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**Bagging**  is meta algorithm in machine learning which is designed to improved stability and accuracy in statical classification and regression. It reduces variance and avoid overfitting.

**Bootstrapping** is a technique that helps in many situations like validation of a predictive model performance, ensemble methods, estimation of bias and variance of the model.

**Cross validation** is a technique for validating the model performance, and it’s

done by split the training data into L parts. When we collecting many samples at that time it is not correct to assume certain distribution. Bootstrap can drawing with replacement of the original data set .It can used when data has more. Cross validation is evaluating how well your model does, but you have limited data .Cross-validated bagged estimator which acknowledges that each estimator indexed by fine-tuning parameters corresponds with a bagged estimator, and uses cross-validation to select among these candidate bagged estimators, and possibly between these estimators and additional non-bagged estimators.

In order to reduce the variance the prediction is subject to while resampling validation such as cross validation and out-of-bootstrap validation evaluate a number of surrogate models assuming that they are equivalent for the actual model in question which is trained on the whole data set.

When we use cross-validation instead of bootstrap .The collected samples are not clear and understandable to model. It should be complicated when data is more.They have create issue in reducing the variance.