EVENT REPORT (SBC31461)
RESEARCH SEMINAR SERIES 2021

Lecture 1: Big Data Streaming Analytics: Heuristic Approach

Speaker: Dr. Urvashi Prakash Shukla
Assistant Professor
Department of Computer Science, Banasthali Vidyapith
Date:7-10-2021, Time 5-6 p.m

The third lecture under IEEE Student Branch MNIT and IEEE Signal processing society chapter MNIT organised a webinar on Big Data Streaming Heuristic Approach. This lecture was also as a research seminar series 2021 under IEEE student MNIT. The talk is delivered by Dr. Urvashi Prakash Shukla, Assistant Professor, Dept. of Computer Science Banasathali Vidyapith .Her area of research include: biomedical signal processing , Machine learning, Artificial intelligence , Image analysis and Processing.

Details of the talk : The talk covers the basic analytics incorporated for the steam data. Various algorithms (BRICH and Clustream) used in mining streaming heterogeneous data will be discussed. The role of heuristic algorithm in streaming data along with the recent open ware tools available in market to understand the basics of stream data.

The session was concluded by Vote of thanks given by Deepshikha Lodhi, Chair, IEEE APS, Student Chapter MNIT, Jaipur.

The lecture was attended by **81 participants (IEEE members attended=13 and non IEEE members attended=68).**

Online platform: Google Meet

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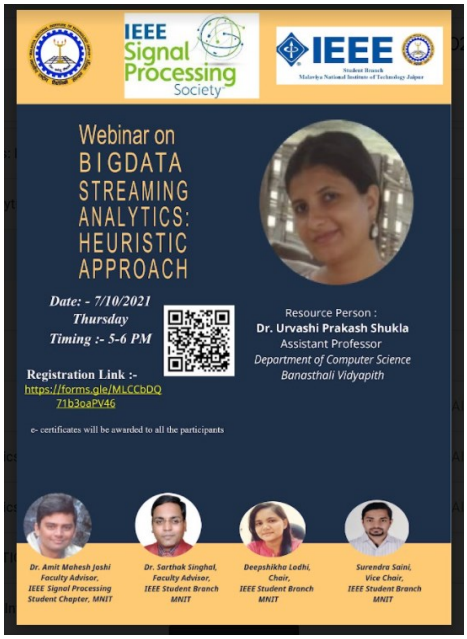
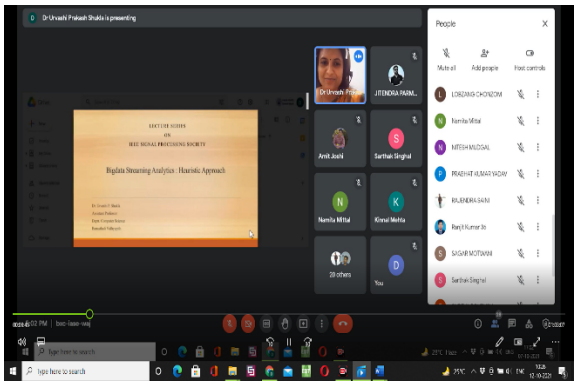
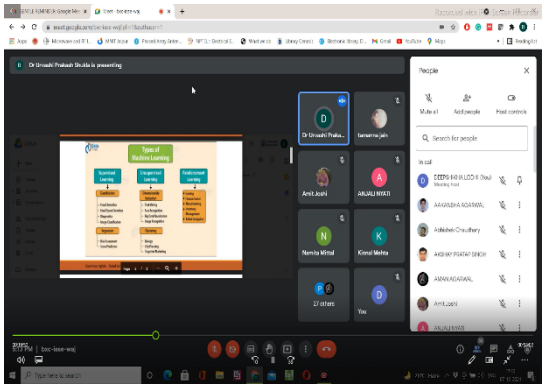
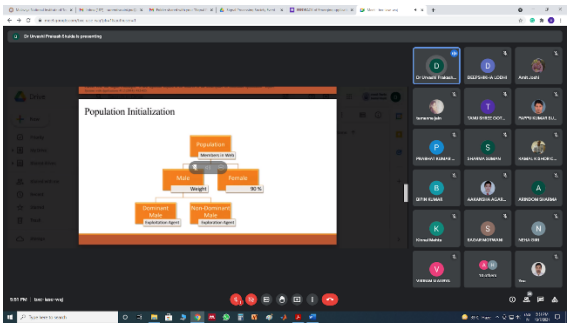
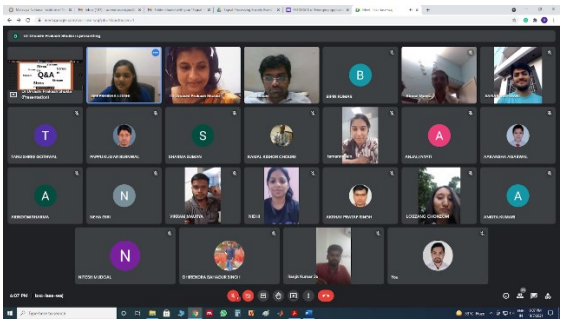










