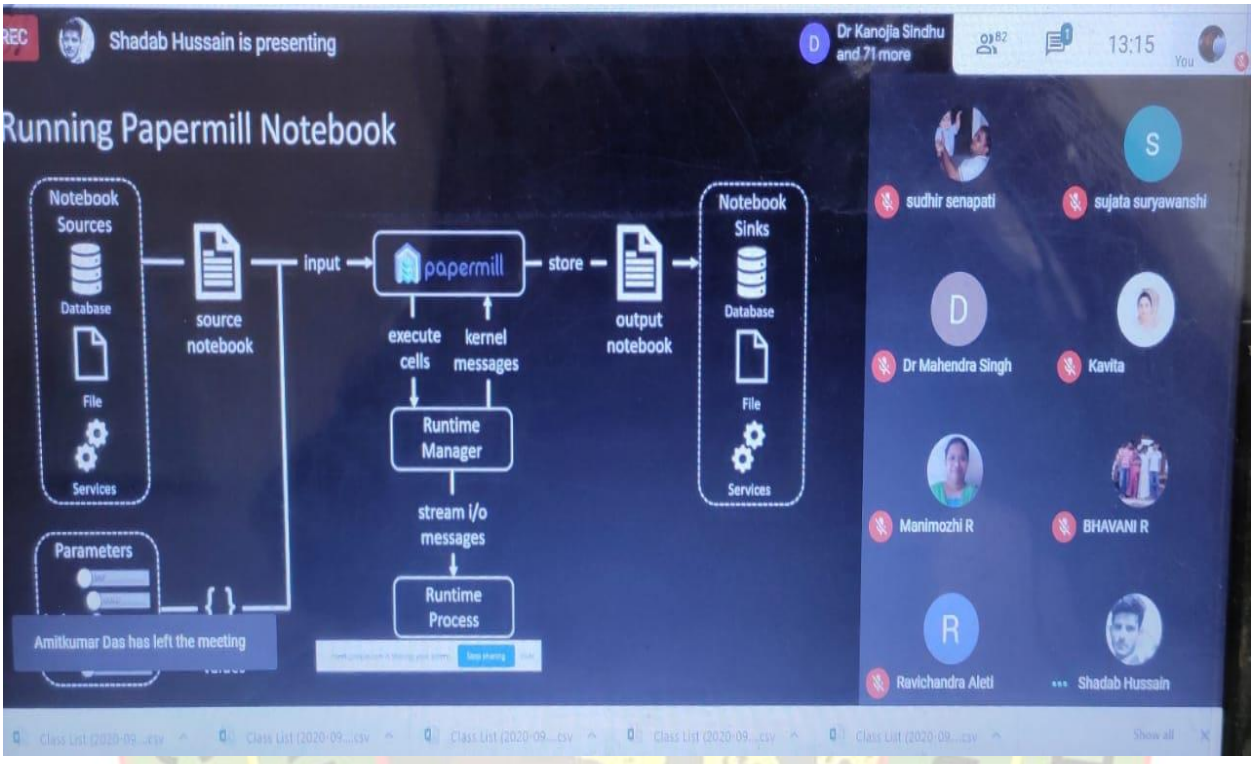


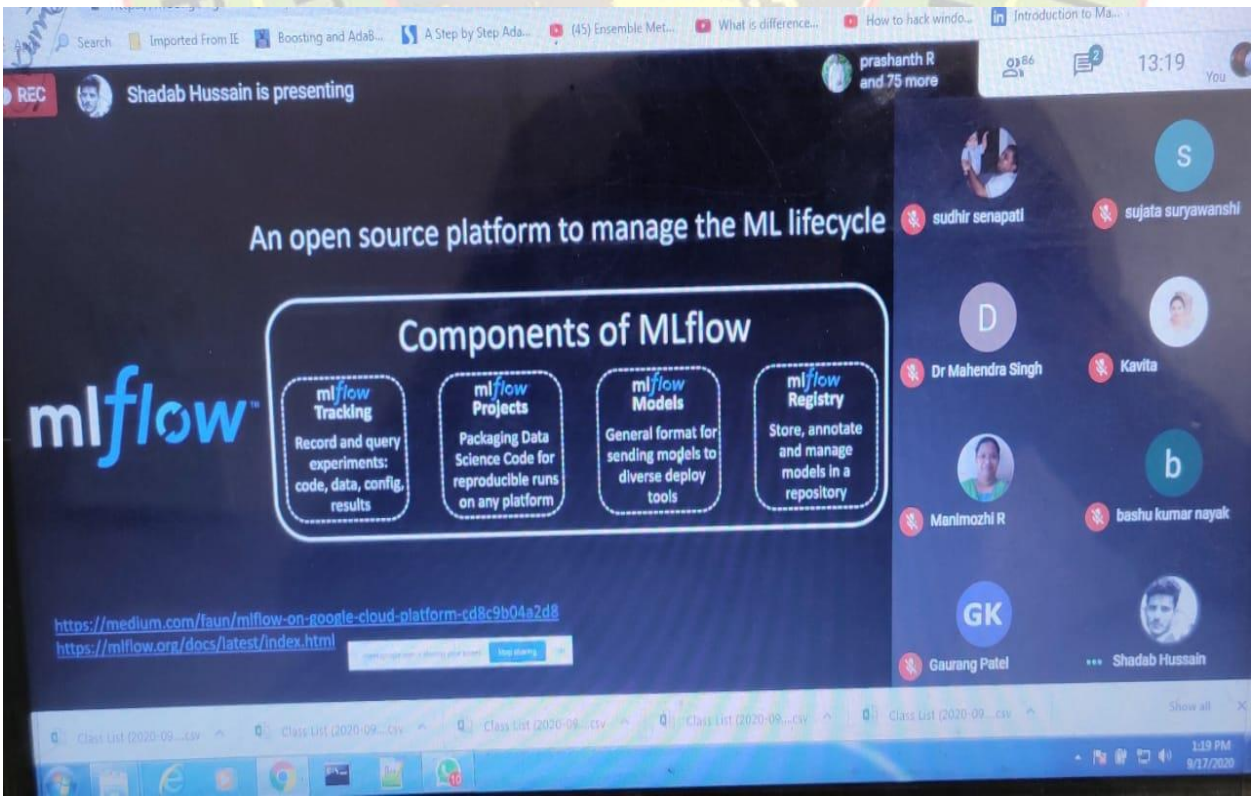
Technical Session 11 & 12

Topic1: - Explainable AI- A New Paradigm for Transparency in AI
Topic2: - Experimentation with Jupyter, Papermill and MLFlow (Hands-on Session)
Resource Person: - Mr. Shadab Hussain, Data Scientist, The MathCompany, Banglore

Day 4 **Session 11** and **Session 12** were of Mr. Shadab Hussain. In the first Session he discussed about Explainable AI- a New Paradigm for Transparency in AI and later was a hands-on Practical Session on Experimentation with Jupyter, Papermill, and MLflow. He started with the problem of machine learning, and discussing in details about the impacts of bias in ML systems. He said that machine learning model is just like black box we do not know what is happening inside. Quoting the example of Amazon prime racist algorithm, google photo application and many others for better understanding of participant about the biasness of machine learning algorithm. Therefore it is important to learn how to interpret the model. He also discussed techniques like Exploratory Analysis & Visualization, Model Performance Evaluation Metrics used for interpretation in detail. In the nest session practical demonstration of Jupyter, PaperMill and MLflow was given to the participants




Shadab Hussain is presenting
Dr Kanojia Sindhu and 71 more
13:15
Running Papermill Notebook
Notebook Sources
Database
File
Services
source notebook
input
papermill
store
output notebook
Notebook Sinks
Database
File
Services
execute cells
kernel messages
Runtime Manager
stream i/o messages
Runtime Process
Parameters
Amitkumar Das has left the meeting
sudhir senapati
sujata suryawanshi
Dr Mahendra Singh
Kavita
Manimozhi R
BHAVANI R
Ravichandra Aleti
Shadab Hussain

