



SOMAIYA
VIDYAVIHAR UNIVERSITY

K J Somaiya College of Engineering



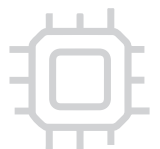
Centre for Artificial Intelligence & Data Science



Admission Open

PG Diploma Programme in **ARTIFICIAL INTELLIGENCE & DATA SCIENCE**

Innovate with Intelligence.
Transform with Data.





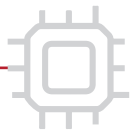
INTRODUCTION

The Postgraduate Diploma Programme in Artificial Intelligence and Data Science is a meticulously designed programme to equip participants with a comprehensive understanding of foundational and advanced AI and Data Science concepts. In the first semester, participants explore essential topics such as Python Programming, Data Management Systems, and Data Visualization techniques. A strong emphasis is placed on Data Science fundamentals, including mathematical foundations and exploratory data analysis, ensuring that students build a solid base to support their advanced studies. The basics of machine learning are also covered, providing a thorough introduction to supervised and unsupervised learning methodologies.

In the second semester, the programme transitions into more advanced areas, including Deep Learning fundamentals and models, Natural Language Processing (NLP), and Generative AI. Participants gain hands-on experience with state-of-the-art tools and techniques, preparing them to tackle complex data science challenges. The capstone project serves as a culmination of their learning, where they apply their skills to real-world problems, fostering practical experience and professional growth. Additionally, the programme offers comprehensive pre-placement workshops and job assistance services. These include resume building, LinkedIn profile optimisation, interview preparation, technical skills review, and portfolio development. With continuous support and access to networking events, career counseling, placement drives, and internship opportunities, students are well-prepared to launch successful careers in data science.

OBJECTIVES

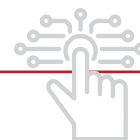
- **Comprehensive Knowledge:** To provide participants with a thorough understanding of foundational and advanced concepts in Data Science, including programming languages, Data Management, Machine Learning, Deep Learning, and Artificial Intelligence.
- **Practical Skills Development:** To equip participants with practical skills through hands-on experience with tools and techniques used in Data Science, ensuring they can apply their knowledge effectively to real-world challenges.
- **Critical Thinking and Problem-Solving:** To foster critical thinking, analytical reasoning, and problem-solving abilities essential for data-driven decision-making and innovation in various domains.
- **Project-Based Learning:** To engage participants in a capstone project that integrates their learning and allows them to demonstrate their proficiency in Data Science by addressing practical problems or conducting research.
- **Career Readiness:** To prepare participants for successful careers in Data Science through pre-placement workshops, job assistance services, networking opportunities, and access to internships, ensuring they can effectively navigate the job market and contribute to organisations' data-driven initiatives.
- **Continuous Learning:** To promote lifelong learning by providing resources, workshops, and updates on emerging technologies and industry trends, enabling participants to stay relevant in the dynamic field of Data Science.



- 1. Proficiency in Programming and Tools:** Participants will demonstrate proficiency in Python programming and its essential libraries for data manipulation and analysis. They will also be adept at using different Data Visualization tools to communicate insights effectively.
- 2. Understanding of Data Science Fundamentals:** Participants will have a solid understanding of foundational concepts in Data Science, including statistical analysis, probability theory, and Exploratory Data Analysis (EDA). They will be able to apply these concepts to derive meaningful insights from data.
- 3. Machine Learning Expertise:** Participants will be capable of applying supervised and unsupervised machine learning algorithms for tasks such as regression, classification, clustering, and dimensionality reduction. They will understand model evaluation techniques and be able to select appropriate models for different types of data.
- 4. Advanced Knowledge in Deep Learning and NLP:** Participants will acquire advanced knowledge in Deep Learning Techniques, and their applications in Computer Vision and Natural Language Processing (NLP). They will be able to implement and optimize deep learning models for complex tasks.
- 5. Hands-on Experience with AI Applications:** Participants will gain practical experience in applying artificial intelligence techniques, such as Generative Adversarial Networks (GANs) and reinforcement learning, to solve real-world problems in various domains.
- 6. Real-World Project Experience:** Successfully execute and present a capstone project that integrates learned concepts, demonstrating the ability to solve practical Data Science challenges.
- 7. Career Readiness and Professional Development:** Participants will be prepared for careers in Data Science through workshops on resume building, LinkedIn profile optimisation, interview preparation, and soft skills training. They will also have access to job placement assistance, networking opportunities, and internship placements to kick-start their careers in the field.

ELIGIBILITY CRITERIA

- A graduate degree in any field of Engineering OR B.Sc IT/COMP OR a graduate degree with a background in Computer Science/application, or related fields. Freshers and candidates with prior work experience can also apply. Candidates studying in the pre-final / final year of UG Engineering and Technology.
- Students who complete both semesters will receive a PG Diploma certificate. Students also have the option to take only the Semester 1 certificate course. The prerequisite for Semester 2 is the completion of Semester 1 or having related knowledge of the courses covered in Semester 1.



KEY INFORMATION

- Duration: One Year (Two Courses of Six months each)
- Total credits: 18 for each course
- Course Type: Certificate/PG Diploma
- Mode of study: Full time
- Campus: Vidyavihar – Mumbai
- Institute: Centre for Artificial Intelligence & Data Science, K J Somaiya College of Engineering

LIST OF COURSES

- Data Science Fundamentals
- Basics of Machine Learning
- Databases and Big Data Technologies
- Data Visualization
- Python Essentials Lab
- Deep Learning Fundamentals
- Deep Learning Models
- Natural Language Processing (NLP)
- Generative AI
- Capstone Project

Course Fees: ₹ 20,000/- (₹ Twenty Thousand only)

Contact us

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