

About Electronics & ICT Academy at



PDPM IIITDM Jabalpur

The Ministry of Electronics and Information Technology (MeitY), Government of India has instituted Electronics and ICT Academies in the year 2015. In the second phase, the academy at PDPM IIITDM Jabalpur aims at scalable training programmes in niche areas of Electronics and ICT for the development of the required knowledge base, skills and tools to unleash the talent of the Indian population. The Academy is identified by the MeitY as a hub of activities for capacity building through training, internships, research, and consultancy programmes in fundamental and advanced topics in electronics, information and communication technologies, the Academy conducts customized academic programmes for students, corporate sectors and researchers.

About IIIT Nagpur

Indian Institute of Information Technology, Nagpur (IIITN) is established under the Public-Private Partnership Scheme by the Ministry of Education (erstwhile Ministry of Human Resource Development), Government of India, and is supported by the Department of Higher Education, Government of Maharashtra, and Tata Consultancy Services as Industry Partner. IIITN is recognized as an Institution of National Importance by an Act of Parliament in 2017. IIITN started functioning during the year 2016-17, and shifted to its permanent campus sprawling 100 Acres of land near Butibori, Nagpur

Faculty Development Programme

On

Big Data and Analytics

17th -28th November 2025 (Online Mode)

The course is designed to equip participants with a comprehensive understanding of Big Data concepts, tools, and technologies that drive data driven decision-making in modern organizations. With the exponential growth of data across industries, professionals and researchers must be proficient in managing, processing, and analysing large-scale datasets using contemporary Big Data frameworks.

Who can attend: Suitable for faculty from colleges, universities, and technical and professional institutes can attend. Students, fresh graduates, researchers, and industry personnel working in allied disciplines can also attend.

Important Dates

FDP Dates: November 17-28, 2025

Last Date of Online Registration: 15/11/2025

Coordinators

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(Mr Ashvarya Agrawal)

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Jointly Organized by



and



Electronics and ICT Academy
IIITDM Jabalpur

*An Initiative of the Ministry of
Electronics and Information Technology,
Government of India*



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Resource Persons

- Prof. Dharavath Ramesh, IIT (ISM) Dhanbad
- Prof. Sriram Kailasam, NIT Warangal
- Dr. Robin Singh Bhadoria, NIT Hamirpur
- Dr. Ram Prakash Sharma, NIT Hamirpur
- Dr. Shishupal Kumar, IIIT Nagpur
- Dr. Santosh Thakur, Mahindra University

Course Contents

- Introduction to Big Data Analytics– Overview of Big Data Ecosystem, Lifecycle, Challenges and Applications
- Hadoop Ecosystem and Distributed Data Management, HDFS, YARN, and MapReduce
- Frameworks Virtual screening
- Data Warehousing and Querying with Hive, Hive
- Tables, Partitions, and Buckets Molecular dynamics simulations.
- Advanced Analytics with Apache Spark, RDDs, DAG, Lazy Evaluation Concepts, ML Techniques in Big Data
- NoSQL Databases and Big Data Streaming
- Introduction to Cassandra, Cassandra vs MongoDB
- Visualization and Security in Big Data, Big Data on Cloud, Emerging Trends in Big Data

Hands-On Sessions

- Overview and setup of Hadoop, Spark, Hive, Kafka, Cassandra, and MongoDB environments.
- HDFS operations using command line and execution of MapReduce jobs
- Creating databases and tables, writing HiveQL queries, and performing dataset analysis using Hive.
- Creating RDDs, performing basic transformations, working with Data Frames and Spark SQL, and comparing Spark with MapReduce
- Machine Learning with PySpark — Building ML models (Logistic Regression, K-Means), data preprocessing with Vector Assembler and Tokenizer
- NoSQL with Cassandra
- Real-time Data Streaming
- Data Visualization using Spark with Apache Zeppelin for creating interactive charts and dashboards from large datasets. LoRA Adapters, LoRA fine tuning for summarization task
- Direct Preference Optimization (DPO) using LoRA

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Programme Features

- Rigorous training for theoretical and practical knowledge on Big Data and its analysis
- Opportunities to connect with experts in the field.
- Instructor-led rigorous hands-on sessions
- Certificate on successful completion with full access to the course material.

Registration Details

- Registration link – Please fill out registration using the following link:
<https://forms.gle/7A4v8Gr2raY67Dpt9>
- **Registration fee:** INR 500/ for online participation
- **Last Date for Registration:** 15/11/2025

Online Payment Details

• Internet banking

Beneficiary Name	PDPM IIITDM Jabalpur
Bank Name	Indian Bank
A/C No.	50018692852
IFSC Code	IDIB000M694

• **UPI ID:** iiitdmj@indianbk

• **QR Code:**

