

CIVIL CHRONICLE



NEWSLETTER BY DEPARTMENT OF CIVIL ENGINEERING
ADI SHANKARA INSTITUTE OF ENGINEERING AND TECHNOLOGY, KALADY
APPROVED BY AICTE, NEW DELHI. AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, KERALA



DEPARTMENT VISION

- “TO EMERGE AS A CENTRE OF EXCELLENCE IN CIVIL ENGINEERING WITH GLOBAL PERSPECTIVES.”



DEPARTMENT MISSION

- TO IMPART QUALITY PROFESSIONAL EDUCATION SO THAT THE STUDENTS EMERGE AS A COMPETENT PROFESSIONAL IN THE AREA OF CIVIL ENGINEERING.
- TO PROMOTE INNOVATIVE THINKING AND LIFELONG LEARNING IN BUDDING ENGINEERS.
- TO PRODUCE CIVIL ENGINEERS WHO HAVE IMBIBED ETHICAL VALUES TO SERVE THE SOCIETY AND NATION.

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STAFF OUTREACH

FOOD FOR THOUGHT



PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- GRADUATES WILL HAVE A POTENTIAL TO PURSUE HIGHER STUDIES AND RESEARCH IN THE FIELD OF CIVIL ENGINEERING.
- GRADUATES WILL BE ABLE TO PRODUCE SUSTAINABLE SOLUTIONS WITH PROFESSIONAL ETHICS FOR REAL TIME CIVIL ENGINEERING PROBLEMS.
- GRADUATES WILL HAVE MANAGERIAL SKILLS AND LEADERSHIP QUALITIES IN EXECUTION OF CIVIL ENGINEERING PROJECTS.
- GRADUATES WILL BE ABLE TO WORK WITH INTEGRITY AND ETHICAL VALUES.

PROGRAM SPECIFIC OUTCOMES (PSOs)

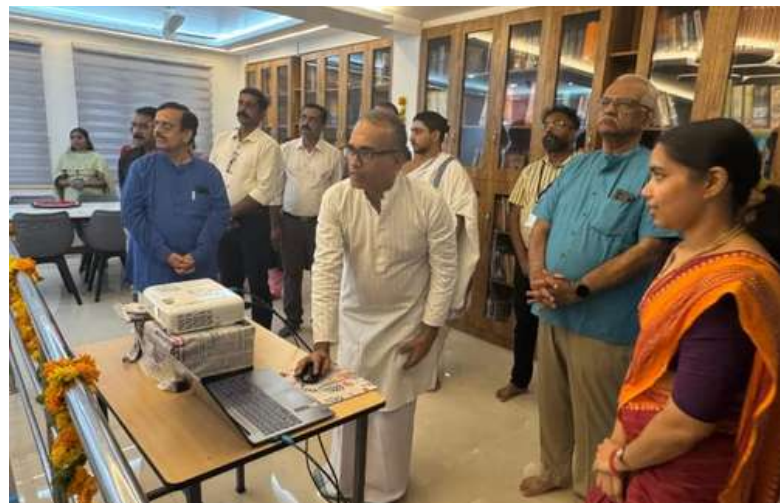
AFTER SUCCESSFUL COMPLETION OF B.TECH IN CIVIL ENGINEERING, THE STUDENTS WILL BE ABLE TO:

- CHECK THE FEASIBILITY AND SUSTAINABILITY OF CIVIL ENGINEERING PROJECTS BY CONDUCTING GEOTECHNICAL INVESTIGATION, CIVIL ENGINEERING SURVEY AND ENVIRONMENTAL IMPACT ASSESSMENT.
- ANALYSE AND DESIGN BUILDINGS, HYDRAULIC STRUCTURES AND WATER DISTRIBUTION, WASTE MANAGEMENT AND TRANSPORTATION SYSTEMS.
- EXECUTE CIVIL ENGINEERING PROJECTS WITH THEIR KNOWLEDGE IN ESTIMATION, PROJECT MANAGEMENT, CONSTRUCTION MATERIALS AND TECHNOLOGIES.



