## 3. Robust Scaler

## How it works:

Scales data based on its median and interquartile range (IQR), making it robust to outliers.

## Steps:

1. Calculate the median and IQR:

Median = middle value of the sorted data

$$IQR = Q3 - Q1$$

Where Q3 is the 75th percentile, and Q1 is the 25th percentile.

2. Transform each data point:

For every  $x_i$  in the dataset:

$$x_i' = rac{x_i - ext{Median}}{ ext{IQR}}$$

Use Case: When your data has outliers, and you want to minimize their influence.