**Two days Faculty Development Program on**

# Data Science using Python

**5th and 6th March. 2k20**

**Department of Computer Science & Engineering**

| Department | Sr no | Name | College |
|---|---|---|---|
| Computer Science & Engineering | 1 | Dr. Archana M. Chougule | SGU |
| | 2 | Dr. Bhagyashri A. Kelkar | SGU |
| | 3 | Dr. Sangram T. Patil | SGU |
| | 4 | Mr. Pradeep S. Khot | SGU |
| | 5 | Ms. Sujata A. Pardeshi | SGU |
| | 6 | Mr. Chetan S. Arage | SGU |
| | 7 | Mr. Mahesh P. Gaikwad | SGU |
| | 8 | Mr. Uday B. Mane | SGU |
| | 9 | Ms. Rahesha Y. Mulla | SGU |
| | 10 | Mr. Gurunath G. Machhale | SGU |
| | 11 | Mr. Rahul G. Sonkamble | SGU |
| | 12 | Mr. Krishna M. Aldar | SGU |
| | 13 | Mr.Vinayak N. Malavade | SGU |
| | 14 | Mr. Arvind S. Kamble | SGU |
| | 15 | Mrs. Deepika V. Patil | SGU |
| | 16 | Mrs. Pooja Ambapkar | SGU |
| | 17 | Mr. Pravin Kothawale | SGU |
| | 18 | Mrs. Manisha K. M. | SGU |
| | 19 | Mr. Gulab Shaikh | SGU |
| | 20 | Mrs. Vanchala Sutar | SGU |
| | 21 | Ms. Supriya More | SGU |
| | 22 | Mrs. Priti Shendre | SGU |
| | 23 | Mrs. Supriya Tambire | SGU |
| | 24 | Ms. Sujeeta S. Shah | SGU |
| | 25 | Ms. Hemlata Patil | SGU |
| | 26 | Ms. Pooja Shinde | SGU |
| | 27 | Ms. Shital Gaikwad | SGU |
| | 28 | Mr. Akhilesh Hiremath | SGU |
| School of Technology | 29 | Mr. S.Salagare | SGU |

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**INTRODUCTION ABOUT WORKSHOP:**

Data Science–An interdisciplinary field, data science deals with processes and systems that are used to extract knowledge or insights from large amounts of data.

Data extracted can be either structured or unstructured. Data science is a continuation of data analysis fields like data mining, statistics, predictive analysis. A vast field, data science uses a lot of theories and techniques that are a part of other fields like information science, mathematics, statics, chemometrics and computer science. Some of the methods used in data science include probability models, machine learning, signal processing, data mining, statistical learning, database, data engineering, visualization, pattern recognition and learning, uncertainty modeling, computer programming among others. With advancements of so much of data, many aspects of data science are gaining immense importance, especially big data. Data science is not restricted to big data, which in itself is a big field because big data solutions are more focused on organizing and preprocessing the data rather than analyzing the data. In addition, machine learning has enhanced the growth and importance of data science in the last few years. Data has real value and every information extracted from it can make or break businesses. Analytics is the intersection of business and data science, offering new opportunities for a competitive advantage. It unlocks the predictive potential of data analysis to improve financial performance, strategic management, and operational efficiency. Data analytics can lead to valuable insights that can determine leads to increase sales, fraud detection, pattern recognition and risk prediction in various domains. As part of this initiative, a Faculty Development Programme (FDP) is conducted to focus on the fundamentals of data science with hands-on sessions on every topic handled using python

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**LEARNING OBJECTIVES FOR THE WORKSHOP:**

- Understand the focus and benefits of the Data Science using Python
- This workshop will encourage learning of Python programming & provides knowledge of a powerful Python library:Pandas, which lets to read, modify and search tabular datasets.
- To analyze data using Python libraries like pandas and numpy.
- This workshop also helps participants to visualize data & create line plots with another Python module:Matplotlib.
- To understand Python language basics and apply to data science & practice iterative data science using Jupyter notebook.