Lecture 2: Antenna for 5G

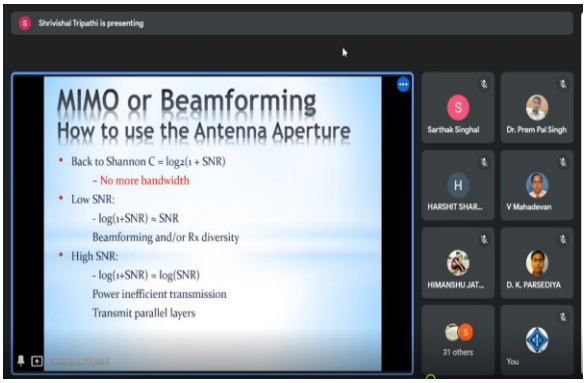
Speaker: Dr. Shrivishal Tripathi
Assistant Professor
IIIT, Naya Raipur
Date:8-10-2021, Time 4-5 p.m

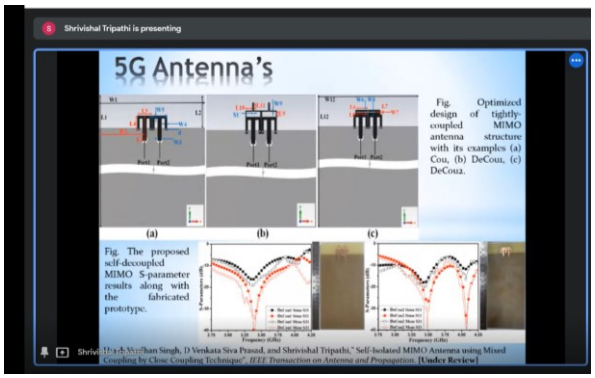
An expert talk on the topic of " **Antenna for 5G**" by Dr. Shrivishal Tripathi was organized by the IEEE Antenna and Propagation Student Chapter MNIT, Jaipur. The invited speaker Dr. Shrivishal Tripathi Shrivishal Tripathi is working as an assistant professor in International Institute of Information Technology, Naya Raipur. Prior to joining IIIT-NR, he was with BITS-Pilani, Hyderabad and NIIT University, Neemrana as an Assistant Professor. He has done his Ph.D. from Indian Institute of Technology Jodhpur in Electrical Engineering Department. He has received his M.E (Electronics and Electrical Communication) from PEC University of Technology, Chandigarh in 2011.

Ultrawideband (UWB) Antennas, Reconfigurable Antenna, MIMO Antenna, SIW Antenna, Wireless Body Area Network (WBAN), Specific Absorption Ratio (SAR), Energy Harvesting, Cognitive Radio, Radar, Signal Modulation/Demodulation Techniques, MIMO/OFDM System, and Ad-hoc Network.

Dr. Tripathi discussed about various techniques for designing 5G antennas, beamforming techniques, MIMO and massive MIMO antenna array and various challenges faced by the researchers.

In the webinar there are Ph.D. Scholars, MTech Students, UG Students, researchers and scientist participated; a total of 85 participants, among them 66 are IEEE members and 19 are non IEEE members. In the end of session, query session was held in which Dr. Tripathi solved the queries of the researchers.
The session was concluded by Vote of thanks given by Deepshikha Lodhi, Chair, IEEE APS, Student Chapter MNIT, Jaipur.