**DEPARTMENT OF
CIVIL ENGINEERING**

INAUGURATION OF THE INDIAN KNOWLEDGE SYSTEMS CENTRE



The Indian Knowledge Systems Centre, a collaborative initiative between Adi Shankara Institute of Engineering and Technology and Sree Sankara College, Kalady, was inaugurated on 5th May, 2025, coinciding with the auspicious Shankara Jayanti celebrations, to promote and preserve India's rich traditional knowledge heritage.

SAMAVARTHANA 2025



ACHIEVEMENTS

- Won 2nd prize in Adi Shankara
- Won 3rd prize in Department
- Completed NPTEL courses &
- Silver certification and Group
- with Elite certification.
- Won 2nd prize in the event V
- member of ICI student chapter
- National Service Scheme Vo
- 2nd prize in event Band

The "Samavarthana 2k25" graduation ceremony was held on 31st May, 2025, conferring degrees to the 21st batch of B.Tech, 14th batch of M.Tech, 20th batch of MBA, and 1st batch of MCA students. The ceremony featured a convocation address by B. Kasi Viswanathan, IRSME, Chairperson of Cochin Port Authority.

INSTITUTE EVENTS

FACULTY DEVELOPMENT PROGRAM ON APPLICATIONS OF REMOTE SENSING AND GIS IN CIVIL ENGINEERING



The Department of Civil Engineering successfully hosted a 3-day Faculty Development Program (FDP) from 26th to 28th May 2025 on 'Applications of Remote Sensing and GIS in Civil Engineering'. The FDP provided an interactive platform for academicians, researchers, and students from various institutions to explore real-world challenges and solutions in the field, offering hands-on exposure and valuable insights. The FDP was coordinated by Ms. Akhila Vijayan and Ms. Harshananda T N, Assistant Professors of the department.

DEPARTMENT EVENTS

After the inaugural session, Dr. N Kavitha, GIS Specialist, TNIAM Project, Water Resources Department, PWD Chennai delivered a session on “Applications of GIS in Water Resources Engineering”. It was followed by a session by Dr. Abin Varghese, Co-ordinator, Dr. R. Satheesh Centre for Remote Sensing and GIS School of Environmental Sciences, M G University on “Introduction to Remote Sensing and GIS”.

Functions of GIS

Geographic Knowledge

- Applying Planning Managing Acting
- Creating Measuring Organizing Analyzing Modeling
- Holistic Comprehensive Systematic Analytic Visual

Geographic Visualization: Visualize in 3D in charts & graphs.

Spatial queries: Relation to other things.
Attribute queries: Identify objects based on attribute data.

Spatial interpolation: Predict some value at a geographic location that we have not measured.

Network analysis: Find a path from one point to another
Buffer analysis: Relationship of objects based on distance.

Mathematical functions: Algebraic, geometric, or statistical functions to geographic features.

Terrain analysis: 3 Dimensional analysis.

Spatial overlay: Determine the relationship - Different geographic features.

Participants (30)

- CIVIL DEPARTMENT... (Co-host, me)
- GIS Spe (Host)
- Akhila Vijayan (Co-host)
- Kavitha GIS
- Farah VM
- Abhishek Kumar
- Aishwarya R
- Akhila M
- Anji
- ANN MARIVA JOSE
- Anna Varghese
- Ashna Hameed
- Christy Francis
- Dona Joy
- Dr. A. N. Sureshbabu

Visualisation of Data
Which is Preferred?

Table of Data?

State	Results of the vote in previous presidential elections (1968 - 2012)	2012 election
1. California	United Democratic in 6 out of 7 elections	10
2. New York	United Democratic in 6 out of 7 elections	29
3. Illinois	United Democratic in 6 out of 7 elections	28
4. Washington	United Democratic in 6 out of 7 elections	12
5. New Jersey	United Democratic in 6 out of 7 elections	14
6. Massachusetts	United Democratic in 6 out of 7 elections	11
7. Pennsylvania	United Democratic in 6 out of 7 elections	18
8. Maryland	United Democratic in 6 out of 7 elections	16
9. Oregon	United Democratic in 6 out of 7 elections	7
10. Connecticut	United Democratic in 6 out of 7 elections	7
11. Hawaii	United Democratic in 6 out of 7 elections	4
12. Rhode Island	United Democratic in 6 out of 7 elections	4
13. Vermont	United Democratic in 6 out of 7 elections	6
14. Delaware	United Democratic in 6 out of 7 elections	9
15. West of Columbia	United Democratic in 6 out of 7 elections	9
16. Maine	United Democratic in 6 out of 7 elections	1
17. New Mexico	United Democratic in 6 out of 7 elections	1
18. New Hampshire	United Democratic in 6 out of 7 elections	4

A Map?

