

Report of the Webinar on Condition Monitoring of Biomedical Signals: A Paradigm Shift from Feature Engineering to Explainable AI

Organized by

CSE and CSE-Allied Department

Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex

Title: Condition Monitoring of Biomedical Signals: A Paradigm Shift from Feature Engineering to Explainable AI

Speaker: Dr. Biswarup Ganguly

About the Speaker: Assistant Professor, Department of Electrical Engineering at National Institute of Technology, Silchar,

Date and Time: 14/08/2025 from 07.00 PM to 09.00 PM

Mode: Online

Number of Participants: 101

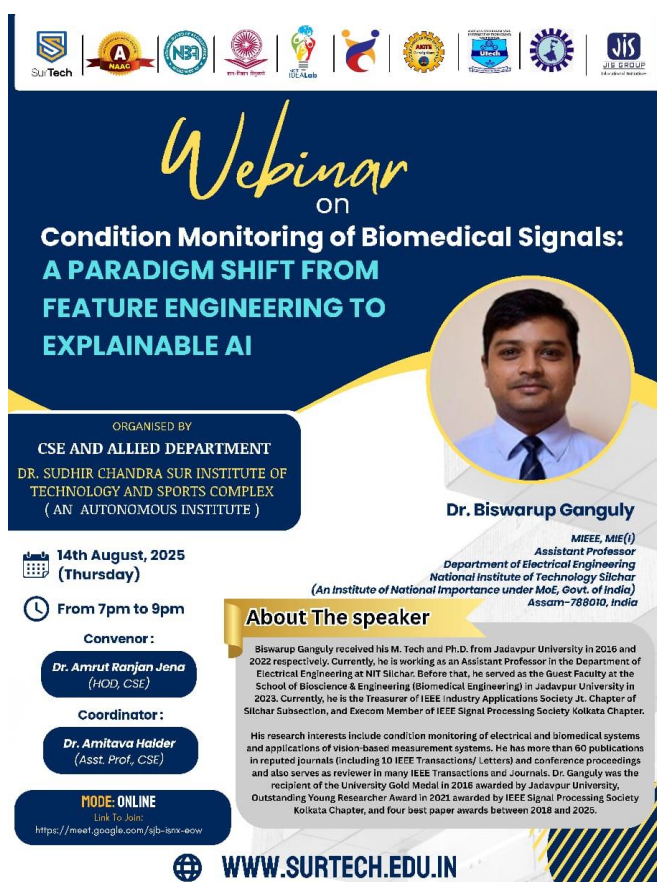
Objective: To explore the transition from traditional feature engineering methods to explainable AI techniques in condition monitoring of biomedical signals, highlighting their potential for improving transparency, accuracy, and clinical trust.

CSE and CSE-Allied Department of Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex has organized a Webinar on “Condition Monitoring of Biomedical Signals: A Paradigm Shift from Feature Engineering to Explainable AI” for the 2nd, 3rd, and 4th year students of CSE and CSE-Allied Department on 14/08/2025 from 07.00 PM onwards on the Google Meet platform to make the students aware of current research biomedical engineering and health care. Dr. Biswarup Ganguly, Assistant Professor, Department of Electrical Engineering at National Institute of Technology, Silchar, was the invited speaker of the webinar. Total 100 students were attended the webinar.

Outcome: Students are able to understand how explainable AI is reshaping the landscape of condition monitoring in biomedical signals. They will be able to appreciate the limitations of conventional feature engineering approaches, recognize the advantages of integrating explainable AI for enhanced interpretability and trust, and understand real-world applications in clinical decision-making. Furthermore, students will develop insights into the future research directions and practical tools that can

aid in bridging the gap between AI-driven analytics and healthcare practice.

The expert was felicitated by Dr. Amrut Ranjan Jena, HOD, CSE Department. The event was coordinated by Dr. Amitava Halder, Assistant Professor of CSE Department. The session was moderated by Ms. Rebeka Sultana, Assistant Professor of CSE Department. The session concluded with a vote of thanks delivered by Dr. Amitava Halder.



The poster features a dark blue background with a yellow and white geometric design on the right side. At the top, there is a row of logos including SurTech, NAAC, NBA, and others. The title 'Webinar on Condition Monitoring of Biomedical Signals: A PARADIGM SHIFT FROM FEATURE ENGINEERING TO EXPLAINABLE AI' is prominently displayed in white and yellow text. Below the title, a circular portrait of Dr. Biswarup Ganguly is shown. To the left of the portrait, the organizing department and date are listed. To the right, a section titled 'About The speaker' provides details about Dr. Ganguly's background and research interests. At the bottom left, the date and time of the webinar are specified, along with the names of the convenor and coordinator. A QR code and a link to the online session are also provided.