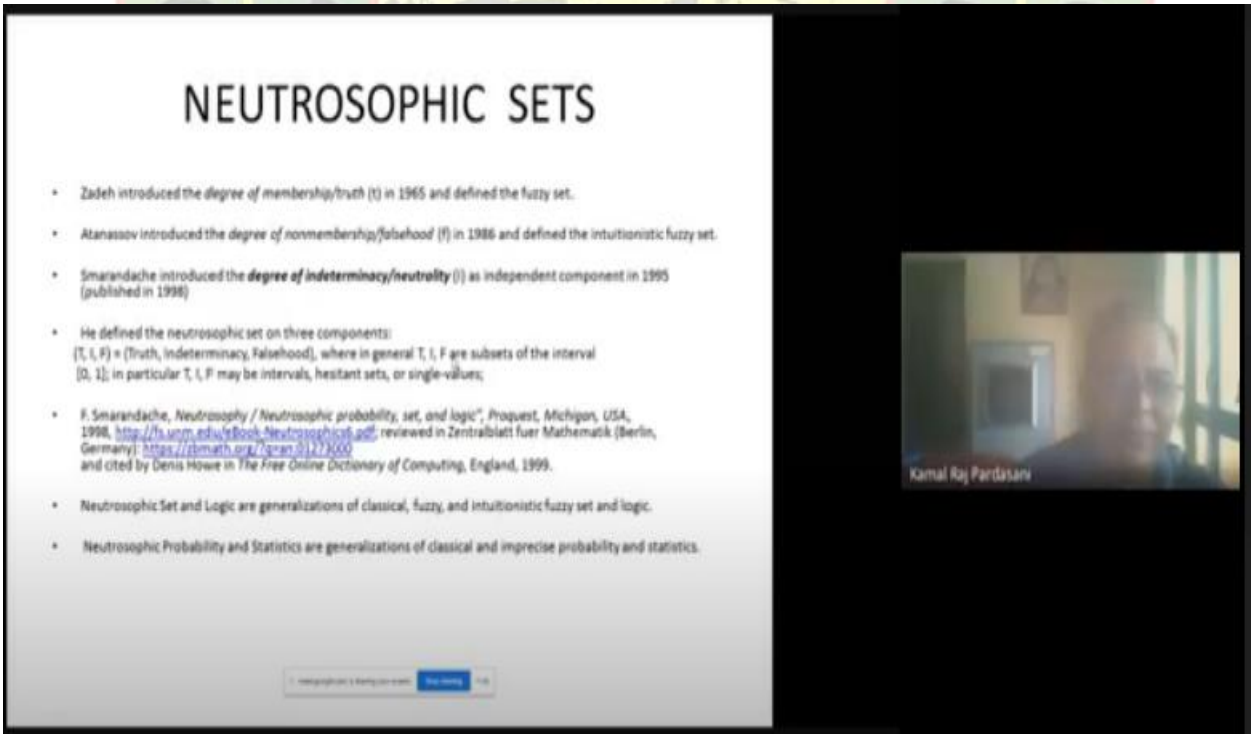

Shadab Hussain is presenting
prashanth R and 75 more
13:19
An open source platform to manage the ML lifecycle
mlflow
Components of MLflow
mlflow Tracking
Record and query experiments: code, data, config, results
mlflow Projects
Packaging Data Science Code for reproducible runs on any platform
mlflow Models
General format for sending models to diverse deploy tools
mlflow Registry
Store, annotate and manage models in a repository
https://medium.com/faun/mlflow-on-google-cloud-platform-cd8c9b04a2d8
https://mlflow.org/docs/latest/index.html
sudhir senapati
sujata suryawanshi
Dr Mahendra Singh
Kavita
Manimozhi R
bashu kumar nayak
Gaurang Patel
Shadab Hussain

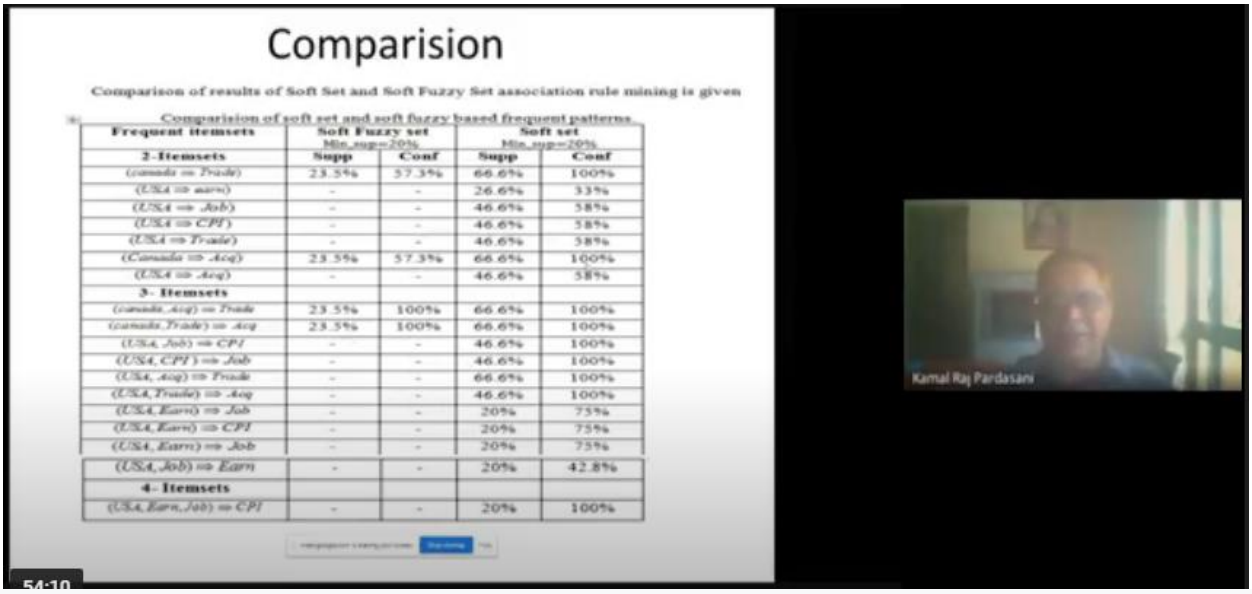
Day 5: - 18/09/2020 **Technical Session 13**