MAQ Software | US Presidential Elections

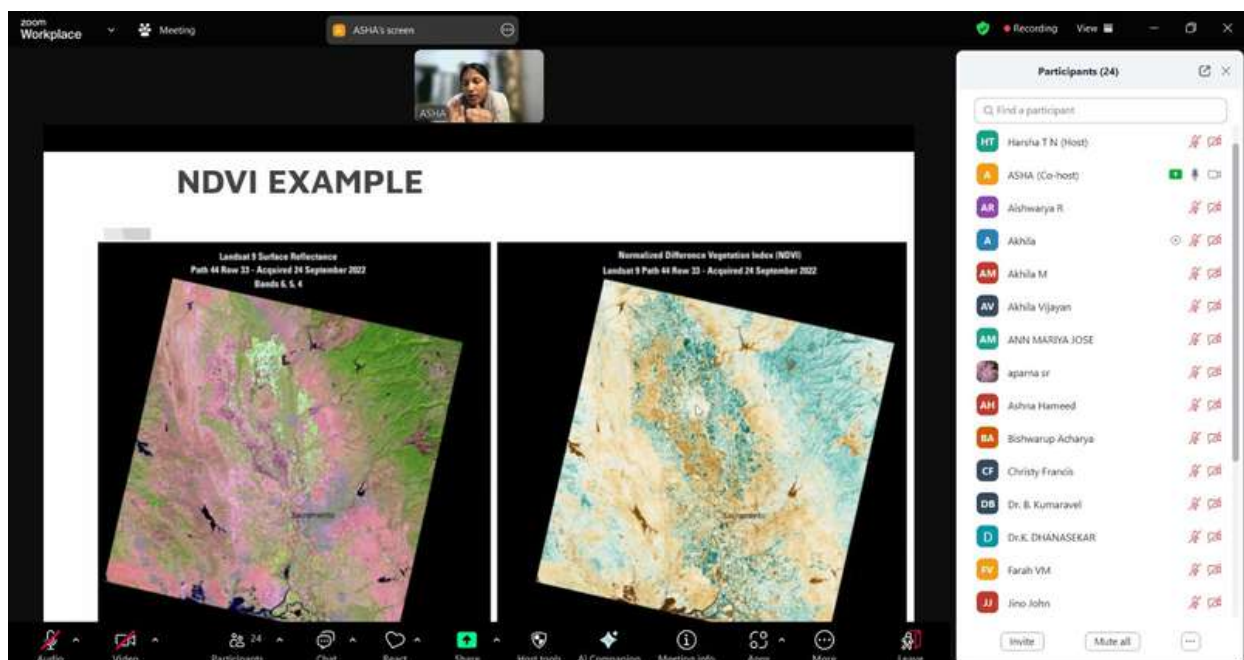
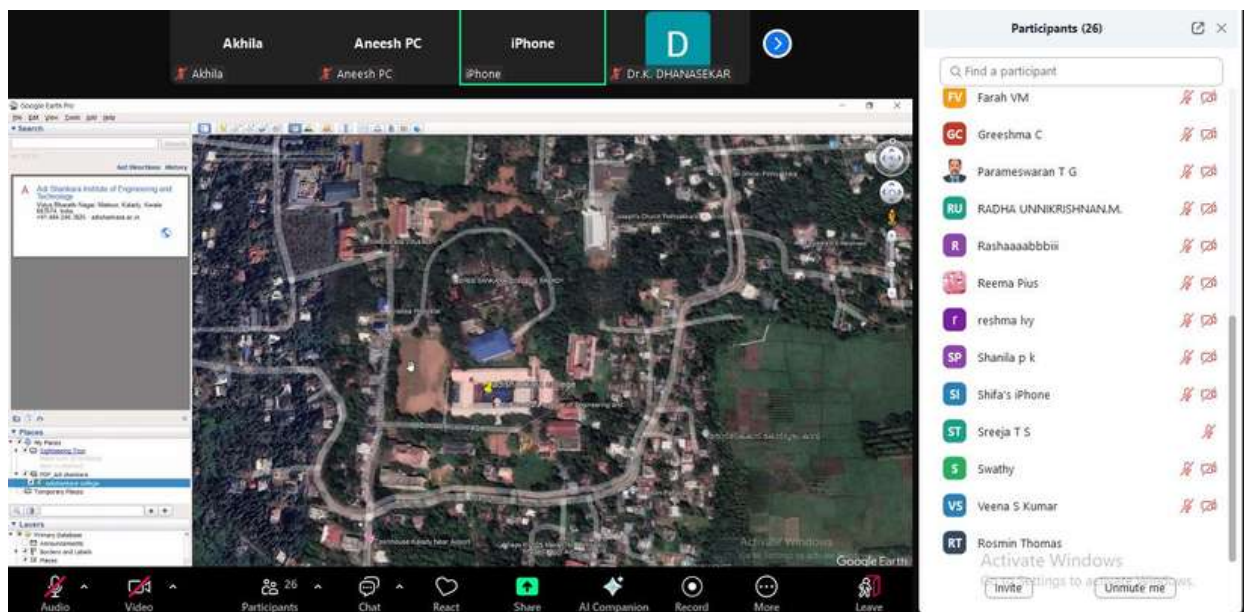
47.06% 52.94%