Webinar on
Condition Monitoring of Biomedical Signals:
A PARADIGM SHIFT FROM
FEATURE ENGINEERING TO
EXPLAINABLE AI

ORGANISED BY
CSE AND ALLIED DEPARTMENT
DR. SUDHIR CHANDRA SUR INSTITUTE OF
TECHNOLOGY AND SPORTS COMPLEX
(AN AUTONOMOUS INSTITUTE)

14th August, 2025
(Thursday)
From 7pm to 9pm

Convenor:
Dr. Amrut Ranjan Jena
(HOD, CSE)

Coordinator:
Dr. Amitava Halder
(Asst. Prof., CSE)

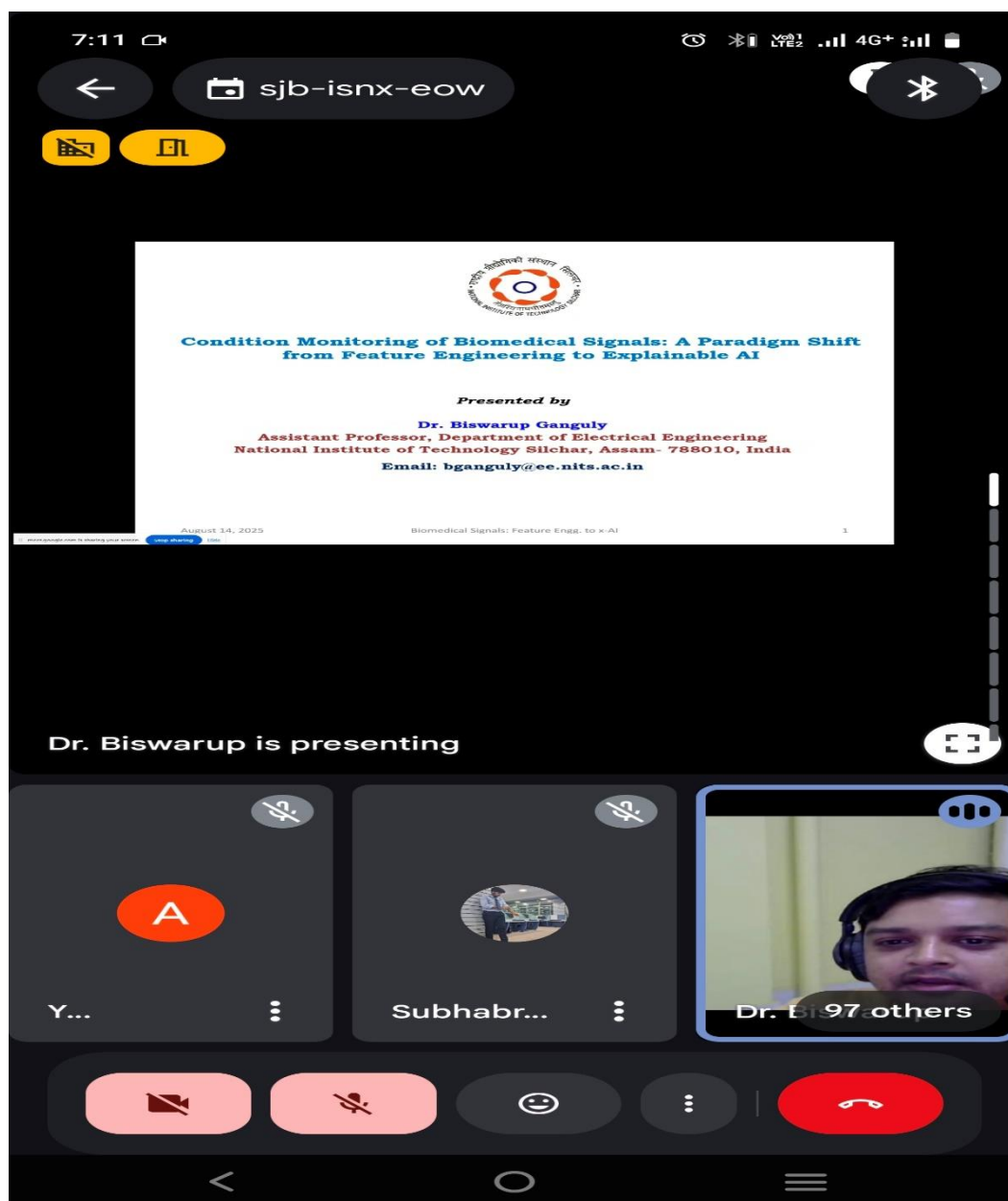
MODE: ONLINE
Link To Join:
<https://meet.google.com/jb-tmx-eeow>

