

# INFOSOFT IT SOLUTIONS

**Training | Projects | Placements**

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## **FEATURE ENGINEERING**

### **Introduction to Feature Engineering**

- Understanding Features
- Importance of Feature Engineering
- Overview of the Data Science Workflow

### **Data Preprocessing**

- Handling Missing Values
- Data Cleaning Techniques
- Data Transformation

### **Feature Scaling**

- Normalization and Standardization
- Min-Max Scaling
- Robust Scaling

## **Feature Selection**

- Filter Methods (Correlation, Chi-Square)
- Wrapper Methods (RFE, Recursive Feature Elimination)
- Embedded Methods (Lasso, Ridge)

## **Feature Extraction**

- Principal Component Analysis (PCA)
- Linear Discriminant Analysis (LDA)
- t-Distributed Stochastic Neighbor Embedding (t-SNE)

## **Categorical Feature Encoding**

- One-Hot Encoding
- Label Encoding
- Target Encoding
- Frequency Encoding

## **Text Feature Engineering**

- Bag of Words
- TF-IDF
- Word Embeddings (Word2Vec, GloVe)

## **Feature Engineering for Time Series Data**

- Date-Time Features
- Lag Features
- Rolling Statistics

## **Interaction Features**

- Polynomial Features
- Binning and Discretization
- Interaction Terms

## **Feature Engineering in Practice**

- Case Studies
- Practical Applications
- Hands-on Projects

## **Advanced Techniques**

- Feature Importance
- Using Feature Tools (FeatureTools, AutoFeat)
- Feature Engineering in Deep Learning