Cross Validation

* Tries to minimize the variance present in the data. Model Explainability of Variance becomes more.
* Multiple types:
  + Leave One Out Cross Validation
  + K-Fold Cross Validation
  + Stratified K-Fold Cross Validation

# Leave One Out Cross Validation

Chart, line chart

Description automatically generated

* One Row as Test Set, all the remaining Rows as Train Set
* Each Bucket contains only 1 row
* Every iteration the test set bucket changes, till the last row is taken as the test set.

# K-Fold Cross Validation

Chart, line chart

Description automatically generated

* Instead of having one bucket only one row, each bucket has multiple rows.
* One bucket is taken as the hold-out set for testing purposes, while other buckets are used for training
* Training is done multiple times till each bucket has been tested.

# Stratified K-Fold Cross Validation

A picture containing chart

Description automatically generated

* Each bucket has equal proportion of the classes
* Other process remains the same as K-Fold Cross Validation