A Graph?

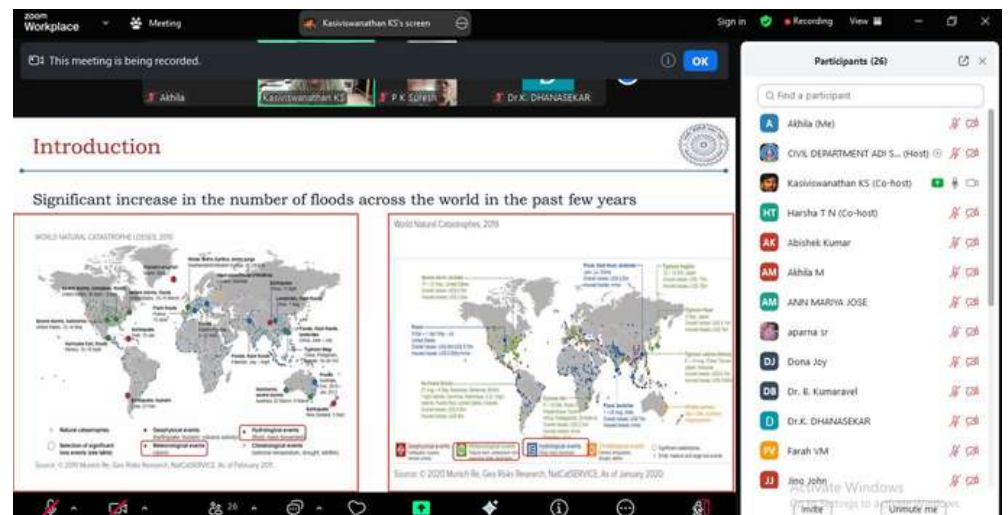
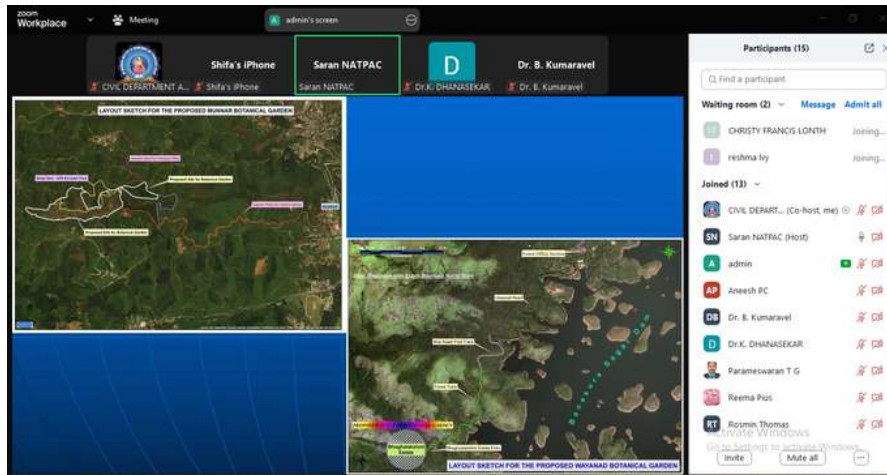
Participants (25)

