AI+ Data™

Duration: 40 hours

Course Overview

The AI+ Data certification equips professionals with vital skills for data science. It covers key concepts like Data Science Foundations, Statistics, Programming, and Data Wrangling. Participants delve into advanced topics such as Generative AI and Machine Learning, preparing them for complex data challenges. The program includes a hands-on capstone project focusing on Employee Attrition Prediction. Emphasis is placed on Data-Driven Decision-Making and Data Storytelling for actionable insights. Personalized mentorship, immersive projects, and cutting-edge resources ensure a transformative learning journey, preparing individuals for success in AI and data science.

Course Prerequisites

- Basic knowledge of computer science and statistics (beneficial but not mandatory)
- Keen interest in data analysis
- Willingness to learn programming languages such as Python and R.

Course Agenda

Module 1: Foundations of Data Science

- Introduction to Data Science
- Data Science Life Cycle
- Applications of Data Science

Module 2: Foundations of Statistics

- Basic Concepts of Statistics
- Probability Theory
- Statistical Inference

Module 3: Data Sources and Types

- Types of Data
- Data Sources
- Data Storage Technologies

Module 4: Programming Skills for Data Science

- Introduction to Python for Data Science
- Introduction to R for Data Science

Module 5: Data Wrangling and Preprocessing

- Data Imputation Techniques
- Handling Outliers and Data Transformation

Module 6: Exploratory Data Analysis (EDA)

- Introduction to EDA
- Data Visualization

Module 7: Generative AI Tools for Deriving Insights

- Introduction to Generative AI Tools
- Applications of Generative AI

Module 8: Machine Learning Refresher

- Introduction to Supervised Learning Algorithms
- Introduction to Unsupervised Learning
- Different Algorithms for Clustering
- Association Rule Learning with Implementation

Module 9: Advance Machine Learning

- Ensemble Learning Techniques
- Dimensionality Reduction
- Advanced Optimization Techniques

Module 10: Data-Driven Decision-Making

- Introduction to Data-Driven Decision Making
- Open Source Tools for Data-Driven Decision Making
- Deriving Data-Driven Insights from Sales Dataset

Module 11: Data Storytelling

- Understanding the Power of Data Storytelling
- Identifying Use Cases and Business Relevance
- Crafting Compelling Narratives
- Visualizing Data for Impact

Module 12: Capstone Project - Employee Attrition Prediction

- Project Introduction and Problem Statement
- Data Collection and Preparation
- Data Analysis and Modeling
- Data Storytelling and Presentation