Topic: - Soft set based data analytics in IoT applications

Resource Person: - Prof Kamal Raj Pardasani, Department of Mathematics, MANIT Bhopal

On Day 5, **Session 13** was taken by Prof. Kamal Raj Pardasani, Professor, on topic Soft set based data analytics in IoT application. Stating with the various sources of data collection like cookies, RFID, web browser, embedded devices etc., and as every second the data is increasing drastically, he said what was supercomputing 20 years before is now normal computing. As the speed of increasing data is increasing is big data good or bad for consumers. And what's next after Big data, it will be big information, big knowledge. He discusses in details about fuzzy set, vague set, neutroscopic sets, soft sets and its application in IOT applications. He has elaborated the mathematically all the above for better understanding of participants.



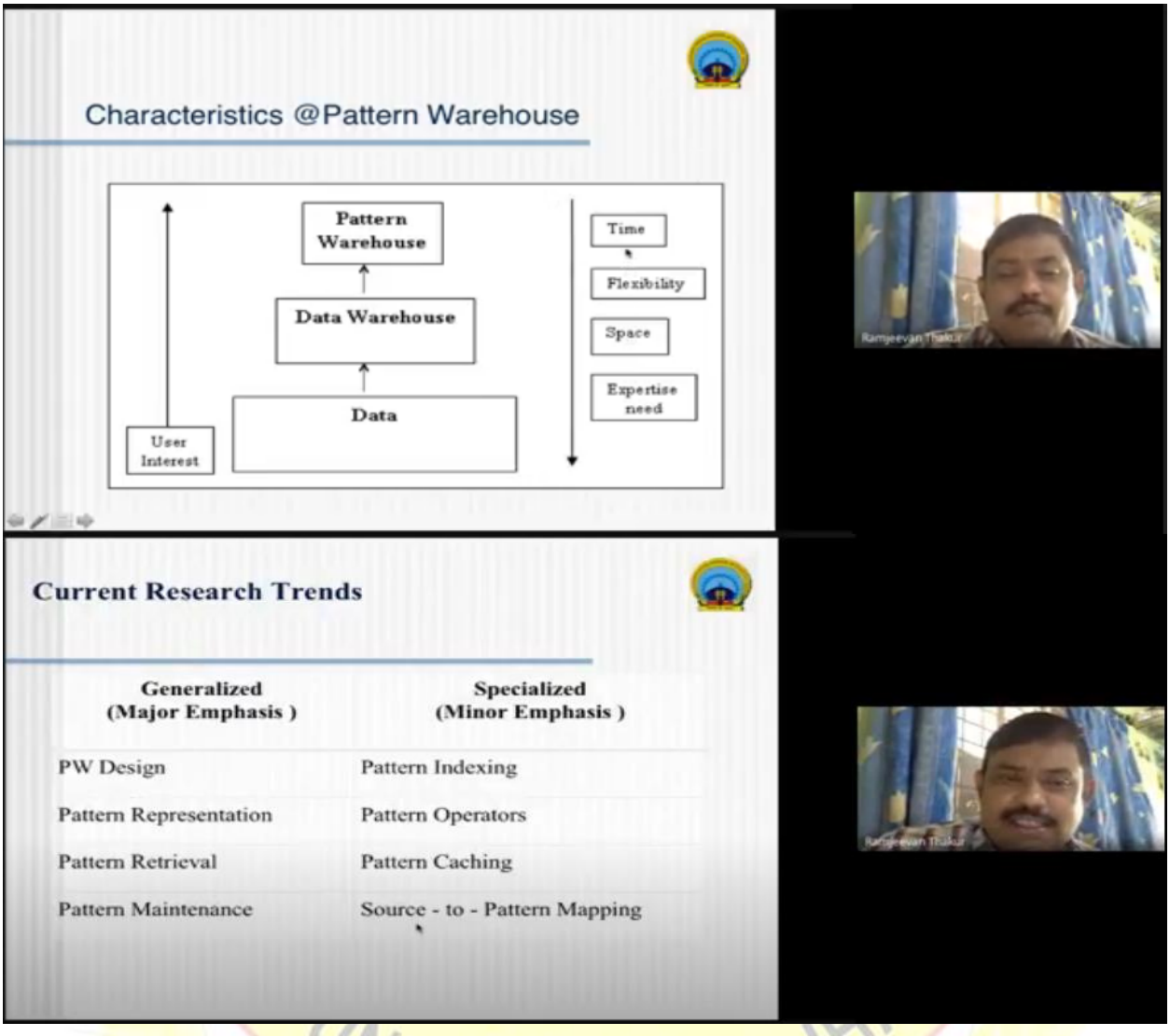


Technical Session 14

Topic: - Pattern Warehouse in IoT

Resource Person: - Prof Ramjeevan Singh Thakur, Department of Computer Applications, MANIT Bhopal