- CIVIL DEPARTMENT ADK SH... (Host, me)
- Dr. Abin Varghese (Co-host)
- DR. ABIN VARGHESE (Co-host)
- Akhila M
- Aishwarya R
- Akhila Vijayan
- Anji
- ANN MARIVA JOSE
- ASHA M
- Ashna Hameed
- Christy Francis
- Dona Joy
- Dr. B. Kumaravel
- Dr. K. DHANASEKAR
- Farah VM

A hands on training on QGIS Remote Sensing was offered by Mr. Jishnu J, Assistant Professor, RSET, Ernakulam followed by a session by Dr. Asha Farsana M, Senior Remote Sensing Associate, WELL Labs, Bangalore on the topic “Applications in Water Resources Management”.



DEPARTMENT EVENTS



Dr. K. S. Kasiviswanathan, Associate Professor, Department of Water Resources Development and Management, IIT, Roorkee delivered a session on Applications of GIS in Water Resources Engineering providing practical examples. Mr. M. S. Saran, Scientist C, NATPAC handled a session on “Applications of GIS in Transportation Engineering”. The FDP provided an introduction to the fundamental concepts of Remote Sensing and GIS, while also providing hands-on exposure to real-world challenges and their solutions through case studies.

DEPARTMENT EVENTS

CIVIL PROJECT EXPO AT 'ENTE KERALAM 2025'



APJ Abdul Kalam Technological University (APJAKTU) and ASIET showcased innovative projects at the Civil Project Expo held at Marine Drive, Kochi on 21st May 2025. The standout project, 'Geosense: Smart IoT Solution for Landslide Risk Mitigation,' was guided by Assistant Professor Mr. Abishek Kumar A A, with students Syam Govind K M, Devika Ajith, and Pranav Pramod. This cutting-edge project demonstrates the potential of IoT in mitigating landslide risks.

STUDENTS HONoured FOR EXCELLENCE



Aparna K M of CE 2021-2025 batch was honoured for becoming the **Academic Topper** from the department. She had also earned an **Honours degree** in Civil Engineering.



Syam Govind K M of CE 2021-2025 batch was honoured with the **Best Outgoing Student** award from the department.

STUDENT ACHIEVEMENTS

STUDENTS HONoured FOR EXCELLENCE

The awards for final year student project exhibition and contest “ASPREN ‘25” organized by the institute were distributed during Samavarthana 2025. The project entitled “Geosense: Smart IoT solution for Landslide risk mitigation” guided by Mr. Abishek Kumar A A, Assistant Professor with students Syam Govind K M, Devika Ajith and Pranav Pramod secured first prize in the expo in the Civil Engineering, Mechanical Engineering, Robotics and Automation stream.

The second prize was secured for the project “Wave tank demonstration: Evaluating coastal defence strategies to mitigate flood risk” guided by Dr. Parameswaran T G, Associate Professor and Dr. P K Suresh, Senior Professor with group members A Vidyadhar Prabhu, Bestin Johnson and Sanjay P.

The Civil Engineering department level prize was secured by Deva Nanda H, Swathylakshmi Lal and Anjana S Nair for the project “Microbial fuel cell for dredged sediment management: Powering sustainable construction” guided by Dr. K Dhanasekar, Professor and Head of the department.