Lecture 3: Recent Advancement in Metamaterial Microwave Absorbing Structures and Techniques

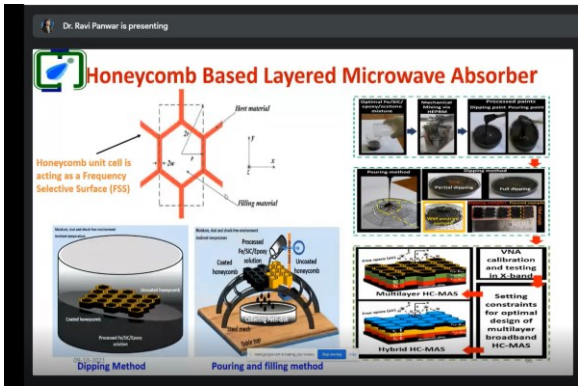
Speaker: Dr. Ravi Panwar
Assistant Professor
IIITDM Jabalpur
Date:9-10-2021, Time 2-3 p.m

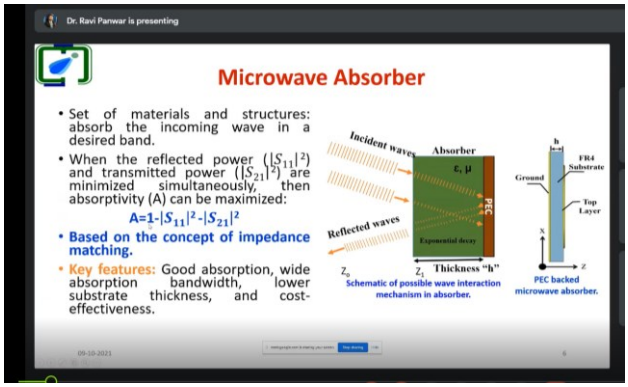
An expert talk on the topic of " **Recent Advancement in Metamaterial Microwave Absorbing Structures and Techniques** " was organized by the IEEE Antenna and Propagation Student Chapter MNIT, Jaipur. The invited speaker Assistant Professor in the field of Electronics and Communication Engineering. Dr. Panwar received Ph.D. from IIT Roorkee, and subsequently joined KAIST, South Korea as a Postdoctoral Fellow with Brain Korea Research Fellowship.

His research interest includes electromagnetic interference (EMI) mitigation techniques, stealth technology, RF and microwave absorbers, nanocomposites, metamaterials, frequency selective surfaces, airborne radomes, artificial intelligence/machine learning in electromagnetics, surface plasmon resonance sensors, terahertz materials & devices, and e-waste management techniques.
Dr. Panwar discussed about challenges of designing metamaterial-based absorbers, potential applications of microwave absorber, major challenge in actual development of microwave absorber, different materials which could be used for designing the microwave absorbers and key challenges faced by the researcher while designing microwave absorber at THz frequencies.

In the webinar there are Ph.D. Scholars, MTech Students, UG Students, researchers and scientist participated; a total of 94 participants, among them 76 are IEEE members and 18 are non IEEE members. In the end of session, query session was held in which Dr. Panwar solved the queries of the researchers.

The session was concluded by Vote of thanks given by Deepshikha Lodhi, Chair, IEEE APS, Student Chapter MNIT, Jaipur.





Lecture 4: Emerging Applications of Brain-Computer Interface (BCI)

Speaker: Dr. Rahul Kumar Chaurasiya,

Assistant Professor, Department of ECE, MANIT Bhopal

Date: 11-10-2021, Time 5-6 p.m

The fourth lecture under IEEE Signal processing society chapter MNIT organised a webinar on "Brain Computer Interface (BCI)". This lecture was also as a research seminar series 2021 under IEEE student MNIT. The talk was delivered by Dr. Rahul Kumar Chaurasiya, Assistant Professor, Department of ECE, MANIT Bhopal.

About the speaker: Rahul Kumar Chaurasiya received the B. Tech. degree from MANIT Bhopal in 2009 and the M.E. degree from the IISc Bangalore in 2011. He received his Ph.D. degree in 2017 NIT Raipur. He was a Senior Software Engineer with Brocade Communications Systems, Bangalore, in 2011-12. During 2013-19, he was Assistant Professor at the NIT, Raipur and MNIT Jaipur. Since 2020, he is with MANIT Bhopal as Assistant Professor Grade-1. His research area includes Machine Learning, Pattern Recognition, Brain-Computer Interfacing, Optimization, Biomedical Signal Processing. He has authored several research articles in aforementioned areas.

Details of the talk: The talk will cover the introduction to Electroencephalography (EEG) with its modern acquisition methods and applications in seizure detection, Brain-Computer Interfacing

(BCI), sleep stage detection etc. Further, the specific applications on BCI will be covered. The emerging BCI applications to be covered includes P300-based Spellers, Home Appliance Control Systems, Wheel-chair & Cursor controller, Neuro-marketing, Automated cars, etc. The brief introduction will be provided about the publically available BCI datasets. Lastly, a detail will be provided about the BCI2000 software for data acquisition for specific
application environments.