Day 5, **Session 14** was taken by Prof. Ramjeevan Singh Thakur, on Pattern Warehouse in IoT. He discussed about the pattern warehouse in IOT. As everybody is talking about data and it is of great importance for business people for decision making. There are various method for doing so few of them are query driven, data warehouse, pattern warehouse. He focused on important of collection of proper data. Also a very import concept he emphasized that when we work on some data, we compute on it and throw away the data, and again if wants any details we works and get data and again throw it away. But instead of doing that if we store that result and make it nonvolatile.



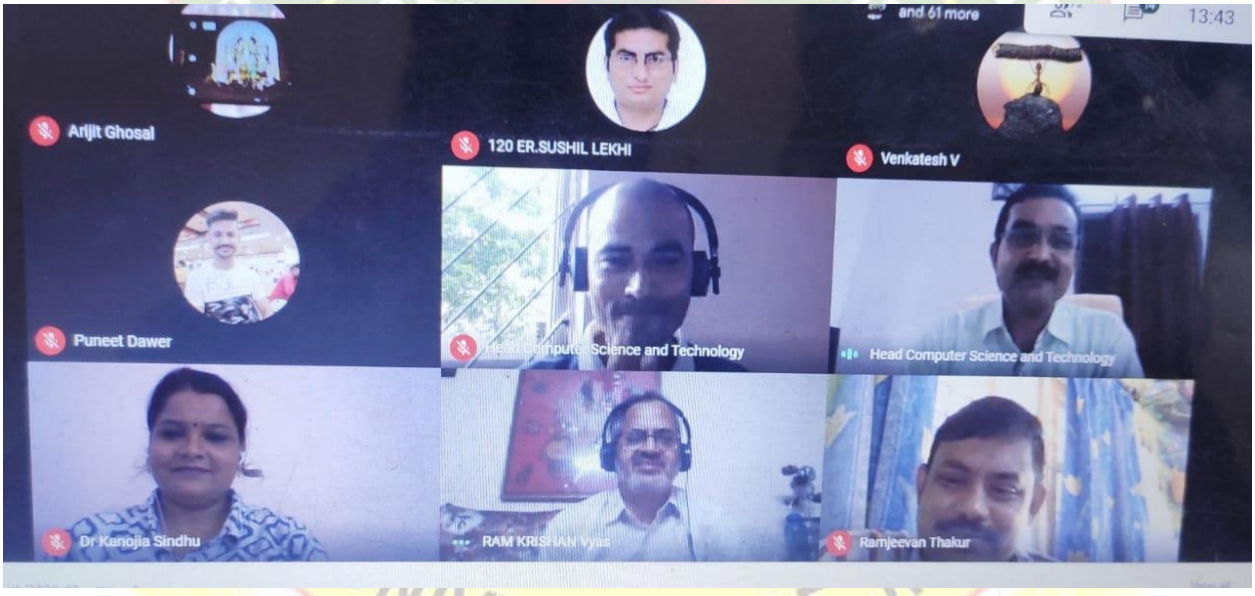
Valedictory Session

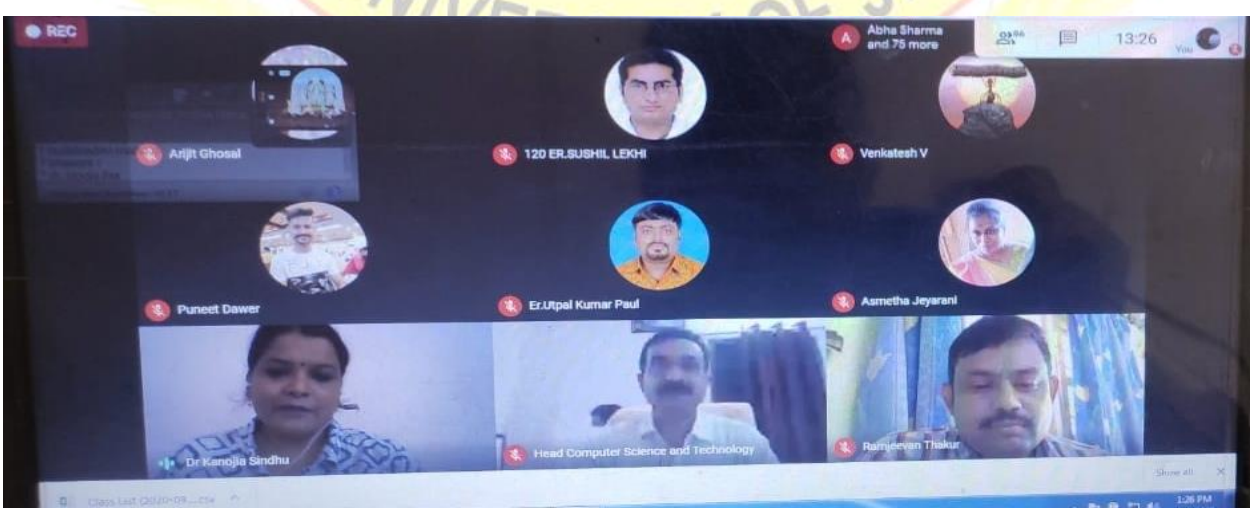
A warm welcome was made by Dr. Prashant Prashun Assistant Professor, DCST, CUJ to the guest and participants in valedictory session. The valedictory function was chaired Prof. Ramjeevan Thakur, Former Director, Regional Campus Manipur, Prof. R.K Vyas, President Computer Society of India, Prof. Subhash Chandra Yadav, Head of the Department of Computer Science and Technology.

Prof. R. K Vyas congratulated the coordinator of the workshop "Prof Subhash Chandra Yadav" and the co-cordinators Dr.Prashant Prashun, Dr. Kanojia Sindhuben

Babulal, Mr. Puspendra Kumar for organizing such an event on Internet of Things, he said "millions of people around the world are using the computer and internet every day, it has brought so many benefits to the society but it has also brought some problems like security issue. He has also suggested that Cybercrime through such IoT devices is a growing concern throughout the world, thus, research must continue to take place in order to keep this world as safe as possible

Mr Puspendra Kumar, Assistant Professor, DCST, CUJ, Jharkhand expressed the vote of thanks to all the guest and participants who have given their time and patience in learning and understanding the gist of Internet of Things and its need in social awareness and was ended with a weeklong knowledgeable sessions





