OBJECT AUTOMATION
AI Solutions and Chip Design Services
www.object-automation.com

COURSE OVERVIEW

Full Course Title: Data Science

Instructional Hours (Contact Hours): 80

Course Description:

In line with the industry requirements and standards and to satisfy the future technological needs, we designed this data science course. This course exhaustively covers each and every dimension that are associated with the data science By adhering to this one individual can grasp all the vital concepts. Starting from basic to advanced machine learning algorithms are included in our course.

Learning Outcomes:

- Helps to enhance the knowledge in Data science.
- To get sound knowledge about Statistics.
- To understand about various libraries of Python.
- Practical Implementation of Machine learning algorithms.
- Helps in Identification of irregularities that are present in the data set Using Data Visualization.
- Helps to interpret the Machine Learning model.
- Report on the predicted accuracy by using the models.

Learning Activities:

- ☒ Class Discussions/Discussion Boards
- ☒ Peer-to-Peer Work (pairs, small groups)
- ☒ Written Assignments (reports, essays)
- ☒ Case Study Analysis
- ☒ Student Projects
- ☒ Readings
- ☒ Textbook/Workbook Exercises
- ☒ Other: Click to enter

Methods of Assessment/Grading Criteria:

- ☒ Class/Discussion Boards Participation
- ☒ Written Assignments (reports, essays)
- ☒ Exams/Quizzes
- ☒ Individual Projects/Presentations
- ☒ Group Projects/Presentations
- ☒ Other: Click to enter

Course Topics:

- **Python Programming:** Data Science Libraries
- **Handling an array:** Using Numpy Library
- **Data Analysis:**
  - Pandas for Python
  - Exploratory Data Analysis (EDA) techniques
- **Data Visualization:**
  - Visualization tools and techniques
  - Matplotlib and Seaborn.
- **Statistics:**
  - Various Statistics terms
  - Hypotheses testing
- **Machine Learning:**

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  - Supervised Learning and unsupervised learning
  - Model evaluation and hyperparameter tuning
  - Imbalanced Learning
- **Natural Language Processing:**
  - Introduction to NLP.
  - Sentiment Analysis.

Prerequisites:

- Basic Mathematical and Statistics knowledge
- Beginner level Coding Knowledge

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