

# Bootstrapping vs. Bagging Summary

Feature	Bootstrapping	Bagging (Bootstrap Aggregating)
Primary Role	A <b>sampling method</b> .	An <b>ensemble learning technique</b> .
Purpose	To estimate the uncertainty of a statistic or generate data subsets.	To improve model accuracy and reduce variance (overfitting).
Process	Randomly sampling data <b>with replacement</b> to create a single new dataset.	<b>Uses bootstrapping</b> repeatedly to create many datasets, trains a model on each, and then aggregates the predictions.
Output	A new dataset (a bootstrap sample).	A single, robust final prediction.