

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 lecture was attended by 58 participants (IEEE members attended=02 and non IEEE members attended=56).

Online platform: Google Meet

Some of the Photos of the event is as follows:

