

Paper Name -AI And Data Science Professional Certification Programme

Paper Code – VOC151

Course Objective –

The programme aims to empower participants with AI skills for data science analysis, bridging the gap between AI and data science to enable effective extraction of insights from complex datasets, fostering data-driven decision-making and innovation across industries.

Course Content -

Unit - 1 Theory

Understanding artificial intelligence. Basics to machine learning. Common ML techniques. Introduction to Natural Language Processing. Information/data retrieval. Deep learning. Types of neural networks. Transfer learning. ChatGPT and prompting. Microsoft excel, data modelling and data extraction. Data analysis, visualisation and interpretation. Ethical considerations. Microsoft PowerPoint and AI. Soft skills.

Unit - 2 Theory/ Practical

Business data analytics including data forecasting and data visualisation. Trend analysis and techniques to interpret trends. Big data concept. Big data technologies and framework. Distributed model training.

Unit - 3 Practical

Data driven report creation. Transferring data insights into actionable inputs. Informed decision making and how to support it. Presentation methods to communicate data insights.

Unit - 4 Practical

Understanding multi-media data. AI assisted video editing and generating data from video or from audio. Deep learning for multi-media.



Total weightage of Theory - 40% of marks, 15 hours (1 Credit)

Total weightage of Practical - 60% of marks, 30 hours + 30 hours (2 Credit)

Practicum Work -

At least 4 activities should be given. Two activities will be selected by the students for their assessment of Practicum Work.

ACTIVITY 1: Students will derive insightful information from large excel data.

ACTIVITY 2: Students will work on Natural Language Processing to perform tasks such as sentiment analysis, text classification and named entity recognition using NLP libraries.

ACTIVITY 3: Students will prepare a PowerPoint presentation from a raw dataset.

ACTIVITY 4: Students will prepare a report on AI ethical considerations considering biases, fairness and privacy concerns and the social impact of AI technology.

Learning Outcomes –

Understanding pioneering trends. Mastering advanced AI concepts and tools. Understanding of AI and ML. Data science mastery. Innovative application of data science knowledge. Interdisciplinary insights. Ethical AI understanding. Soft skills enhancement.

Job Prospects-

Participants of this AI programme can pursue careers as data analysts, machine learning engineers, AI consultants, business analysts, data engineer and AI researchers, applying their skills to extract insights from data to help organisations make data-driven decisions and optimise their processes in the field of technology, finance, sales, e-commerce, education, healthcare and beyond.

Skill Partner-

SNS Innovation Labs Pvt. Ltd.

Suggested Reading –

1. Data Science for Business by Foster Provost and Tom Fawcett
2. Interpretable Machine Learning by Christoph Molnar
3. Exploring AI Tools: A Comprehensive Guide To ChatGPT And Beyond by Satyen Srivastava