

**A Report on Five days Online Faculty Development Programme on on
"Exploring Data Science with Hands on Training using Python"
Organised by Department of Computer Applications
from 22.04.2024 to 26.04.2024**



Report Submitted by: Dr. C. Sivaraj, Assistant Professor, Department of Computer Applications & Dr. S. Jansi, Assistant Professor, Department of Computer Applications.

Total Number of Participants: 194

Mode of Delivery: Online Mode through Microsoft Teams

Report Received on 07.05.2024

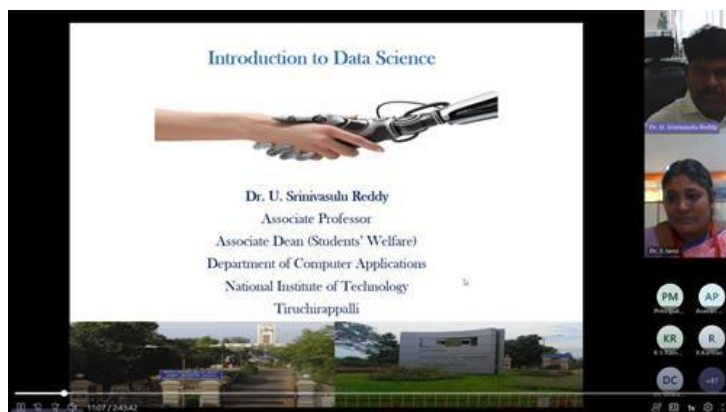
Inauguration:

The Programme started at 10 AM with an introductory address and welcome address by **Dr. C. Sivaraj** and **Dr. S. Jansi**, Assistant Professor, Department of Computer Applications, MITS. Then, the presidential address was delivered by our honourable Principal, **Dr. C. Yuvaraj Garu**. He highlighted our resource persons from various eminent institutions and emerging trends & technologies in Data science. He encouraged all participants from various institutions and states of the nation and foreign country. Then, the morning session was taken over by the resource person **Dr. U. Srinivasulu Reddy** from NIT- Tiruchirappalli, who introduced by Dr. S. Jansi, Assistant Professor.

Day 1 - Session 1: 22.04.2024 (Monday)

Resource Person: Dr. U. Srinivasulu Reddy, Associate Professor in CA, NIT- Tiruchirappalli.

Topic: Introduction to Data Science and Python Libraries

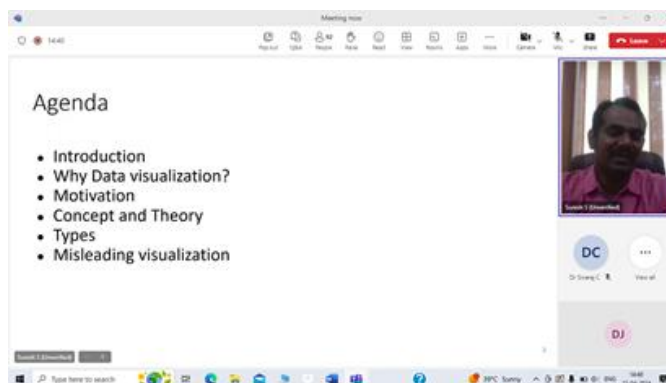


Dr. U. Srinivasulu Reddy started the session at 10.00 AM by extending his thanks to the Management, Principal and Organizers. He explained the importance of Data science in the current industry. He discussed the role of machine learning & deep learning techniques in data science. Further, he explained various applications of Data science. Later, **Ms Rebacca Kennet**, a scholar of **Dr. U. Srinivasulu Reddy**, explained all the Python libraries for data science and gave a demo. Finally, the session was concluded with an effective Q&A with the participants.

Day 1 - Session 2: 22.04.2024 (Monday)

Resource Person: Dr. S. Suresh, Assistant Professor in Computer Science, National Institute of Technology Kurukshetra.

Topic: Data Visualization Techniques

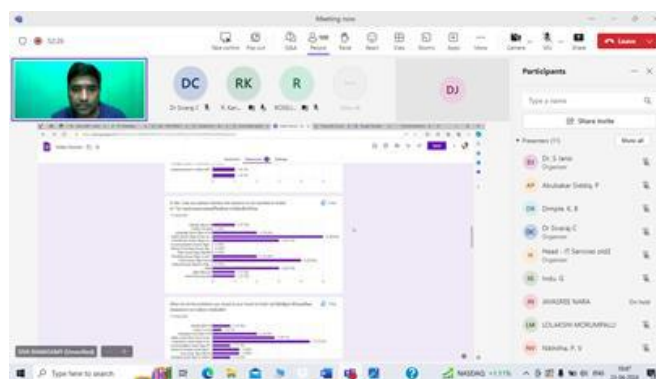


The Session started at 2.00 PM; **Dr. S. Suresh** explained the types of data, statistical description of data, Different types of visualization and facts that are misleading visualization. He gave a demo session on various types of visualization using Python. Finally, the Session concluded with a Q&A with the participants.

