



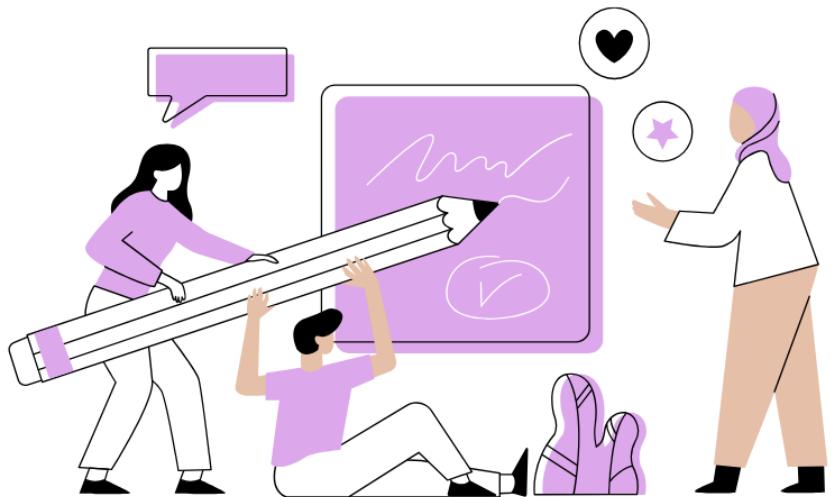
Training Module

Data Science
Internship Program

Instructed By:

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Detailed Curriculum of Data Science

01
week

Introduction to Python for Data Science

- Overview of Python, Setting Up Environment, and Basic Syntax
- Variables, Data Types, and Operators
- Control Flow: If-Else Statements and Loops
- Internship Session (AI Automation)
- Internship Session (AI Automation)

02
week

Python Libraries for Data Science

- Introduction to Numpy: Arrays and Operations
- Working with Pandas: DataFrames and Series
- Data Visualization with Matplotlib: Basic Plots and Customization
- Internship Session (AI Automation)
- Internship Session (AI Automation)

03
week

Advanced Python for Data Science

- Advanced Pandas Operations: Merging, Grouping, and Reshaping Data
- Python Functions and Libraries for Statistics: NumPy and SciPy
- Handling Missing Data and Data Cleaning Techniques
- Internship Session (AI Automation)
- Internship Session (AI Automation)

04
week

Python in Data Science Projects

- Real-world Applications of Python in Data Science
- Group Project: Applying Python to Analyze Datasets
- Project Review and Q&A Session
- Internship Session (AI Automation)
- Internship Session (AI Automation)

Detailed Curriculum of Data Science

05
week

Statistics and Data Exploration

- Descriptive Statistics: Mean, Median, Mode, Variance, and Standard Deviation
- Inferential Statistics: Hypothesis Testing and Confidence Intervals
- Exploratory Data Analysis with Pandas: Advanced Techniques
- Internship Session (AI Automation)
- Internship Session (AI Automation)

06
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- Numpy Basics: Arrays, Indexing, and Operations
- Advanced Numpy Operations: Broadcasting, Universal Functions
- Matplotlib and Seaborn for Data Visualization: Advanced Plots
- Internship Session (AI Automation)
- Internship Session (AI Automation)

07
week

Machine Learning Fundamentals

- Understanding the Machine Learning Landscape
- Supervised Learning: Regression Algorithms
- Supervised Learning: Classification Algorithms
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- Internship Session (AI Automation)

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week

Unsupervised Learning and Model Evaluation

- Unsupervised Learning: Clustering Algorithms
- Model Evaluation and Hyperparameter Tuning
- Ensemble Learning: Random Forests and Gradient Boosting
- Internship Session (AI Automation)
- Internship Session (AI Automation)

Detailed Curriculum of Data Science

09
week

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- Text Processing and Analysis
- Building NLP Models
- Internship Session (AI Automation)
- Internship Session (AI Automation)

10
week

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- Internship Session (AI Automation)

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week

Web Development with Flask and Django

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- Building Web Applications with Flask
- Django Framework for Web Development
- Internship Session (AI Automation)
- Internship Session (AI Automation)

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week

Relational Databases (SQL)

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- Querying and Database Design
- Advanced SQL Concepts
- Internship Session (AI Automation)
- Internship Session (AI Automation)

Detailed Curriculum of Data Science

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- Overview of NoSQL Databases
- AWS Fundamentals
- Deploying Applications on AWS
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- Internship Session (AI Automation)

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- Containerization with Docker
- Continuous Integration and Deployment (CI/CD)
- Internship Session (AI Automation)
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- Introduction to Neural Networks
- Overview of deep learning, neural network architecture
- Activation functions, loss functions, and optimization algorithms
- Internship Session (AI Automation)
- Internship Session (AI Automation)

17-18**week**

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- Applications of RNNs in computer vision
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- Internship Session (AI Automation)

Detailed Curriculum of Data Science

**19-20
week**

Computer Vision Applications

- Image Classification
- Image classification techniques using deep learning
- Implementing image classification models
- Internship Session (AI Automation)
- Internship Session (AI Automation)

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- Internship Session (AI Automation)

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- Internship Session (AI Automation)

Detailed Curriculum of Data Science

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- Apply end-to-end project skills in the internship session, integrating deep learning and computer vision into practical applications-1
- Apply end-to-end project skills in the internship session, integrating deep learning and computer vision into practical applications-3
- Internship Session (AI Automation)
- Internship Session (AI Automation)