Central University of Jharkhand, Ranchi-835205

Department of Computer Science and Technology

One Week Workshop

on

Internet of Things (IOT)

14th -18th September 2020

Programme Schedule

DATE	TIME	DETAILS	
14-09-2020	10:00-10:05 AM	Welcome Address	Prof. Sarang Medhekar (Dean ,Natural Sciences)
	10:05-10:10 AM	Brief about the Department and Workshop	Prof. Subhash Chandra Yadav Co-ordinator, Head,DCST
	10:10-10:20	Address by Registrar, CUJ	Prof. S.L. Harikumar
	10:20-10:30 AM	Presidential Address	Hon'ble Vice Chancellor (Acting) , Prof. R. K. Dey Central University of Jharkhand
	10:30-10:45 AM	Address by Guest of Honour	Hon'ble Ex-Vice Chancellor, Prof. Nand Kumar Yadav "Indu" Central University of Jharkhand
	10:45-10:55 AM	Address by Chief guest	Prof. A. K. Nayak IPP & Chairman Academics & Award Committee-CSI
	10:55-11:00 AM	Vote of Thanks	Dr. Kanojia Sindhuben Babulal, Assistant Professor, DCST, CUJ, Ranchi.
	11:00 – 12:00 PM	IoT: Introduction, Challenges and Applications: (AKN)	
	12:00 - 01:00 PM	IoT Sensor Node: Sensing, Actuating, Basics of Networking in IoT: (GH)	
	01:00 – 2:00 PM	Smart homes of the future-an IoT Prospective (PP)	

Dates	11:00 AM to 12:00 AM	12.00 PM to 1.00 PM	1:00 PM to 2.00 PM	2:00 to 3:00 PM
15-09-2020	IoT & Technology Integration (AK Nayak)	Sensor Fusion (RK)	Internet of Threats (MSK)	------
16-09-2020	Introduction on Data Analytic: Challenges and Issues in Data Analytics. (DKY)	Regression Analysis: Linear and Nonlinear Regression (DKY)	Data preparation & Imputation (With Hands-on Session) (VT)	------
17-09-2020	Artificial Neural Network (DY)	Explainable AI- A New Paradigm For Transparency In AI (SH)	Experimentation with Jupyter, Papermill, and MLflow (SH)	Online Exam for Participants.
18-09-2020	Soft set based data analytics in IoT application (KRP)	Pattern Warehouse In IoT (RST)	Valediction	

AKN: Prof. A.K. Nayak, IIP, National Chairman Academic & Awards Committee-CSI and **Director IIBM & ZHL**

