National Institute of Technology Raipur

Continuing Education Cell (CEC)

Certificate Course (Online-mode)

on

"Artificial Intelligence & Machine Learning Innovations in Geology and Water Resources : From Theory to Practice (AIMLIGWR-2025) "

11th June - 25 th June, 2025 (02 Hrs each day from 05:30PM to 07:30PM)

About Course

Objectives of Training Programme: This course is designed to provide an in-depth understanding of the application of artificial intelligence & machine learning techniques in geology, water resources development, and management. The course will emphasize practical applications and real-world case studies, including, geology, hydrogeology, environmental geology, remote sensing, and GIS applications for water resources management.

About CEC

Continuing Education Cell (CEC) , NIT Raipur aims to update skills, broaden knowledge, enhance qualifications, foster personal growth, and promote National and International technological advancement through training and expertise.

About NIT Raipur

National Institute of Technology Raipur (An Autonomous institute of National Importance) fully funded by the Govt. of India. NIT Raipur is located in Raipur, the Capital City of Chhattisgarh State and spread over an area of approx. 100 acres. NIT Raipur is ranked 70th in engineering category in India by the NIRF, and it is the highest ranked engineering college in Chhattisgarh. Presently NIT Raipur offers 12 undergraduate, 14 Postgraduate (including M.Sc., M.C.A and M.Tech. in Applied Geology) and 18 Ph.D. programs. The institute offers facilities for research and also undertakes R & D activities, provides testing, consultancy and other extension services including continuing education to the industry through the Industry Institute Interaction cell and the placement of the student through the Department of Training & Placement. More details about NIT Raipur are at: http://www.nitrr.ac.in.

Features of Course

- A comprehensive overview of the fundamental concepts of Artificial Intelligence and Machine Learning in Geoscience, including hands-on sessions and live demonstrations.
- Each student group will be assigned a project, which will be supervised and monitored by a mentor.

Eligibility for Participation

- UG/PG graduated/pursuing (final/pre-final year) students
- Ph.D. Scholars from higher education institutions
- Faculties / Staffs / Lab Instructors from technical and academic institutions
- Govt. Employees or Industry/working professionals

For Registration

For More Details Click

https://www.nitrr.ac.in/conference.php

Scan QR for More Details

Course Module

- **Module 1 Introduction :** Introduction to Python, Overview of Artificial Intelligence & Machine Learning techniques using Python. Introduction to Minerals and Rocks, Introduction to Surface water and groundwater, Hands-on practice.
- **Module 2 Data Acquisition and Preparation :** Data sources: remote sensing, GIS, in situ measurements, and historical data, Data preprocessing and cleaning, Feature extraction for water resources data, Dimensionality Reduction (PCA, LDA), Feature selection for water resources data, Hands-on practice
- **Module 3 Artificial Intelligence & Machine Learning Algorithms :** Predictive modeling techniques, Classification models: tree-based models, neural network-based models, and ensemble learner, Advanced Neural Network Models, Model Performance and Evaluation, Hands-on practice
- **Module 4 Emerging tools and techniques in Geology and Water Resources :** Minerals and Rocks identification using Python, Predicting water flow and groundwater levels using Python and GIS, Water quality modeling and prediction using Python and GIS, Flood risk assessment and management Python and GIS, Irrigation and agricultural water management GIS and Python, Hands-on practice.
- **Module 5 Case Studies and Projects :** Real-world applications of machine learning in water resources, Real-world applications of machine learning in geology, Group projects: analyzing datasets and presenting findings.

Important Dates

Registration Last Date:	**05th June 2025**
List of shortlisted Candidates:	09th June 2025
Fee Payment Duration:	05th June 2025
Course Start Date:	**11th June 2025**
Course End Date:	25th June 2025
Course Time :	**05:30 PM - 07:30 PM**

National Institute of Technology Raipur

Continuing Education Cell (CEC)

Certificate Course (Online-mode)
on
"Artificial Intelligence & Machine Learning Innovations in Geology and Water Resources : From Theory to Practice (AIMLIGWR-2025)"

11th June - 25 th June, 2025 (02 Hrs each day from 05:30PM to 07:30PM)

Chief Patron

Prof. N.V. Ramana Rao, Director, NITRR

Patron

Prof. G. P. Mishra, Dean (R&C), NITRR

Chairman CEC

Dr. Subhojit Ghosh, Chairman (CEC), NITRR

Convenor

Dr. D. C. Jhariya, HoD,
Dept. of Applied Geology. NITRR

Co-ordinators & Contacts

Dr. D. C. Jhariya
Email: dcjhariya.geo@nitrr.ac.in
Mobile: 9754244867

Dr. Mridu Sahu
Email: mrisahu.it@nitrr.ac.in
Mobile: 9826501139

Dr. Chandan Kumar Singh
Email:cksingh.ce@nitrr.ac.in
Mobile: 7276170435

Speakers

Subject experts of the course may be from re-nowned institutes and Industries.

Account Details

Account No.	:	**38027633250**
Bank Name	:	**State Bank of India**
Bank Branch	:	**NIT Branch**
IFSC Code	:	**SBIN0002852**
MICR Code	:	492002004
Swift Code	:	SBININBB646
PAN Card Number	:	AAAJN0643G
GSTIN Number	:	22AAAJN0643G1ZN

Fee Details

	Category	Fee (Rupees)
Course Fee	Students (UG/PG/ PhD) of NIT Raipur	(₹ 1200 + 18% GST) = ₹ **1416 /-**
	Outside Students (UG/ PG/PhD) (other than NIT Raipur)	(₹ 1500 + 18% GST) = ₹ **1770 /-**
	Faculty/ Industry Per-sons	(₹ 2500 + 18% GST) = ₹ **2950 /-**

Registration Process

Interested candidates/organizations can apply in the prescribed application form (Annexure-B along with the details of course fee.

The payment can be done either in the form of a Demand Draft (DD) in favour of **"Director, NIT, Raipur"** payable at Raipur or through **online mode** in the given account details. For online payment, the scanned copy of the application form along with the proof of payment should be sent to **cec_assistant@nitrr.ac.in** by the due date (05th June 2025). For payment made through DD, the hard copy of the application along with the DD should be sent to the Chairman, Continuing Education CELL, NIT Raipur, Raipur, Pin:492010 by the due date (05th June 2025). **After payment, participant is required to fill following google form :**

Click Google Form - https://forms.gle/HEYwtr9npJ6t8EcU8

Or
Scan Google Form