

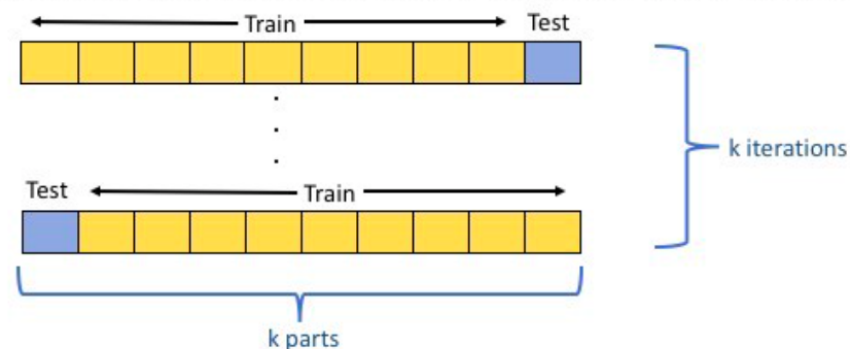
Resampling Strategy!

<https://www.analyticsvidhya.com/blog/2022/02/different-types-of-cross-validations-in-machine-learning/>

1. Holdout Method
 - train-test
 - error estimation
2. K-fold Cross Validation

K Folds Cross Validation Method

1. Divide the sample data into k parts.
2. Use $k-1$ of the parts for training, and 1 for testing.
3. Repeat the procedure k times, rotating the test set.
4. Determine an expected performance metric (mean square error, misclassification error rate, confidence interval, or other appropriate metric) based on the results across the iterations



train-validation

error is averaged for all k trials to determine the efficiency
minimizes bias

3. Stratified K-fold Cross Validation
 - unbalanced data set
 - hyper-parameter adjustment
 - each k sample has equal outputs
4. Leave P-Out Cross Validation
 - leave p data points
 - train the model using $n-p$ data points
 - validation using p data points
 - repeat for all possible combinations

Cross Validation in Continuous Model Training

<https://stats.stackexchange.com/questions/519282/what-use-is-a-test-set-in-a-continuous-training-setting>

- After initial training, generalization performance was estimated based on a held out test set.