Dr. Biswarup Ganguly
MIEEE, MIE(I)
Assistant Professor
Department of Electrical Engineering
National Institute of Technology Silchar
(An Institute of National Importance under MoE, Govt. of India)
Assam-788010, India

About The speaker
Biswarup Ganguly received his M. Tech and Ph.D. from Jadavpur University in 2016 and 2022 respectively. Currently, he is working as an Assistant Professor in the Department of Electrical Engineering at NIT Silchar. Before that, he served as the Guest Faculty at the School of Bioscience & Engineering (Biomedical Engineering) in Jadavpur University in 2023. Currently, he is the Treasurer of IEEE Industry Applications Society, IC Chapter of Silchar Subsection, and Excom Member of IEEE Signal Processing Society Kolkata Chapter.
His research interests include condition monitoring of electrical and biomedical systems and applications of vision-based measurement systems. He has more than 60 publications in reputed journals (including 10 IEEE Transactions/ Letters) and conference proceedings and also serves as reviewer in many IEEE Transactions and Journals. Dr. Ganguly was the recipient of the University Gold Medal in 2016 awarded by Jadavpur University, Outstanding Young Researcher Award in 2021 awarded by IEEE Signal Processing Society Kolkata Chapter, and four best paper awards between 2018 and 2020.

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Webinar on Condition Monitoring of Biomedical Signals: A Paradigm Shift from Feature Engineering to Explainable AI dated on 14/08/2025





