

Report on One-week STC
" AI/ML and Data Science for Industry 4.0 (Basic Level)"
(HRDC, Integral University, Lucknow, a Remote Center of NITTTR, Chandigarh)
21-25 August 2023

The Human Resource Development Centre, Integral University as a remote centre of NITTTR, Chandigarh has organized AICTE Recognized Short Term Course through Information and Communication Technology (ICT) on "**AI/ML and Data Science for Industry 4.0 (Basic Level)**" from **21-25 August 2023** at Integral University, Lucknow. This Short Term Course is organized in association with National Institute of Technical Teachers Training & Research, Chandigarh under Ministry of Education, Government of India.



STC on Innovation in Construction and Green Building Materials at Integral University

As an outcome of the course, participants gaining foundational knowledge, practical skills in AI/ML and Data Science, data handling expertise, familiarity with machine learning algorithms, an introduction to deep learning, proficiency in data science tools, understanding of Industry 4.0 applications, hands-on project experience, certification, networking opportunities, and readiness to contribute to Industry 4.0 advancements. A total of fifteen technical sessions were constituted from a wide variety of topics and each session was led by a team of expert's viz.:

Day 1:

- Essentials of Python and Open Libraries for AI/ML and Data Science by Dr. Amit Doegar, Course Coordinator, NITTTR, Chandigarh

- Anaconda Distribution, Jupyter Setup and Python Programming for AI/ML and Data Science by Dr. Amit Doegar, Course Coordinator, NITTTR, Chandigarh
- Essentials of Statistics for AI/ML and Data Science by Dr. Suresh Sharma, Professor, Panjab University, Chandigarh

Day 2:

- Exploratory Data Analysis (EDA) and Extract, Transform, and Load (ETL) Tools for AI/ML and Data Science by Dr. Gaurav Kumar- Director, Magma Research and Consultancy Pvt. Ltd., Ambala
- Data Dimensionality Reduction Techniques (PCA,LDA ,SVD) by Dr. Gaurav Kumar- Director, Magma Research and Consultancy Pvt. Ltd., Ambala
- Data Pre-Processing Techniques and Time Series Data Analysis by Dr. Padmavati, Associate Professor, Punjab Engineering College (Deemed to be University), Chandigarh

Day 3:

- Supervised and Machine Learning Techniques for AI/ML and Data Science by Dr. Amit Doegar, Course Coordinator, NITTTR, Chandigarh
- Forecasting and ARIMA Model for Industry 4.0 by Dr. Amit Doegar – Course Coordinator, NITTTR, Chandigarh
- Regression Analysis Techniques and Algorithms for AI/ML and Data Science by Dr. Shweta Sharma, Assistant Professor, IIIT, Una(H.P.)

Day 4.

- Neural Network and Deep Learning Techniques for AI/ML and Data Science by Dr. Akashdeep, Associate Professor, CSE Dept, UIET, Panjab University, Chandigarh
- Neural Network and Deep Learning Techniques for AI/ML and Data Science by Dr. Akashdeep, Associate Professor, CSE Dept, UIET, Panjab University, Chandigarh
- Ensemble Techniques for AI/ML and Data Science. by Dr. Shweta Sharma, Assistant Professor, IIIT, Una (H.P.)

Day 5:

- UnSupervised and Machine Learning Techniques for AI/ML and Data Science by Dr. Sarbjeet Singh, Professor, CSE Dept, UIET, Panjab University, Chandigarh
- Graphing Library, Geographical plots, Venn Diagrams and NetworkX Diagrams, Statistical Charts and Data Visualization by Dr. Sarbjeet Singh, Professor, CSE Dept, UIET, Panjab University, Chandigarh
- Case Study, Feedback and Online Evaluation by Dr. Amit Doegar – Course Coordinator, NITTTR, Chandigarh

This Short Term Course benefitted a total of fourteen participants. The Integral University was much praised by NITTTR Chandigarh for its active participation. Dr. Sheeba Praveen, Remote Center Coordinator, and Mr Mohd Arif Ali Usmani, Technical Support Staff from Integral University's Department of Computer Science and Engineering, coordinated the programme.

Glimpses of the Event:

