Implementing Ensemble Learning Using Model Stacking

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Overview

Model stacking for ensemble learning

Dividing data sets for model stacking

Training set, hold out set, test set

Training a blender model

Stacking or Stacked Generalization

Important Questions in Ensemble Learning

What kind of individual learners to use?

How should individual learners be trained?

How should individual learners be combined?

Combining Individual Learners

Hard voting: Majority vote of individual learners (classification)

Soft voting: Probability-weighted average

Model stacking: Train additional model to combine individual learners

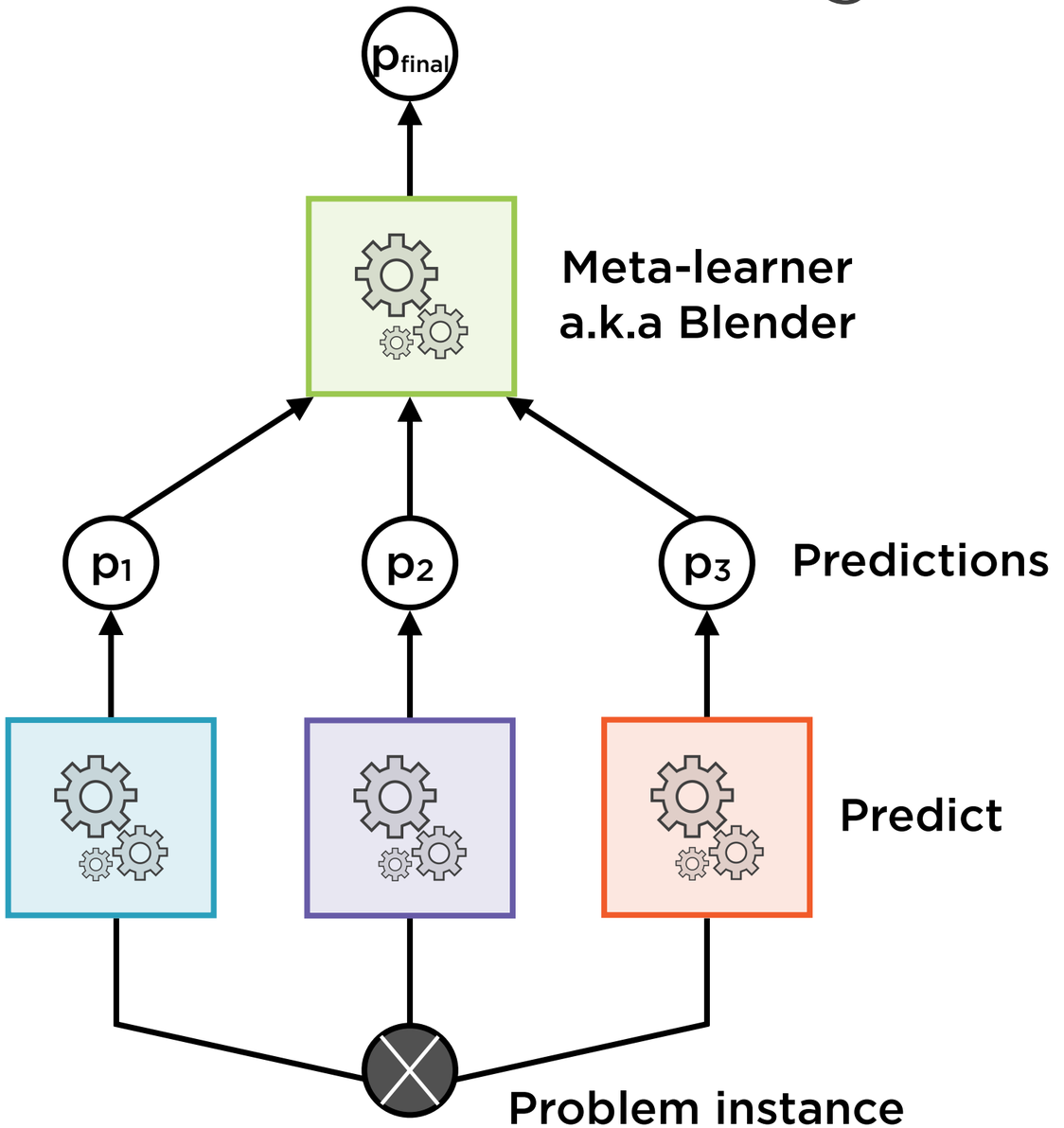
Combining Individual Learners

Hard voting: Majority vote of individual learners (classification)

