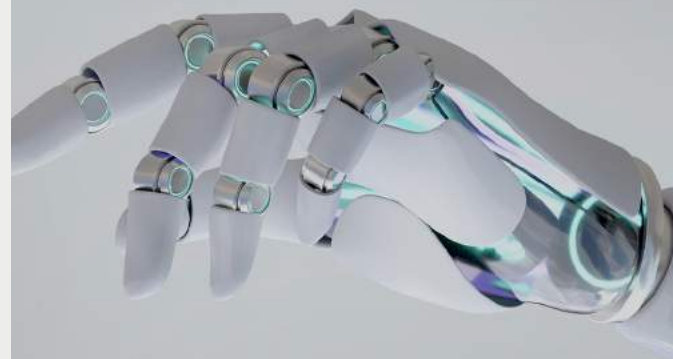# Executive M.Tech.
in CSE with specialization
in Data Science & Artificial Intelligence

Duration - 2.5 Years

CONTENT

Information Brochure

ABOUT THE PROGRAMME

According to the findings of the research, data science & AI have already emerged as the dominant technologies and are anticipated to completely alter the manner in which businesses are managed across all sectors. Using analytical tools, organizations that make use of data now have a pressing need for this. It is accurate to assert that data science & AI have initiated the global fourth industrial revolution. One of the most sought-after skills in the market right now is data science. However, there is a significant gap in the supply and demand of skilled Data Science professionals. Credible courses in data science & AI are required to fill the gap.

The goal of the Data Science and Artificial Intelligence course is to equip students with the knowledge and abilities necessary to use programming and data analysis to impart intelligence to machines and systems. A professional degree in Data science & AI is needed because modern systems use data science to provide intelligent solutions. This program will prepare post-graduates for careers that are in line with industry standards.

Earn a Data Science and Artificial Intelligence course from India's best engineering institute and learn data science from faculty at IIIT Ranchi in association with industry professionals. This fifth semester data science and artificial intelligence program includes hands-on exercises and mini project work to prepare you to become a data scientist. The program will include machine learning, artificial intelligence, PowerBI, and other skills like Python.

Healthcare, transportation, and security are among the most rapidly expanding technical fields. Artificial intelligence is one of them. Due to the expansion of numerous industries, skilled AI professionals are required for AI expertise. Data Scientist, Machine Learning engineer, Big Data engineer/Architect, database developer, and Business Intelligence developer are examples of job roles. Graduates in data science and artificial intelligence are employed by numerous multinational organizations and businesses. In the field of data science and artificial intelligence, Amazon, Microsoft, Adobe, Uber, Samsung, Intel, Accenture, Facebook, Netflix, and Lenovo have emerged as some of the most successful recruiters.

ABOUT THE INSTITUTE

Indian Institute of Information Technology (IIIT) Ranchi is an Institute of National Importance under the Act of Parliament of India established in 2016. The major objective was to set up a model of education which could produce best in class human resources in IT and harness the multidimensional facets of information technology in various domains. The honourable Director of IIIT Ranchi, Prof. Vishnu Priye, is looking forward to focusing on multidisciplinary fields that can extend the availability and usefulness of technology and its environment to our society and industry directly. He promotes various research activities by the faculty members and students. In the academic year 2022–23, IIIT Ranchi starts admissions to its first batch of four Executive M.Tech programmes for working professionals, i.e., Computer Science and Engineering with specialisation in Data Science and Artificial Intelligence; Electronics and Communication Engineering with Specialization in Embedded Systems and Internet of Things; Autonomous Connected Electric Vehicles; and Design Thinking and Innovation.

The programmes will be run in collaboration with renowned industries in India. Through this academic-industry collaboration programme, IIIR Ranchi researchers help industrial scientists identify current research that might be useful for the design and development of innovative processes and potential products.

Indian Institute of Information Technology, Ranchi (IIIT Ranchi), is one of the Indian Institutes of Information Technology, a group of 25 Interdisciplinary Technical Universities of higher education started by Government of India, focused on Information Technology. It is an "Institute of National Importance", declared by an act of parliament.