Day 2 - Session 1: 23.04.2024 (Tuesday)

Resource Person: Dr. R. Siva Shankar, Faculty of Computer Science, International College of Digital Innovation, Chiang Mai University, Thailand.

Topic: Data Transformation and Merging and Exploratory Data Analysis

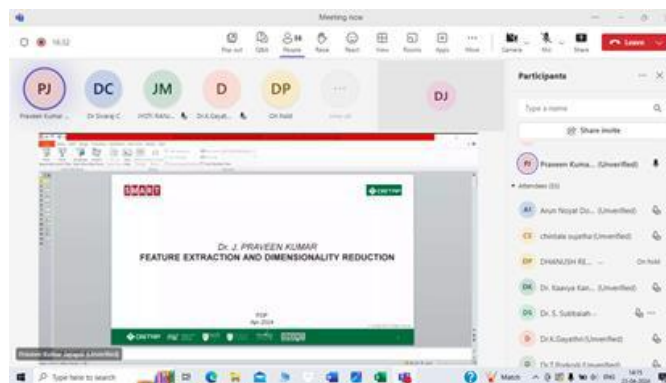


The Resource person started the session at 10.00 AM and thanked the Management, Principal and Organizers. He explained data integration, data cleaning, preprocessing, handling missing data and outliers, descriptive statistical data, joining and merging the data, and dealing with data inconsistency and conflicts. He also gave a demo session in exploratory data analysis in various fields using real-time data. Finally, the session concluded with an effective Q&A with the participants.

Day 2 - Session 2: 23.04.2024 (Tuesday)

Resource Person: Dr. J. Praveen Kumar, Post-Doctoral Research Associate, Singapore - Massachusetts Institute of Technology Alliance for Research and Technology, Singapore.

Topic: Feature Extraction and Dimensionality Reduction



Dr. J. Praveen Kumar started the session at 02.00 PM by extending his thanks to the Management, Principal and Organizers. He explained data transformation and reshaping, feature extraction, feature selection, categorical and textual data handling, and dimensionality reduction. He gave the demo session by using real-time data. Finally, the session was concluded with an effective Q&A with the participants.

Day 3 - Session 1: 24.04.2024 (Wednesday)

Resource Person: Dr. Nandhini Kumaresh, Assistant Professor in Computer Science, Central University of Tamilnadu, Thiruvavur.

Topic: Descriptive Analysis – Outlier deduction Techniques

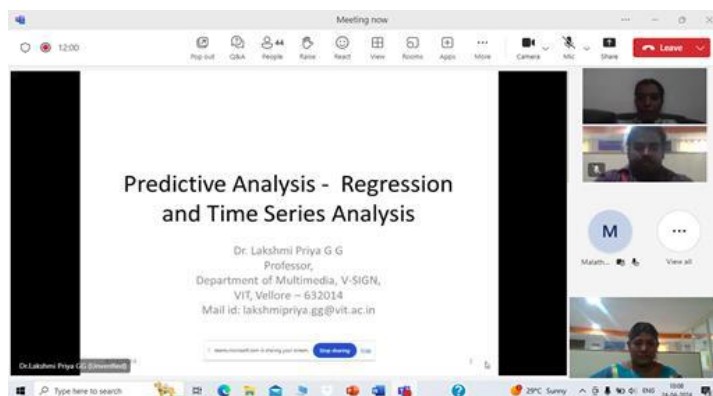


Dr. Nandhini Kumaresh started the session at 10.00 AM. She explained the descriptive analysis, types of outliers and their detection techniques. And she gave the demo session for different types of outlier’s detection using real-time data. Finally, the session was concluded with an effective Q&A with the participants.

Day 3 - Session 2: 24.04.2024 (Wednesday)

Resource Person: Dr. G.G. Lakshmi Priya, Associate Professor of Multimedia, VIT (Deemed to be University), Vellore.

Topic: Predictive analysis -Regression and Time series Analysis

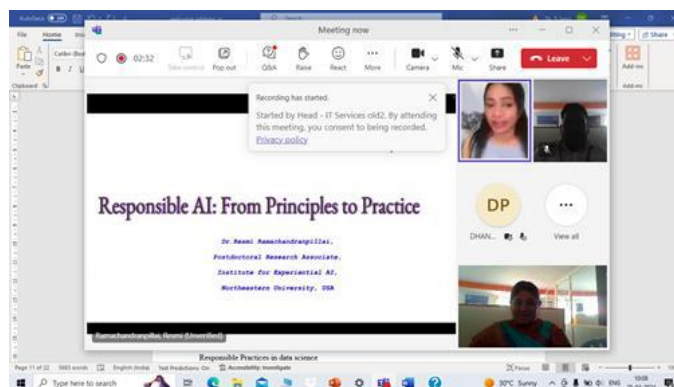


The Resource person started the session at 02.00 PM by extending her thanks to the Management, Principal and Organizers. She explained the predictive analysis techniques, linear and Multiple regression, and different types of Time series analysis. She gave the demo session for regression and different time series analyses using real-time data. Finally, the session was concluded with an effective Q&A with the participants.

