SHARDA UNIVERSITY
Beyond Boundaries

NAAC A+ ACCREDITED

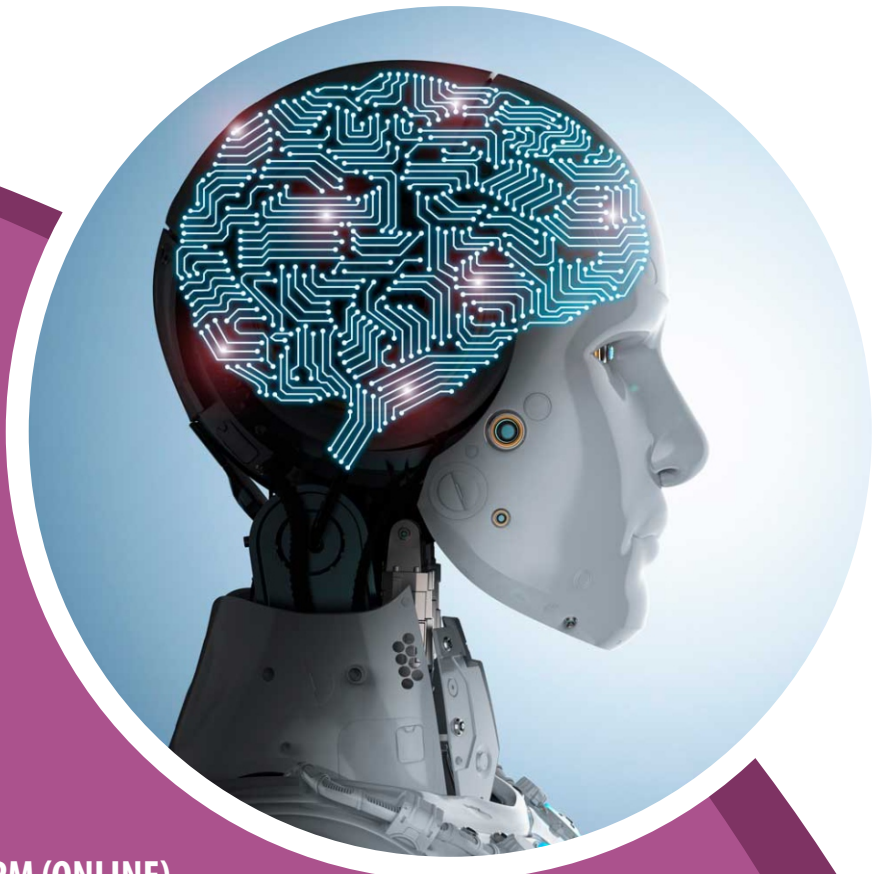
Training Program on

BASICS OF PYTHON AND APPLIED MACHINE LEARNING

(Online Lectures + Hands on training)

Centre for Artificial Intelligence in Medicine, Imaging & Forensics (CAIMIF)

Starting from 18 Sep - 25 Nov 2024 (52 Hours total)



Lecture Time: 07:00 PM to 9:00 PM (ONLINE)
2:00PM to 4:00 PM (Offline on Saturdays)

Venue: Center for Artificial Intelligence in Medicine, Imaging and Forensics
Room 103 B, Block 2, Sharda University

About Training Programme

The "Basics of Python and Applied Machine Learning" training program is designed to empower participants with the essential skills and knowledge needed to excel in the fields of programming and artificial intelligence. This program offers a comprehensive introduction to Python, covering foundational concepts and practical coding techniques. Participants will also explore key AI and machine learning principles, learning how to implement and apply these techniques to real-world problems. Through hands-on projects and guided exercises, attendees will gain practical experience in developing and deploying AI/ML models, equipping them with the tools to navigate the rapidly evolving tech landscape.

Objectives

- **Foundational Python Skills:** Equip participants with a solid understanding of Python programming basics, including data types, control structures, functions, and libraries, to ensure they can write and debug simple Python scripts.

- **Introduction to Machine Learning Concepts:** Provide an overview of key AI/ML concepts, such as supervised and unsupervised learning, model evaluation metrics, and common algorithms decision trees, random forests, support vector machines, and neural networks dealing with applications in classification, regression and clustering.