The interactive talk intends to cover the basic analytics incorporated for the steam data. Various algorithms (BRICH and Clustream) used in mining streaming heterogeneous data will be discussed. The role of heuristic algorithm in streaming data along with the recent open ware tools available in market to understand the basics of stream data.
The session was concluded by Vote of thanks given by Deepshikha Lodhi, Chair, IEEE APS, Student Chapter MNIT, Jaipur.

The lecture was attended by 5**8 participants (IEEE members attended=02 and non IEEE members attended=56).**

Online platform: Google Meet

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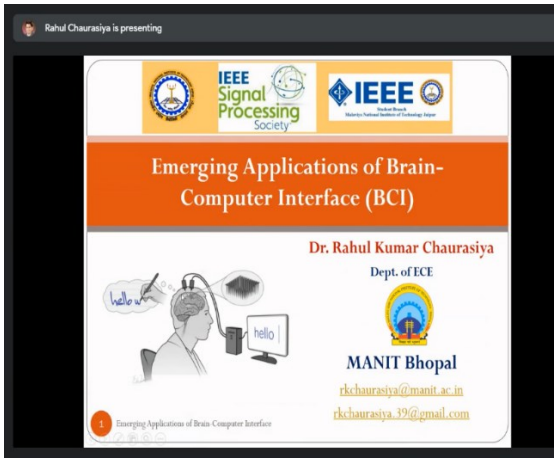
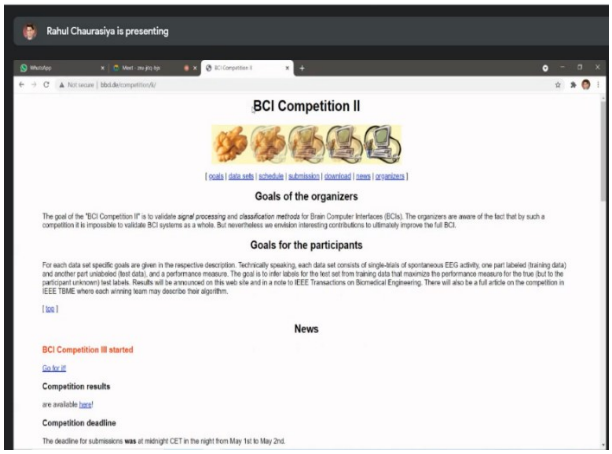
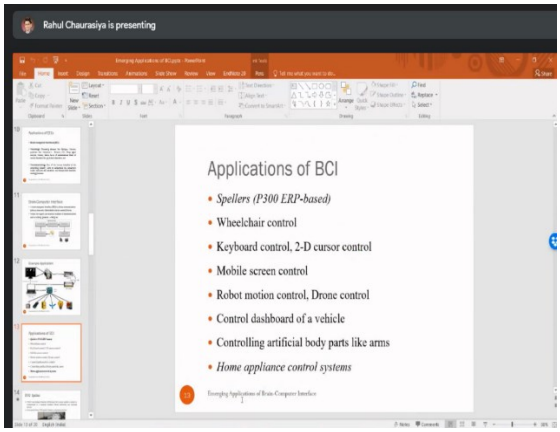
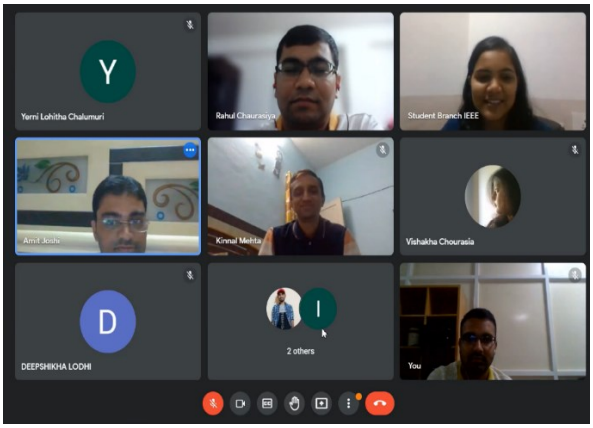





Rahul Chaurasiya is presenting
Applications of BCI
Spellers (P300 ERP-based)
Wheelchair control
Keyboard control, 2-D cursor control
Mobile screen control
Robot motion control, Drone control
Control dashboard of a vehicle
Controlling artificial body parts like arms
Home appliance control systems


Yerni Lohitha Chalumuri
Rahul Chaurasiya
Student Branch IEEE
Amit Joshi
Kinnal Mehta
Vishakha Chourasia
DEEPSHIKHA LODHI
2 others
You