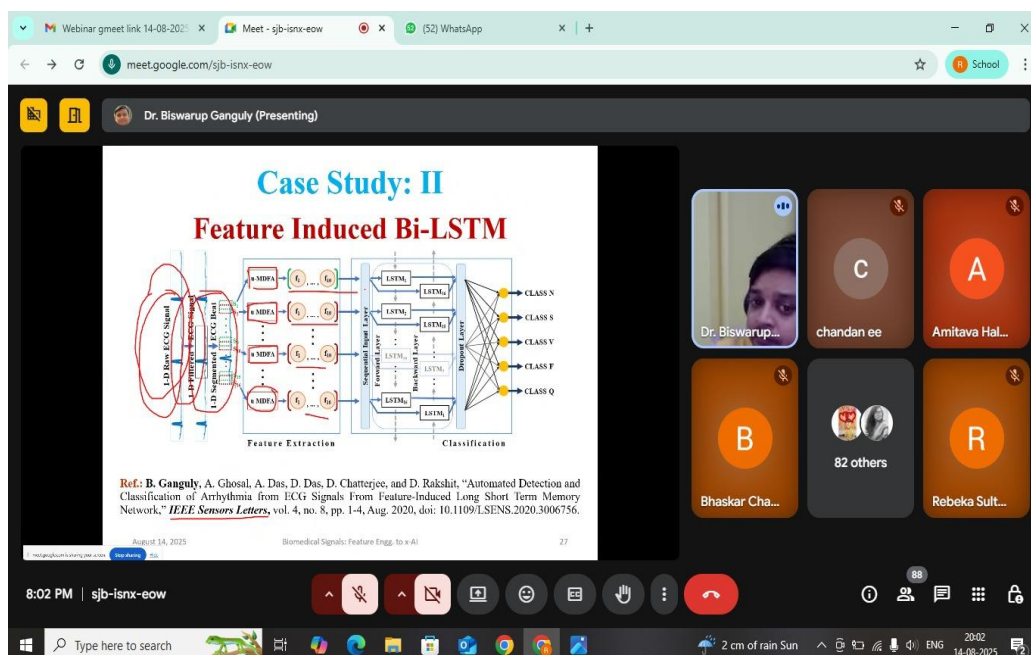
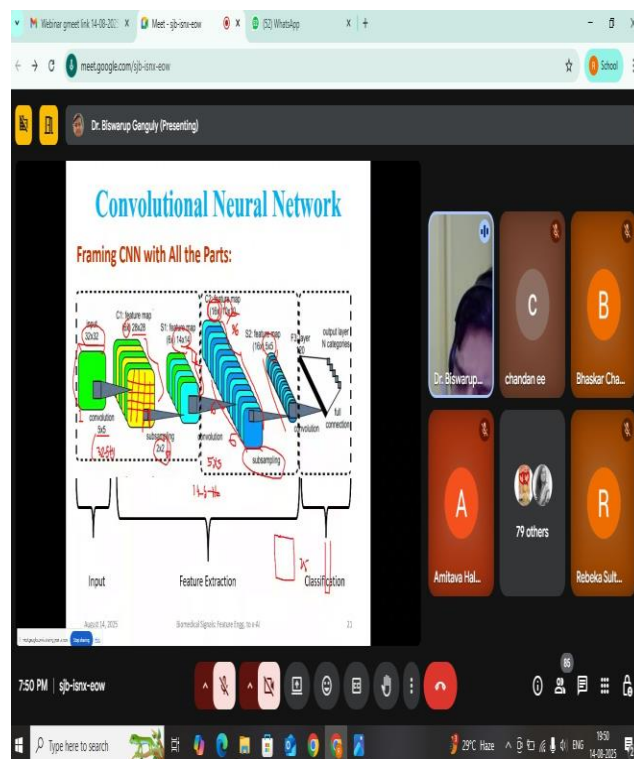
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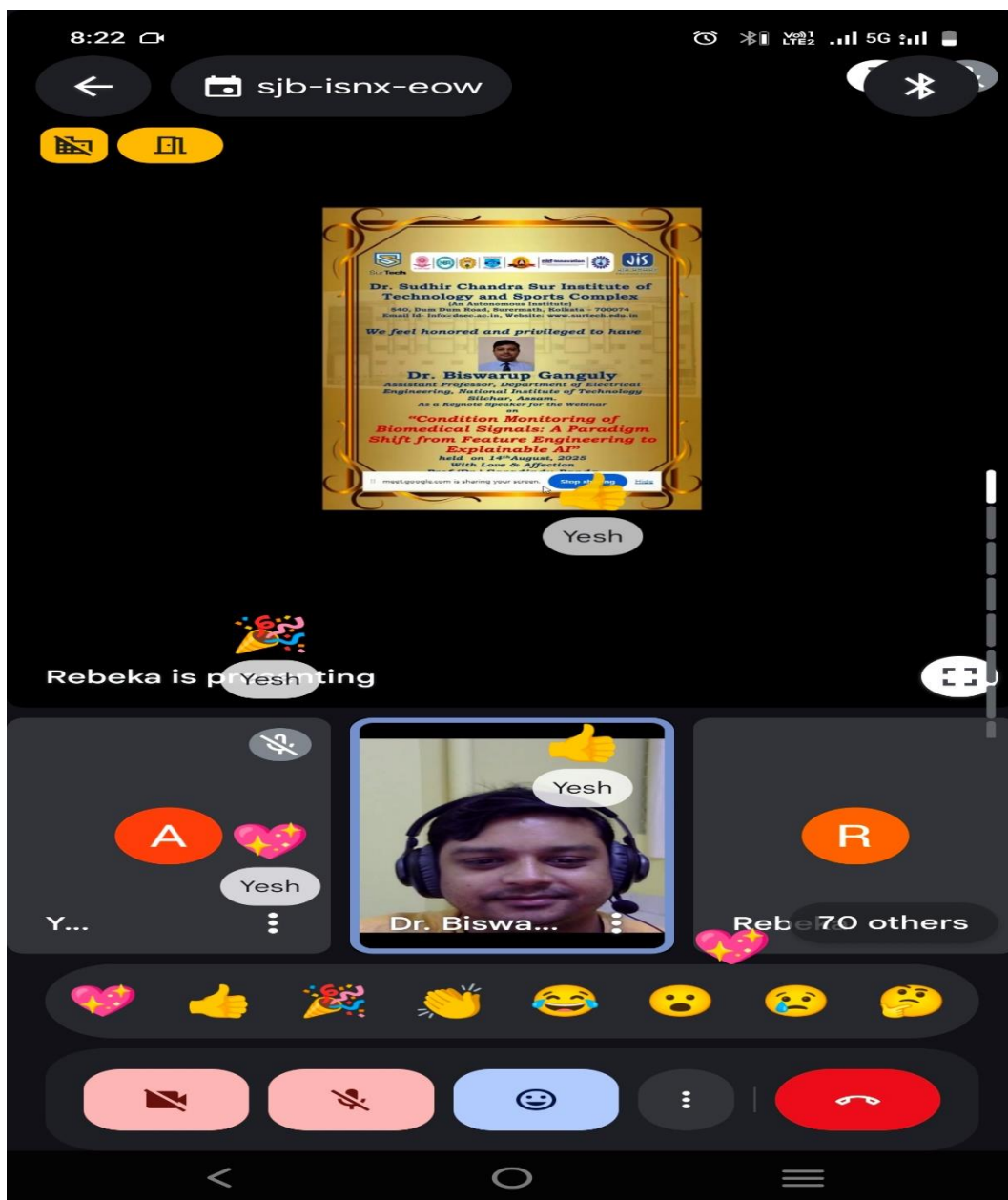
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