Certificate Course in Machine Learning using Python

Objective:

Machine Learning is broad and fast growing sub-field of Artificial Intelligence. This course introduces students to the basic concepts and techniques of Machine Learning. The objective of this course is to develop the skills required for Machine Learning Technologies with use of Python to analyze data, create beautiful visualizations, and problem solving using powerful machine learning algorithms.

Expected Job Roles

- Machine Learning Expert/ Data Scientist

Duration:

- 90 hrs. /6 Weeks
- 3hrs. Daily

Course Outline:

Sl. No	Module Title	Duration (Hours)		
		Theory	Lab	Total
1	Introduction to Python Programming	8	12	20
2	Data analysis and Exploration	4	4	08
3	Machine Learning and its Application	16	16	32
4	Mini Project	12	18	30
	Total Duration	**40**	**50**	**90**

Prerequisites:

Familiarity with programming language will be beneficial

Eligibility:

BE / B.Tech, MCA, MSc / BSc (IT / Computer Science /Electronics)/Diploma/ITI/Graduate pursuing or equivalent of any of these.

Online Theory / Practical Class Delivery Mode:

(Using any one of the following tools)

- NIELIT Web Conferencing tool using Jitsi.
- Cisco WebEx.
- Microsoft Team.
- Google Meet

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E-contents, Presentations, Assignments, programs etc can be shared using E-mail/whatsApp/Google classroom

Training Fees:

Rs. 1000/-

Payment towards Course fee paid through:

Name : NIELIT Lucknow
Bank name : Punjab National bank
Account Number : 3926002105001894
IFSC Code : PUNB0392600

***Once Fees paid will not be refunded in any case**

Registration Process:

After fee payment a link of registration form will be provided to the students for Online Registration.

Examination:

1. The Student shall be completing the per day module after having self-assessment through daily quiz (05 MCQ), which shall be in line with the content covered per day.
2. There shall be an online test for assessment at the end of the course

Certificate:

NIELIT Lucknow will provide training certificate to all the participants after successfully completion of training program.

Detailed Syllabus and Learning Outcome:

S. No	Chapter Name	Course Outline	Duration (Hours)		Learning Outcome
			Theory	Lab	
1	**Module 1 - Introduction to Python Programming** -	**1.1 Python Installation with various IDE's** 4.1 Python data Types 4.2 Control Structure 4.3 Functions **4.4** Introduction **of OOP's**	8	12	After completion of this module, the candidate will be able to : • How to install python software and IDEs. • How to use various data types like List, Tuple, and Dictionary etc. • How to use various loops and conditional statements. • Understand concept of

					Object Oriented Programming.
2	**Module 2 - Data analysis and Exploration**	1.2 **Data Analysis & visualization –using numpy, panda matplotlib, scipy etc.**	4	4	After completion of this module students will be • Data Manipulation using Numpy, Pandas and Matplotlib. • Preprocessing of machine learning.
3.	**Module3 - Machine learning & its Application**	**3.1 Introduction to machine learning.** **3.2 Supervised machine learning** **3.3 Unsupervised machine learnings** 3.4 **Study of various machine learning algorithms including Classification, Regression, , KNN, K Means, Logistic Regression, Support Vector Machines (SVM), Decision Tree, Naïve Bayes, Ensemble Methods, Random Forest etc.**	16	16	After attending this module the participants will be able to • Implementation of various machine learning algorithms • Evaluation of various machine learning algorithm
4.	**Module4 - Mini Project**	**Mini Project :**	12	18	After completion of the project students will be • Able to apply machine learning algorithm on given data. • Evaluation and visualization of performance. • Make predictions using machine learning algorithms.
Total Hours = 90			**40**	**50**	

Recommended hardware/software tools:

1. PC with Windows7/Windows10 with 4 GB RAM.
2. Python 3.x,Anocanda

Course Name	Certificate Course in Machine Learning using Python	**Vertical**	Machine Learning
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