



**NEW HORIZON
COLLEGE OF ENGINEERING**

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Workshop
On

“Data Preprocessing – The Foundation of Machine Learning & Data Science”

Participants: 7th Semester Students

Date: 17-10-2025

Brief Description Of The Event

On 17th October 2025, hosted a workshop on “Data Preprocessing – The Foundation of Machine Learning & Data Science.” The session was conducted by Mr. Akash V, Data Scientist, Prinston Smart Engineers, Bangalore.

The workshop offered participants a deep understanding of how data preprocessing serves as the critical first step in any successful machine learning or data science project. It focused on transforming raw, unstructured data into clean, organized, and meaningful datasets ready for model building. Participants learned the importance of data quality, consistency, and feature engineering in achieving accurate and reliable predictive outcomes.

Key Points Covered:

- **Introduction to Data Preprocessing:**

The session began with an overview of the data science workflow, emphasizing the role of preprocessing as the foundation for any ML model. Participants learned about data collection, cleaning, transformation, and integration as key steps in preparing data for analysis.

- **Handling Missing and Noisy Data:**

Students explored various strategies to identify and handle missing values, outliers, and noise in datasets.

Techniques such as imputation, normalization, and data smoothing were demonstrated with real-world examples.

- **Data Transformation and Feature Engineering:**

The workshop covered essential transformation techniques like scaling, encoding categorical variables, and feature extraction. Participants understood how engineered features significantly improve model performance and interpretability.

- **Data Reduction and Sampling:**

Different methods of reducing data dimensionality, including Principal Component Analysis (PCA) and feature selection techniques, were discussed. Participants learned how data reduction enhances computational efficiency without losing critical information.

Outcome:

By the end of the workshop, participants gained:

- A clear understanding of the importance of data preprocessing in the ML pipeline.
- Practical exposure to handling missing data, outliers, and noisy datasets.
- Hands-on experience with data transformation and feature engineering techniques.
- Knowledge of dimensionality reduction and data sampling methods.
- The ability to prepare clean, structured datasets for effective machine learning model development.
- Inspiration to explore advanced tools and frameworks used in data science workflows.

Activities Conducted: NIL

No. Of Participants: 54

Winners (if any, for activities conducted): NA

Guest Details (Name, Designation, Organization, Location) :

Mr. Akash V, Data Scientist, Prinston Smart Engineers, Bangalore.

The brochure of the event :



Department of Information Science and Engineering

Workshop

Data Preprocessing – The Foundation of Machine Learning & Data Science

 17 October 2025

 10:00 AM to 12:00 PM

 Room No: C 519

 7th Semester



Mr. Akash V

Data Scientist
Prinston Smart Engineers, Bangalore

Coordinator
Mrs. Priya N
Sr. Assistant professor, ISE

Convenor
Dr. Vandana C P
Assoc. Professor and HoD - ISE

Glimpse of an Event





Faculty Coordinator

Priya N

HOD-ISE

Dr.Vandana.C.P