Don Bosco College of Engineering
Department Of Civil Engineering
Report on STTP on "Applications of Artificial Intelligence and Machine Learning in Civil Engineering".

Academic Year	2025-2026
Event Name	Three day training program on "Applications of Artificial Intelligence and Machine Learning in Civil Engineering"
Event Date	27th to 29th November 2025
Event Schedule	10:00am -4:00pm
Event Venue	Don Bosco college of Engineering

The Civil Department of Don Bosco College of Engineering, Fatorda organized a Short Term Training Program on "Applications of Artificial Intelligence and Machine Learning in Civil Engineering" in the college from 27th to 29th November 2025.This event was coordinated by faculty Asst.Prof.B. R Anirudha and Asst.Prof.Prachi Dessai from the Civil Engineering Department.

The inaugural ceremony was held at 10:00am on 27th November 2025. Present at this ceremony were the Chief Guest Er. Olavo Carvalho , Director Rev Fr. Wilfred Fernandes, Principal Dr. Neena Panandikar, HOD Civil Department, Dr. Shwetha Prasanna and Dr. N. V. Umamahesh. The dignitaries addressed the gathering, highlighting the importance of AI and ML in Civil Engineering, the objectives of the workshop, and the opportunities it provides for students and professionals to enhance their knowledge and skills.

DAY-WISE REPORT

DAY 1 – 27th November

The first session, held from 11:45 AM to 1:00 PM on the topic "Application of AI and ML in Hydrology and Water Resources", was delivered by Dr. N. V. Umamahesh and introduced by Asst. Prof. Vanessa Fernandes.The speaker highlighted the growing importance of modelling in hydrology and the emerging contributions of AI, ML, and Geo-AI in water resources engineering. He emphasized how climate variability, data complexity, and uncertainty in hydrological processes make numerical modelling essential for accurate prediction and decision-making.

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The session ended with the presentation of a memento to the speaker by **Dr. Shwetha P, Head of Department**, followed by lunch.

The second session, held from 2:15 PM to 3:45 PM on the topic "Introduction to AI and ML in Civil Engineering", was delivered by Dr. Shreyas Simu, who was introduced by Asst. Prof. Genevieve Fernandes.The speaker covered the domains and approaches of AI, the machine-learning framework, ML algorithms, fuzzy logic systems, and the challenges associated with implementing AI and ML in civil engineering applications.

The session concluded at 3:45 PM with the presentation of a memento to the speaker by Asst.Prof.B.R Anirudha, followed by tea, marking the end of Day 1.

DAY 2 – 28th November

The first session began at 10:00 AM on the topic "Applications of AI and ML in Civil Engineering" and was delivered by Dr. Gaurang Patkar, who was introduced by Asst. Prof. Jonessa Ferrao.The speaker discussed the five key elements of AI, the need for AI in the restoration of ancient structures, various restoration techniques, and the benefits of integrating AI in conservation and structural rehabilitation. The session concluded at 11:30 AM with the presentation of a memento to the speaker by **Dr. Shwetha P, Head of Department**, followed by a tea break.

The second session, held from 11:45 AM to 1:00 PM on the topic "Application of AI in Remote Sensing and GIS" was delivered by Dr. Shaahank Bangi, who was introduced by Asst. Prof. Swaroopa Sail. The speaker provided valuable insights on using AI with satellite imagery, spatial

datasets, and geospatial analysis tools to enhance mapping, prediction, and monitoring capabilities in Civil Engineering. Session was followed by lunch.

The third session, held from 2:15 PM to 3:45 PM on the topic "Application of AI and ML in Environmental Engineering," was delivered by Dr. Sanjeev Sangami, who was introduced by Asst. Prof. Shruti Jambhale. The speaker elaborated on the role of AI/ML in wastewater treatment, pollution monitoring, environmental modelling, and sustainability assessments. The session ended at 3:45 PM with the presentation of a memento to the speaker by Dr.Nitendra Palankar, after which participants enjoyed a tea break, bringing Day 2 to a close.

DAY 3 – 29th November

The first session, held from 10:00 AM to 11:30 AM on the topic "Vibration Signature Analysis Using AI/ML for Fault Detection and Health Monitoring," was delivered by Dr. Ramprasad Joshi, who was introduced by Associate Prof. Dr. Nitendra Palankar. The session focused on vibration-based monitoring techniques, feature extraction, and ML-based fault-detection approaches for structural and mechanical systems. The session concluded with the presentation of a memento to the speaker by Dr. Shwetha P, Head of Department, followed by tea.

The second session, held from 11:45 AM to 1:15 PM on the topic "Geotechnical Risk Analysis Using Artificial Intelligence," was delivered by Dr. Piyush Samui, who was introduced by Prof. Starina Dias. The speaker discussed AI-driven methods for analyzing geotechnical risks, including slope stability, settlement prediction, soil behaviour modelling, and uncertainty quantification. The session was followed by lunch.

The third session of the day, held from 2:15 PM to 3:00 PM on the topic "AI Models for Pavement Materials and Technologies," was delivered by Dr. Aniket Vasantrao Kataware, who was introduced by Associate Prof. Dr. Nitendra Palankar. The session covered AI-based prediction models for pavement performance, material characterization, and modern pavement technologies.

The session concluded at 3:00 PM, followed by an online quiz for participants and the Valedictory Function, which began with an overview of the workshop by Asst. Prof. Genevieve Fernandes, followed by feedback from participants, distribution of certificates by the dignitaries, and a vote of thanks delivered by Event coordinator, Asst. Prof. B. R. Anirudh.

The program concluded successfully with appreciation from participants and dignitaries for the well-structured and informative sessions.

The three-day training program provided a comprehensive understanding of how AI and ML can transform various domains of civil engineering. With expert insights, practical examples, and active participant involvement, the workshop achieved its objective of promoting technological advancement and skill development among learners and professionals.

B.R Anirudha   Prachi Dessai
Event Coordinator   Event Coordinator

(Dr. Shwetha Prasanna)
HOD