GH: Mr. Gautam Hazari, **Technical Director**, GSM Association, **London (UK).**

PP: Dr. Prashant Prashun, **Assistant Professor**, Department of Computer Science & Technology, **CUJ, Ranchi.**

RK: Mr. Rahul Kumar, Solution Architect, KPIT Technologies GmbH, **Germany.**

MSK: Mr. Meenakshi Sundaram Koushik, Coach, Autonomous driving division, KPIT, **Germany.**

DKY: Prof. Dilip Kumar Yadav, **Professor & Head**, Department of Computer Applications, **NIT Jamshedpur.**

VT: Dr. Vivek Tiwari, **Assistant Professor**, Department of Computer Science and Engineering, **IIIT-Naya Raipur, C. G. India.**

DY: Divakar Yadav, **Associate Professor**, Computer Science and Engineering, **NIT Hamirpur.**

SH: Mr. Shadab Hussain, **Data Scientist**, The Mathcompany, **Bangalore**.

KRP: Prof. Kamal Raj Pardasani, **Professor**, Department of Mathematics, **MANIT, Bhopal**.

RST: Prof. Ramjeevan Singh Thakur, **Professor**, Department of Computer Applications, **MANIT, Bhopal.**

Media Coverage of Five Days Workshop on Internet of Things: Ranchi

सीयूजे

इंटरनेट ऑफ थिंग्स पर पांच दिवसीय कार्यशाला

इंटरनेट ऑफ थींग्स अभूतपूर्व कदम

लाइफ रिपोर्टर @ रांची

life.ranchi@prabhatkhabar.in

केंद्रीय विवि, झारखंड (सीयूजे) के कंप्यूटर विज्ञान व टेक्नोलॉजी विभाग की ओर से सोमवार को इंटरनेट ऑफ थिंग्स विषय पर पांच दिवसीय कार्यशाला शुरू हुई. एआइसीटीइ नयी दिल्ली की अटल योजना के तत्वावधान में फेकल्टी डेवलपमेंट प्रोग्राम के तहत आयोजित इस कार्यशाला में लगभग 150 प्रतिभागी हिस्सा ले रहे हैं. आइओटी टेक्नोलॉजी के प्रयोगों व इसकी चुनौतियों के बारे में जानकारी दी जा रही है.

विवि के प्रभारी कुलपति प्रो आरके डे ने कहा कि इंटरनेट ऑफ थिंग्स तकनीक के क्षेत्र में अभूतपूर्व कदम है. आइओटी एक ऐसा प्लेटफॉर्म है, जहां एंबेडेड डिवाइस इंटरनेट से जुड़े होते हैं. उपकरणों को इंसानों की तरह एक दूसरे से जोड़ कर संचार के लिए सक्षम बनाते हैं. विवि के पूर्व कुलपति प्रो नंद कुमार यादव इंदु ने कहा कि जिस तरह से इंटरनेट ने हमारे गांवों में प्रवेश किया है, इससे स्पष्ट है कि आइओटी का युग हमारे दरवाजे पर दस्तक दे चुका है. प्रो एके नायक ने कहा कि दुनिया ने कई क्रांतियां देखी, लेकिन आइटी क्रांति जैसा नहीं. पिछले सात दशकों के भीतर समाज ने अनुभव किया है कि आइटी के क्षेत्र में कई नवीनतम कंप्यूटिंग टेक्नोलॉजी जैसे कि एम्बेडेड कंप्यूटिंग, स्मार्ट कंप्यूटिंग सेंसर तकनीक और उच्च गति नेटवर्किंग के आने से कंप्यूटर के शक्ति क्षमता और अनुप्रयोग डोमेन में काफी तेजी से वृद्धि हुई जिसके परिणाम स्वरूप इंटरनेट ऑफ थिंग्स है.

केंद्रीय विश्वविद्यालय में आयोजित कार्यशाला में शामिल अतिथि.

कार्यशाला को टेक्निकल डायरेक्टर, जीएसएमएसोसिएशन, लंदन (यूके) डॉ गौतम हजारी ने आइओटी सेंसर नोड: सेंसिंग एक्टयूटिंग और बेसिक्स ऑफ नेटवर्किंग की जानकारी दी. विवि के रजिस्ट्रार डॉ एसएल हरिकुमार ने कहा कि यह कार्यशाला उन शोधकर्ताओं के लिए एक सुनहरा अवसर है, जो एआइसीटीइ जैसे विधनीय स्रोतों से प्रशिक्षण प्राप्त करने और सीखने की तलाश कर रहे हैं. कार्यशाला को डॉ प्रशांत प्रसून ने भी संबोधित किया. इससे पूर्व प्रो सारंग मेधेकर ने आगंतुकों का स्वागत किया. विभागाध्यक्ष प्रो एससी यादव ने विभाग और कार्यशाला के बारे में जानकारी दी. इस अवसर पर डॉ कनौजिया सिंधु देन, बाबूलाल, डॉ पुष्पेंद्र कुमार आदि उपस्थित थे.

