# **Data Pre-Processing Techniques:**

* **Import Libraries**
* **Import Loaded Data**
* **Plotting the data:** Line, bar, scatter, histograms, heatmaps etc.
* **Data cleansing:** Correcting irrelevant, corrupt or inaccurate records
* **Handling missing values:** Deleting, removing or replacing the missing values in dataset
* **Handling outliers**: Removing too high or too low values
* **Attribute Selection:** Selecting the required attributes only
* **Normalization:** Scaling the numerical values in a specific range
* **Encoding the data:** Converting non numerical values to numerical
* **Feature scaling:** Scaling columns to a uniform range so no single column dominates

# **Data Augmentation:**

## **Text data augmentation:**

* Word or sentence shuffling
* Word replacement
* Syntax tree manipulation
* Insert random words
* Random words deletion

## **Image Augmentation:**

* Flip
* Rotation
* Blur
* Exposure
* Contrast
* Grayscale
* Noise
* Random Erasing
* Random Cropping

# **Hyperparameter Tunning:**

* Manual Tunning
* Grid Search
* Random Search
* Bayesian optimization