Indian Institute of Information Technology Ranchi is an autonomous institute setup by the MoE, Government of India, and Government of Jharkhand along with the industry partners TTL, TCS and CCL on a Public Private Partnership.

The IIIT Ranchi is funded by Government of India (50%), Government of Jharkhand (35%) and Industry Partners (15%).

IIIT Ranchi will be one of the leading Institutes in India for its academic excellence and good governance.

ADMISSION PROCEDURE

Eligibility

- BE/B.Tech in any branch or equivalent.

- Qualilying CGPA 6.0 on 10 points Scale or 55% aggregate marks in BE/B.Tech.

- Minimum 2 years of work experience after BE/B.Tech.

- Candidate should be currently working in an industry/organization

- Self-sponsored candidate should be owner of a company with annual turnover of Rs. 10 Lakhs.

CORE COURSES

- Fundamentals of Data Science
- Artificial Intelligence and its Applications
- Data Mining and Data Ware Housing
- Advanced Machine Learning

- Pattern Recognition & Classifications
- Big Data Analytics
- Deep and Reinforcement Learning Techniques

LABORATORY REQUIREMENTS

- Python Programming Lab
- R Programming Lab
- Data Science & Artificial Intelligence Lab
- Big Data Analytics Lab
- Computer Vision Lab

ELECTIVE COURSES

- Advanced Soft Computing
- Advanced Digital Image Processing
- Wireless Sensor Networks
- Computer Vision
- Cloud Computing

- Ethics and Data Science
- Real Time Data Analytics
- Data Stream Mining
- Evolutionary and Randomized Algorithms
- Data Analytics for IoT

INDUSTRY PARTNERS

IBM. The global organization known as International Business Machines Corporation (IBM) has been around for more than a century and is in charge of and driving the development of information technology worldwide. In terms of data science and AI research, IBM is currently at the forefront.

COURSE OUTCOMES

The Objective of this program is to train students with a B.Tech degree/ Bachelor degree in any of Computer Science and Engineering, or Electronics and Communications Engineering, or Electrical and Electronics Engineering, academically and through practice, to specialize in Artificial Intelligence and Data Science and earn a Master's degree in this domain while in working.

- To provide knowledge and skills to the students enabling them to impart intelligence to systems and machines through programming and Data Analysis.
- Understand the fundamentals of Artificial Intelligence, Data Science, Inference Engines, Speech Recognition, Computer Vision, Natural Language Understanding, Robotics, and Human Computer Interaction.
- Unify the knowledge of human cognition, Artificial Intelligence, and data engineering for designing systems and providing solution.

- Demonstrate hands-on knowledge of state-of-the-art AI and DS tools for real-world problem-solving.

- Ability to develop real-time and robust AI-based systems with specific software, hardware and data requirements.

- Build solutions to explore fully immersive computer-generated worlds (in VR), and overlay computer graphics onto our view of our immediate environment (AR) along with smart, cognitive functionality.

CREDIT REQUIREMENTS

SEMESTER/PROJECTS	CREDITS
I	14
II	15
III	12
IV	14
V	16
TOTAL	71

SEMESTER FEES
Tuition Fees - Rs 1,50,000/-   Institution Fees - Rs 15,000/-

ADDITIONAL FEES
(ONE TIME PAYABLE)

Caution Fees - Rs 20,000/-   Alumni Membership Fee - Rs 2,000/-

Note: Caution fees is refundable after completion of the course

RESOURCE PERSON

The resource persons for the programme will include experts from School of Design Thinking(SoDT), Intellect Design Arena Ltd., IIMs, IIIT Ranchi, NITs, and reputed academic/research organizations.

FILL THE REGISTRATION FORM TO APPLY

CONTACT DETAILS

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IMPORTANT DATES

PROCESS	DATE
Beginning of online application process	11th November 2022
Application Deadline	5th December 2022
Announcement of provisional shortlisted candidates	10th December 2022
Date for interview	23rd December 2022
Declaration of result	24th December 2022
Fee payment deadline	2nd January 2023
Date of waitlisted candidates admissions	4th January 2023
Registration and Operation	5th January 2023