Department of Computer Science and Engineering

Six - days Hands-on Skill Training on

DATA ANALYTICS USING PYTHON

Academic Year	2023-24	Targeted Audience from	CSE 4th 'A'
Name of the Event	Workshop	Number of Participants	67
Date of Conduction	27th to 29th May 2024	Time	09.00 AM to 05:00PM
Venue	COE Lab	Resource	Loganathan Rangaswamy

Details of Training:

Objective	The primary objectives of the workshop were: - To aims to equip you with essential skill in decision science using Python. - The Workshop will focus on Python and how to achieve the results with python. - To introduce students to the real-world demands and expectations in using Data analytics in Python - To provide hands-on experience with essential Python modules used in Data analytics. - To help students understand their learning paths and career opportunities in Data analytics. - To mainstream essential information and best practices in Data analytics using Python.
Details of the Activity	The workshop on Data Analytics using Python was organized and conducted by the CSE dept. This Workshop was conducted for 6 days from Monday to Saturday. The students from the CSE dept showed a huge interest in this workshop. All the students gathered in the COE lab by 9:00 am to 5.00 pm on every day of workshop. On the first day briefly explain to the students about the basic of python was taught to the students and various doubts were solved. The next day onwards this Workshop Content:- followed The workshop covered various topics and modules essential for building skills. **1. Introduction to Python** ❖ Basic of Python, Syntax, Variables, Data types. ❖ Types of Operators using Python, Lists, Tuple, Conditional statements, Looping statements and Arrays. ❖ Hands on: Executing of Several Programs about on, E-bill Generation, Bank Withdrawal, Salary hiking so and so on. ❖ Python Libraries for Data Analytics: NumPy, Pandas & Matplotlib with example programs, Basic operations and setup. **2. Basics of OOPs in Python** ❖ Define a Class, Objects, Primitive data structures, Class Definition, Classes v/s Instances, Instances methods. ❖ Threading, Socket programming, Programming Demo, Properties of Python lists, Recursion and Arguments. ❖ Programs on a particular pattern using Python Programming Language & a Presentation from students. **3. Continued with OOP's Concept ;** ❖ Inheritance: Types of Inheritance & Related Programs ❖ How to inherit from Parent Class to Child Class ❖ Encapsulation capsulated of attributes ❖ Properties of OOP's in Python & Related Programs ❖ Conduct a Quiz about what the Python. **4. Introduction to Machine Learning** ❖ 7 Steps in Machine Learning, Frame Work ❖ Tkinter Module: import the module and to use the module in program & how to connect the one module to another. ❖ Load the dataset using pandas read_csv(), head(), describe(), drop() functions

	❖ Plot a histogram; Draw a correlation plot between the variables, Graphs, Bar Chart & Pie Chart. ❖ Django Application: Django is based on MVT (Model-View-Template) architecture. **5. Image Processing** ❖ Introduce of OpenCV (Open Source Computer Vision) ❖ Image Resizing, Rotation Translation, Normalization ❖ Edge Detection of Image, Image Blurring, Morphological Image processing.
Outcome	Data Analytics using Python is the fundamental process for starting with any of the projects. Also it is beneficial for the students as now they will be able to make their own Project successfully. Project exhibition on Data Analytics using Python based on this worshop was also conducted by CSE dept.

Glimpse of course conduction are as follows...

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