STUDENTS HONoured FOR EXCELLENCE



STUDENT ACHIEVEMENTS

KTU S8 RESULTS



2021-25 Batch KTU S8 Result (SGPA 08.50 to 10.00)

Congratulations to toppers

			
Aparna K.M SGPA - 10	Sanjay P.S SGPA - 9.47	Swathylakshmi Ial SGPA - 9.32	Anjana S Nair SGPA - 9.29
			
A Vidyadhar Prabhu SGPA - 8.94	Athulya M.R SGPA - 8.85	Devika Ajith SGPA - 8.85	Rahila Beevi V.J SGPA - 08.79
			
Vishnu Mohan SGPA - 8.76	Deva Nanda H SGPA - 8.74	C J Jayalakshmi SGPA - 8.62	Farha Fathima SGPA - 8.53

DEPARTMENT OF CIVIL ENGINEERING









Adi Shankara
INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Vidya Bharathi Nagar , Mattoor, Kalady, Ernakulam District, Kerala State Pin: 683574

Students of the department excelled in S8 University examinations with an overall pass percentage of 93%.

STUDENT ACHIEVEMENTS

KTU S8 RESULTS



2021-25 Batch KTU S8 Result (SGPA 08.00 to 08.50)

Congratulations to toppers



Binslet Biju
SGPA - 8.44



Agna A A
SGPA - 8.44



Bestin Johnson
SGPA - 8.41



Godwin Shaju
SGPA - 8.35



Adhila T Kabeer
SGPA - 8.35



Hari Krishnan
SGPA - 8.29



Aiswarya S Shenoy
SGPA - 8.29



Shahana M Shah
SGPA - 8.26



S Athulya
SGPA - 8.21



Abhimanyu K
SGPA - 8.15



Sandra A S
SGPA - 8.15



Abhinav C P
SGPA - 8.06



Harishankar K
SGPA - 8.03



Muhammed Altaf P A
SGPA - 8

DEPARTMENT OF CIVIL ENGINEERING



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STUDENT ACHIEVEMENTS

KTU S8 RESULTS



Hearty
Congratulations



Aparna K. M
for securing an **SGPA of 10** in the 8th semester Examination

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STUDENT ACHIEVEMENTS

STUDENT PLACEMENTS IN CORE COMPANIES



Adi Shankara

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Congratulations

2025 GRADUATING STUDENTS HAVE BEEN PLACED IN CORE COMPANIES

White House Energy Solutions
















Aarbee Structures Pvt. Ltd.









RDC Concrete Pvt. Ltd.









Sobha Limited

Paradigm IT Pvt. Ltd.







Lee Builders Pvt. Ltd.

Mofra Design & Engineering







The Ramco Cements Limited

S&O Maritime Services Pvt. Ltd.




DEPARTMENT OF CIVIL ENGINEERING



Vidya Bharathi Nagar, Kalady, Ernakulam, Kerala, India

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NPTEL COURSE COMPLETION



Congratulations
FOR COMPLETING NPTEL COURSE
DEEP LEARNING - IIT ROPAR



Sethulakshmi K R
(2022-2026 Batch)



Saliha M Anwar
(2022-2026 Batch)

DEPARTMENT OF CIVIL ENGINEERING

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Sethulakshmi K R and Saliha M Anwar of S6 CE have successfully completed NPTEL Course on Deep Learning from IIT Ropar.

STUDENT ACHIEVEMENTS

FACULTY PUBLICATIONS AND CERTIFICATIONS



Dr. P K Suresh
Senior Professor

Dr. P K Suresh, Senior Professor of the department published a paper entitled “Studies on Protection of Coastal Road Along Chennai” in Springer, Lecture Notes in Civil Engineering, Vol.424, pp.81-89, March 2025.

Ms. Harshananda T N, Assistant Professor from the department of Civil Engineering has earned Elite-grade silver certification in “Industrial Wastewater Treatment” through NPTEL from IIT, Kharagpur.

She had also secured Elite NPTEL Online Certification on “Environmental Remediation of Contaminated Sites” from IIT, Roorkee.



Ms. Harshananda T N
Assistant Professor

APPLICATIONS OF AI AND MACHINE LEARNING IN GEOTECHNICAL ENGINEERING

Geotechnical engineering is essential for the design and construction of safe and stable infrastructure by analyzing soil and rock behavior. Traditionally, engineers have relied on physical testing, laboratory experiments, and empirical correlations to understand subsurface conditions. However, these methods can be time-consuming, expensive, and sometimes limited by the complexity and variability of soil properties. Artificial Intelligence (AI) and Machine Learning (ML) have emerged as powerful tools to overcome these challenges, offering new ways to analyze data and improve decision-making in geotechnical projects.