शिक्षा में गुणवत्ता बढ़ायेगी नयी शिक्षा नीति : डॉ पाठक

रांची. झारखंड टेक्निकल यूनिवर्सिटी के कुलपति डॉ गोपाल पाठक ने कहा है कि नयी शिक्षा नीति ने पिछली नीतियों में अंतर को कम किया है. यह नीति शिक्षा में गुणवत्ता बढ़ानेवाली है. अब संस्थानों के शिक्षकों पर निर्भर है कि वे इसे लागू करें. डॉ पाठक सोमवार को इक्फाइ विवि द्वारा नयी शिक्षा नीति पर आयोजित ऑनलाइन पैनल चर्चा में बोल रहे थे. इक्फाइ विवि के कुलपति डॉ ओआरएस राव ने कहा कि नयी शिक्षा नीति एक नये युग की शुरुआत के लिए बीज बोयेगी. साथ ही 21वीं सदी के भारत को नयी दिशा प्रदान करेगी. उच्च शिक्षा उप निदेशक नीतेश राज ने कहा कि झारखंड सरकार 2021-22 शैक्षणिक वर्ष से सभी हितधारकों के साथ चर्चा के बाद नीति को लागू करने की योजना बना रही है. प्रदीप भट्टाचार्य ने शिक्षक के महत्व और शिक्षकों की स्वायत्तता को बनाये रखने की आवश्यकता पर प्रकाश डाला. इस अवसर पर आयोजित वाद-विवाद प्रतियोगिता में स्वर्णेंदु शेखर दास को प्रथम, मानसी कुमारी को द्वितीय व मेघा वर्मा को तृतीय पुरस्कार मिला.

8:29 24%

प्रभात खबर

10/18

सीयूजे में चल रही कार्यशाला का समापन

वर्ष 2021 तक प्रत्येक आदमी के पास 4.5 डिवाइस होंगे

लाइफ रिपोर्टर @ रांची

केंद्रीय विवि झारखंड (सीयूजे) के कंप्यूटर विज्ञान व टेक्नोलॉजी विभाग की ओर से इंटरनेट ऑफ थिंग्स पर पांच दिवसीय फेकल्टी डेवलपमेंट प्रोग्राम का समापन हो गया. एआइसीटीइ दिल्ली द्वारा अटल योजना के तहत आयोजित इस कार्यक्रम में अलग-अलग संस्थानों के 180 रिसर्च स्कॉलर व फेकल्टी ने भाग लिया.

कार्यक्रम के समन्वयक प्रो एससी यादव ने बताया कि इंटरनेट ऑफ थिंग्स इंगित करता है कि हमारे आस-पास की वस्तुएं इंटरनेट से जुड़कर आपस में डाटा का संचार और स्थानांतरित करने की क्षमता रखती हैं. उन्होंने बताया कि 2021 तक लगभग 50 बिलियन वस्तुएं इंटरनेट से जुड़ जायेंगी और लगभग प्रत्येक आदमी के पास 4.5 डिवाइस ऐसे होंगे जिसे वो अपने दैनिक जीवन में इस्तेमाल कर रहे होंगे. जीएसएम लंदन के टेक्निकल डायरेक्टर डॉ गौतम हजारी ने प्राथमिक तौर पर आइओटी के चार विशेष स्तंभों की विवेचना की. उन्होंने वायरलेस तकनीक जो, आइओटी के एम्बेडेड सेंसर नेटवर्क को सुचारू रूप से प्रसारित करती है, पर प्रकाश डाला. सीएसआइ के राष्ट्रीय शिक्षा बोर्ड और पुरस्कार समिति के अध्यक्ष प्रो एके नायक ने आइओटी में डेटा के दूरगामी प्रयोगों के संदर्भ में गोपनीयता और सुरक्षा के अनूठे व्यवधानों की मौजूदगी के अनुभवों को साझा करते हुए आइओटी में संलग्न विभिन्न प्रकार के उपकरण और नेटवर्क के समावेश पर जानकारी दी.

डॉ प्रशांत प्रसून ने आइओटी के संदर्भ में स्मार्टहोम पर अपना व्याख्यान दिया. कार्यक्रम में राहुल कुमार, प्रो दिलीप कुमार यादव, डॉ विवेक तिवारी, दिवाकर यादव, शादाब हुसैन कमल राज, आरएस ठाकुर ने भी अपने-अपने विचार रखे.

Advertisement