- **Practical Application of AI/ML Techniques:** Enable participants to apply AI/ML techniques using Python libraries (e.g., NumPy, Pandas, Scikit-learn, TensorFlow) to solve real-world problems, including data preprocessing, model training, and evaluation.

- **Hands-on Project Development:** Guide participants through developing and deploying a simple Machine Learning (ML) project, from problem definition and data collection to model implementation and performance optimization, fostering practical experience and problem-solving skills.

Convener

Prof. Ashok Kumar

Head, Center for AI in Medicine
Imaging & Forensics Sharda University

Coordinator

Ms. Bushra Khan

Assistant Professor
SAHS & member CAIMIF

Trainers from Center for AI in Medicine, Imaging & Forensics (CAIMIF):

C. Mokaju Meitei
Technical Assistant

Navita
Technical Assistant

Sanju
PhD Scholar

Registration Link
https://forms.gle/P7HbPmUrukNrexGS9

Fee Structure

Module 1: Basics of Python	**Rs. 1500**
Module 2: Applied Machine Learning	**Rs. 2000**
Modules 1 & 2	**Rs. 3000**

Note: Certificates will be issued for each Module separately

Bank Details for online payment

Bank Name : ICICI Bank Ltd.
Branch Address : Krishna Apra Royal Plaza, D-2, E(acb), Alpha-1, Greater Noida, Gautam Budh Nagar, UP- 201306
Account Holder Name : Sharda University-Seminar
Account No. : 025405005815 (CURRENT AC)
IFSC Code : ICIC0000254
SWIFT Code : ICICINBBCTS
MICR Code : 110229037

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Schedule and Course Details
Timing: 7 pm – 9 pm (evening)

Module 1 (Basics of Python)			
Date	**Day**	**Topic**	**Hrs.**
18/09/2024	Wednesday	• Installing Anaconda distribution of python • Creating & managing python environments • Using conda and pip package managers to install and manage python packages	2
20/09/2024	Friday	• Working with python using Jupyter notebook • Python Syntax	2
21/09/2024	**Saturday**	• **Hands-on-support (CAIMIF, Room 103, Block 2)**	**2**
04/10/2024	Friday	• Operators and variables • Data Types	2
05/10/2024	**Saturday**	• **Hands-on-support (CAIMIF, Room 103, Block 2)**	**2**
07/10/2024	Monday	• Conditional Statements	2
09/10/2024	Wednesday	• For & while loops	2
11/10/2024	Friday	• Numpy Arrays and their manipulation	2
14/10/2024	Monday	• Numpy Functions	2
16/10/2024	Wednesday	• Pandas data types	2
18/10/2024	**Friday**	• **Pandas DataFrames and their manipulation**	**2**
19/10/2024	Saturday	• Hands-on-support (CAIMIF, Room 103, Block 2)	2
21/10/2024	Monday	• Matplotlib	2
23/10/2024	Wednesday	• Seaborn	2

Module 2 (Applied Machine Learning)			
Date	**Day**	**Topic**	**Hrs.**
25/10/2024	Friday	• Introduction to AI and ML	2
28/10/2024	Monday	• Using Scikit-learn package for ML	2
04/11/2024	Monday	• Regression & Classification	2
06/11/2024	Wednesday	• Support Vector Machines (SVM) (Regression)	2
08/11/2024	Friday	• Support Vector Machines (SVM) (Classification)	2
11/11/2024	Monday	• Decision Trees & Random Forest (Regression)	2
13/11/2024	Wednesday	• Decision Trees & Random Forest (Classification)	2
16/11/2024	**Saturday**	• **Hands-on-support (CAIMIF, Room 103, Block 2)**	**2**
18/11/2024	Monday	• Clustering (k-means, Gaussian mixture)	2
20/11/2024	Wednesday	• Dimensionality reduction (PCA)	2
22/11/2024	Friday	•Designing and training Artificial Neural Networks with tensorflow and keras packages of python	2
25/11/2024	Monday	• Fine-tuning hyperparameters for Artificial Neural Networks with tensorflow and keras	2
Total Hours			**52**

N.B. Certificates will be issued for each Module separately