One of the primary applications of AI and ML in geotechnical engineering is the prediction of soil properties such as shear strength, permeability, compressibility, and bearing capacity.

Machine learning algorithms can analyze large datasets from field tests like Standard Penetration Tests (SPT), Cone Penetration Tests (CPT), and laboratory results to predict these parameters with greater accuracy than traditional empirical methods. These models can capture complex relationships within data, handle heterogeneous soil profiles, and provide more site-specific predictions, ultimately leading to safer and more economical foundation designs.

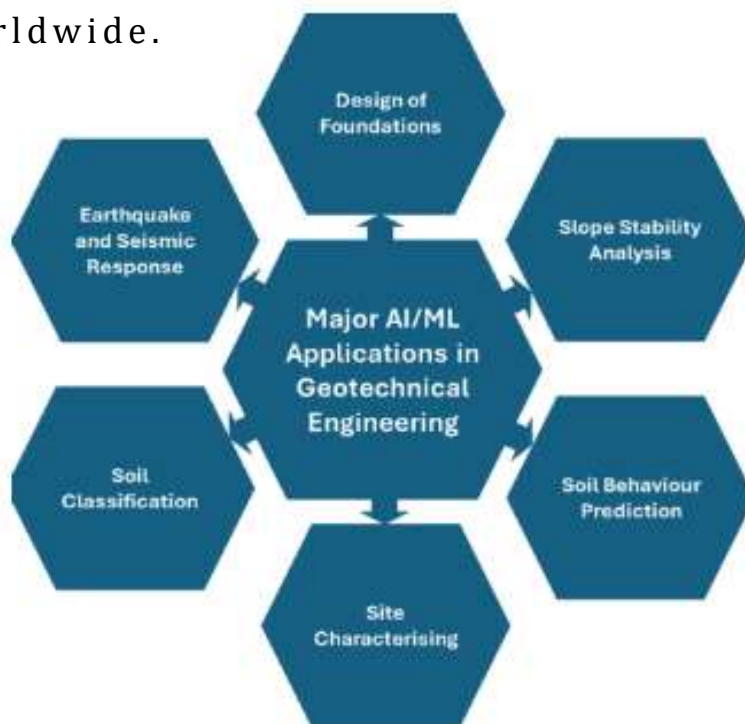
APPLICATIONS OF AI AND MACHINE LEARNING IN GEOTECHNICAL ENGINEERING

AI and ML are also transforming soil classification and subsurface profiling. Advanced algorithms can automatically classify soil types and detect soil layer boundaries by processing data from boreholes and in-situ testing equipment. This reduces manual interpretation errors and speeds up the site investigation process. Furthermore, anomaly detection algorithms can identify unexpected conditions such as voids, soft zones, or contamination that might pose risks during construction. Such capabilities are crucial for risk assessment and mitigation planning.

Real-time monitoring is another promising application of AI in geotechnical engineering. With the integration of Internet of Things (IoT) sensors and AI, continuous data on parameters like ground displacement, pore water pressure, and vibrations can be analyzed instantly. This enables early detection of potential failures or instabilities in structures such as tunnels, slopes, and retaining walls, allowing for timely intervention and adaptive management. The use of AI in real-time monitoring enhances safety and reduces costs associated with unforeseen delays or damages.

APPLICATIONS OF AI AND MACHINE LEARNING IN GEOTECHNICAL ENGINEERING

While AI and ML offer numerous benefits, challenges such as ensuring data quality, improving model transparency, and fostering interdisciplinary collaboration remain. Geotechnical engineers must work closely with data scientists to develop reliable, interpretable models tailored to specific site conditions. As technology advances and becomes more accessible, AI and machine learning are set to become indispensable tools in geotechnical engineering, improving the efficiency, accuracy, and safety of infrastructure projects worldwide.