Day 4 - Session 1: 25.04.2024 (Thursday)

Resource Person: Dr. Resmi Ramachadran pillai, Postdoctoral Research Associate, Institute for Experimental AI, Northeastern University, USA.

Topic: Responsible Practices in Data Science

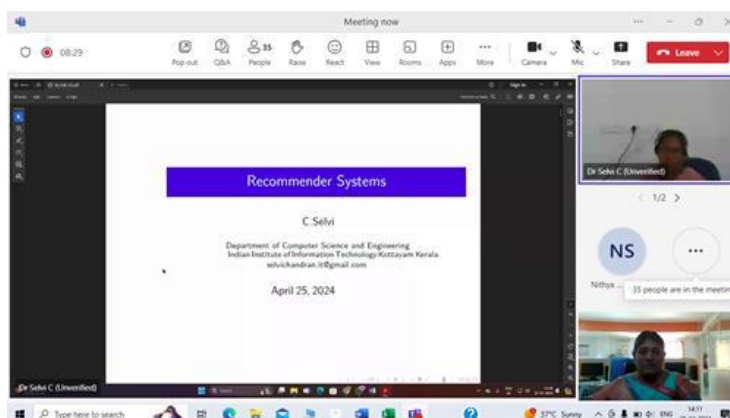


Dr. Resmi Ramachadran Pillai started the session at 10.00 AM. She explained responsible AI human performance, adversarial learning, and reduction approaches. She has given the demo session for adversarial learning using real-time data in Python. Finally, the session was concluded with an effective Q&A with the participants.

Day 4 - Session 2: 25.04.2024 (Thursday)

Resource Person: Dr. C. Selvi, Assistant Professor in CSE, Indian Institute of Information Technology, Kottayam.

Topic: Case Study – Recommender System / Sentimental Analysis



The Resource person started the session at 02.00 PM by extending his gratitude to the Management, Principal and Organizers. She explained the recommender systems, existing solutions in recommendation systems, collaborative filtering, and user-based and memory-based CF. She gave a demo session in the field of recommendation systems using real-time data in Python. Finally, the session was concluded with an effective Q&A with the participants.

Day 5 - Session 1: 26.04.2024 (Friday)

Resource Person: Dr. Arish Pitchai, Senior Associate, PRINCEWATERHOUSECOOPERS, Quantum R&D, Bengaluru.

Topic: Case Study – Data Science in Generative AI and Its Applications

Dr. Arish Pitchai started the session at 10.00 AM by extending his thanks to the Management, Principal and Organizers. He explained deep learning, generative AI and its applications, and prompting elements – COSTAR. He gave a demo session in the field of Generative AI using real-time data. Finally, the session was concluded with an effective Q&A with the participants.

The valedictory session for the Faculty Development Program on "Exploring Data Science with Hands-on Training using Python" culminated in the program's success and achievements. All resource persons praised the participants for their active engagement throughout the FDP and emphasized the significance of hands-on training in Data Science. The summary report was given by Dr. S. Jansi, Assistant Professor, Department of Computer Applications. Followed by Dr N. Naveen Kumar, Associate Professor & Head, addressed the valedictory function, highlighted Python's importance in Data Science and encouraged participants to integrate their newfound skills into teaching and research. Then, the participants were given feedback about the topic presented by resource persons, and they emphasized the knowledge of the research persons and their expertise. Finally, the session was concluded by a vote of thanks delivered by Dr C. Sivaraj, Assistant Professor, Department of Computer Applications. He thanked the Management, Principal, HoD, Resource Persons, Participants, Faculty members of our department, and technical and non-technical coordinators for the successful completion of the event.

Participants List Summary:

Total number of Participants: 194

Foreign participants: 02

- Ghana: 01
- Zambia: 01

Indian Participants: 192

<ul style="list-style-type: none">• Tamil Nadu: 121• Andhra Pradesh: 46• Karnataka: 12• Telangana: 01• Maharashtra: 06	<ul style="list-style-type: none">• Puducherry: 01• Utter Pradesh: 2• West Bengal: 01• Chandigarh: 02• Odisha: 02
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FDP Outcome:

- Participants developed their comprehension of Data Science, Machine learning, Generative AI and Responsible AI and Practices.
- The FDP facilitated hands-on experience using Python and data visualization tools like Tableau, enabling participants to develop expertise in data science over real-world Applications. This method nurtured a more practical understanding of the subject matter.
- The FDP fosters faculty members and research scholars to accelerate their careers and research towards the data science domain. All the FDP contents are made available to the participant through Google Classroom (Class code: zlkt23t).