**WORKSHOP SCHEDULE:**

### DAY 1: BASICS OF PYTHON AND ITS LIBRARIES – MR. VIVEK NIKAM

11:00 11:30 Introduction, expectation
Setting, agenda Discussion
11:30 11:45 Tea Break
11:45 13:15 Basics of Python, Introduction to Jupyter notebook
13:15 14:00 Lunch Break
14:00 15:00 Python Data structre
15:00 15:15 Tea Break
15:15 16:45 Hands on Numpy, MatPlotLib and Pandas library
16:45 17:00 Summary and wrap-up Discussion

### DAY 2: MACHINE LEARNING- MR. VIVEK NIKAM

9:30 10:00 Review, Basic concept of Machine learning
10:00 11:30 Machine learning using Scikit-learn

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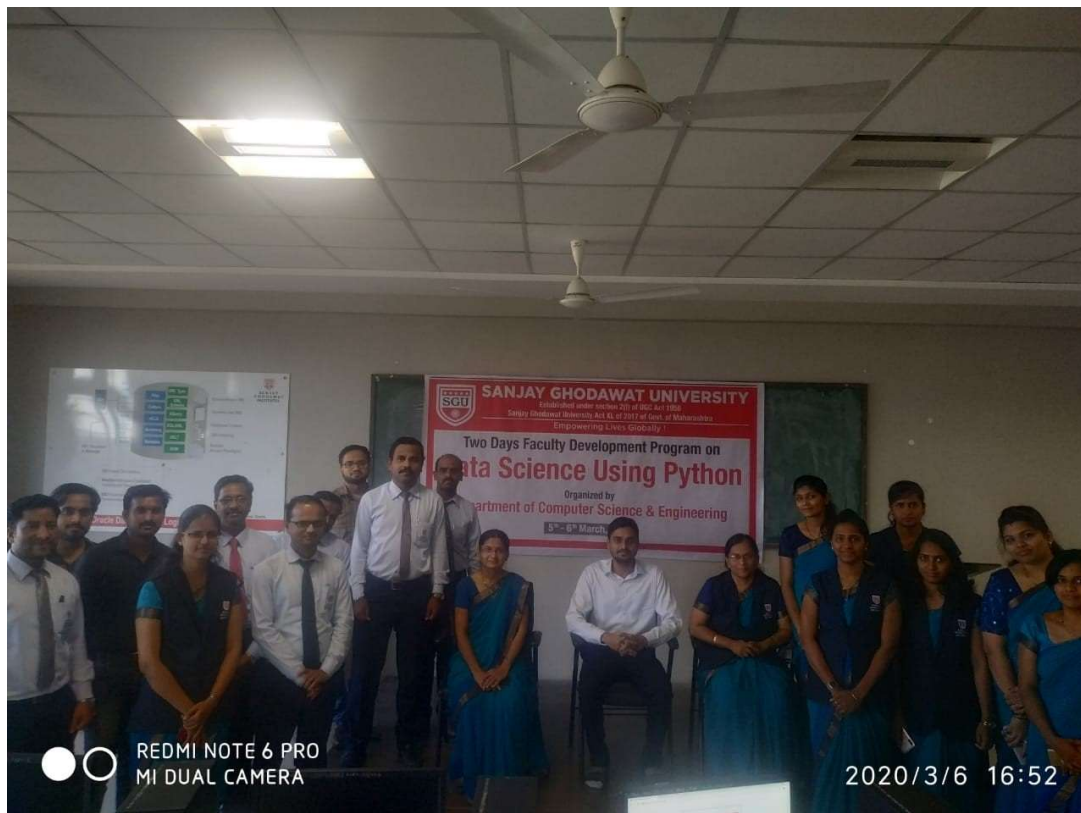11:30 11:45 Tea Break
11:45 13:15 Regression, Logistic Regression, KNN
13:15 14:00 Lunch Break 4
14:00 15:00 Hands on on Regression, Logistic Regression, KNN
15:00 15:15 Tea Break
15:1516:45 Decision Tree, Random Forest
16:00 17:00 Summary and wrap-up

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# Sanjay Ghodawat University Kolhapur

Established as a State Private University under Govt. of Maharashtra Act No. XL dated 3rd May 2017

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