Detailed Report

Seminar on- "Machine Learning & Data Science using Python"

In association with- JN Tech Network, Noida

Subject Area- Research Methodology

Organized by- Staff, ECE

Data science is a field that has exploded in popularity in recent years, and for good reason. Companies across industries are increasingly relying on data to inform their decision-making, and skilled data scientists are in high demand. When it comes to data science, we need some sort of programming language or tool, like Python. It has become the programming language of choice, particularly for data science. Although there are other tools for data science, like R and SAS, we will focus on Python and how it is beneficial for data science. Seminar on **"Machine Learning & Data Science using Python"**in association with JN Tech Network, Noida was hosted on 24/03/2021 for 65 B. Tech CS students (IInd, IIIrd and IVth year) who were present.

Machine learning is a field of computer science that uses statistical techniques to give computer programs the ability to learn from past experiences and improve how they perform specific tasks.Machine Learning can be an incredibly beneficial tool to uncover hidden insights and predict future trends. This Machine Learning with Python course will give all the tools to get started with supervised and unsupervised learning.Due to the complex, scientific computing nature of machine learning applications, Python is considered the most suitable

programming language. This is because of its extensive and mature collection of mathematics and statistics libraries, extensibility, ease of use and wide adoption within the scientific community. Experts highlighted this vitality of Python in lives of engineering students and covered key concepts such as-

- Cross Validation & Bias-Variance Trade-off,
- Recommender Systems, Natural Language Processing and
- Machine Learning Algorithms.
- The difference between the two main types of machine learning methods: supervised and unsupervised
- Learning algorithms, including classification and regression
- Clustering and Dimensionality Reduction
- How statistical modelling relates to machine learning and how to compare them?
- Real-life examples of the different ways machine learning affects society

The session ended with vote of thanks and student feedback which further motivated the department to arrange such events repeatedly.

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