Ms. Anna Varghese
Assistant Professor

THE ROLE OF CIVIL ENGINEERS IN DISASTER-RESILIENT INFRASTRUCTURE



In today's world, the frequency and severity of natural disasters have increased due to climate change, urbanization, and environmental degradation. Events like earthquakes, floods, cyclones, and landslides cause not only loss of life and property but also long-term economic and social disruption. In this scenario, civil engineers play a crucial role in minimizing disaster impact by designing and developing infrastructure that is resilient, safe, and sustainable. Their responsibility extends far beyond construction — it includes planning, analyzing, and continuously improving systems that protect communities before, during, and after disasters. Natural disasters are unpredictable, but the damage they cause can often be reduced with proper planning and strong infrastructure.

FOOD FOR THOUGHT

In many cases, the collapse of buildings and bridges during disasters is not due to the disaster itself, but due to poor design, substandard materials, and lack of proper engineering practices. Disaster-resilient infrastructure is designed to absorb shocks, withstand extreme conditions, and recover quickly, thereby saving lives and resources. Before construction begins, civil engineers perform detailed site analyses, study the local geography, assess environmental risks, and consider historical disaster data. For example, in earthquake-prone regions, buildings are designed with base isolators or flexible joints that absorb seismic waves. In coastal areas, civil engineers create wind-resistant structures and build elevated foundations to prevent flood damage. This kind of foresight in engineering design is key to reducing vulnerability and building safer communities.

Many buildings, bridges, and dams in cities today were constructed decades ago, without considering modern safety standards or the current scale of disaster risks. Retrofitting is the process of upgrading these old structures with new materials, reinforcing frameworks, and applying modern techniques to make them more disaster-resistant. For example, old school buildings may be strengthened with steel reinforcements or fiber wraps to protect children during earthquakes. This is a cost-effective way to improve safety and resilience in both rural and urban settings.

Modern civil engineering relies heavily on advanced technologies. Tools like Building Information Modeling (BIM), Geographic Information Systems (GIS), and structural health monitoring sensors allow engineers to simulate disaster impacts, identify weak points in infrastructure, and monitor real-time stress on structures. These tools help engineers to make data-driven decisions, ensuring that designs are not only strong on paper but also effective in practice. Smart infrastructure can even send alerts during early warning signs of failure, giving people time to respond and evacuate.

Civil engineers are not only technical experts — they are also community leaders and educators. They work with governments, planners, architects, and disaster management teams to develop building codes, zoning laws, and evacuation routes. In rural areas, civil engineers often conduct workshops to educate people about safe construction practices. Their ability to bridge science, society, and safety makes them vital figures in both urban planning and emergency response strategies.

As future civil engineers, students have a great responsibility to learn about disaster resilience from the very beginning of their careers. Studying structural dynamics, environmental impact, sustainable construction, and climate adaptation can help prepare students to become thoughtful and impactful engineers.

Participating in field visits, disaster drills, and green building projects can further enhance practical understanding. The foundation of a safe society lies in the education of its future builders. Disasters may be inevitable, but disaster catastrophes can be prevented. Civil engineers stand at the front line of this defense, turning knowledge into protection. As the world continues to face growing environmental risks, the demand for disaster-resilient infrastructure will rise. Through innovative design, strategic planning, and a deep sense of social responsibility, civil engineers have the power to transform vulnerable regions into safe, thriving communities.

"We may not control nature, but we can control how well we prepare for it. And civil engineers make that preparation possible."



Nimisha K Santhosh
S6 CE

CHIEF EDITOR



Dr. K DHANASEKAR

STAFF EDITORS



Ms. REEMA PIUS



Ms. ANNA VARGHESE

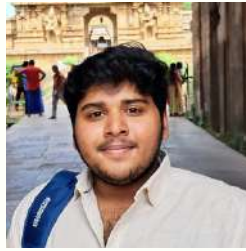
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Merinda Rose Shijan
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Lakshmi Mani
S4 CE



Nadiya Yousef
S2 CE



Thushara Girish
S2 CE

HOD'S MESSAGE



AS THE DEPARTMENT HEAD, I ENVISION OUR COLLEAGUES AND STUDENTS WALKING HAND IN HAND, COLLECTIVELY CONSTRUCTING INNOVATIVE IDEAS FOR A MORE DEVELOPED NATION. LET'S CONTINUE THIS MOMENTUM AND STRIVE FOR EXCELLENCE IN ALL OUR ENDEAVOURS.