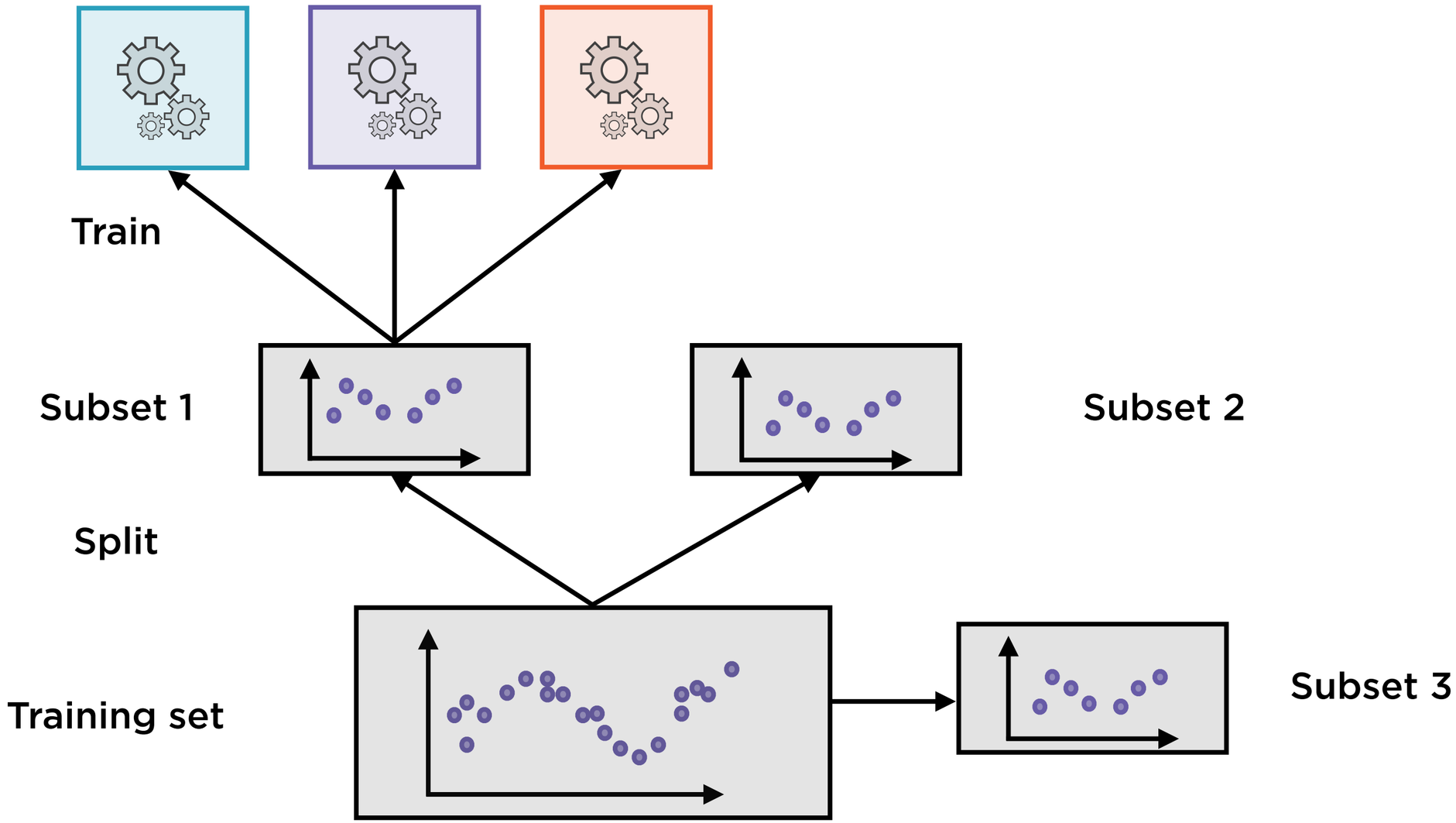
Soft voting: Probability-weighted average

Model stacking: Train additional model to combine individual learners

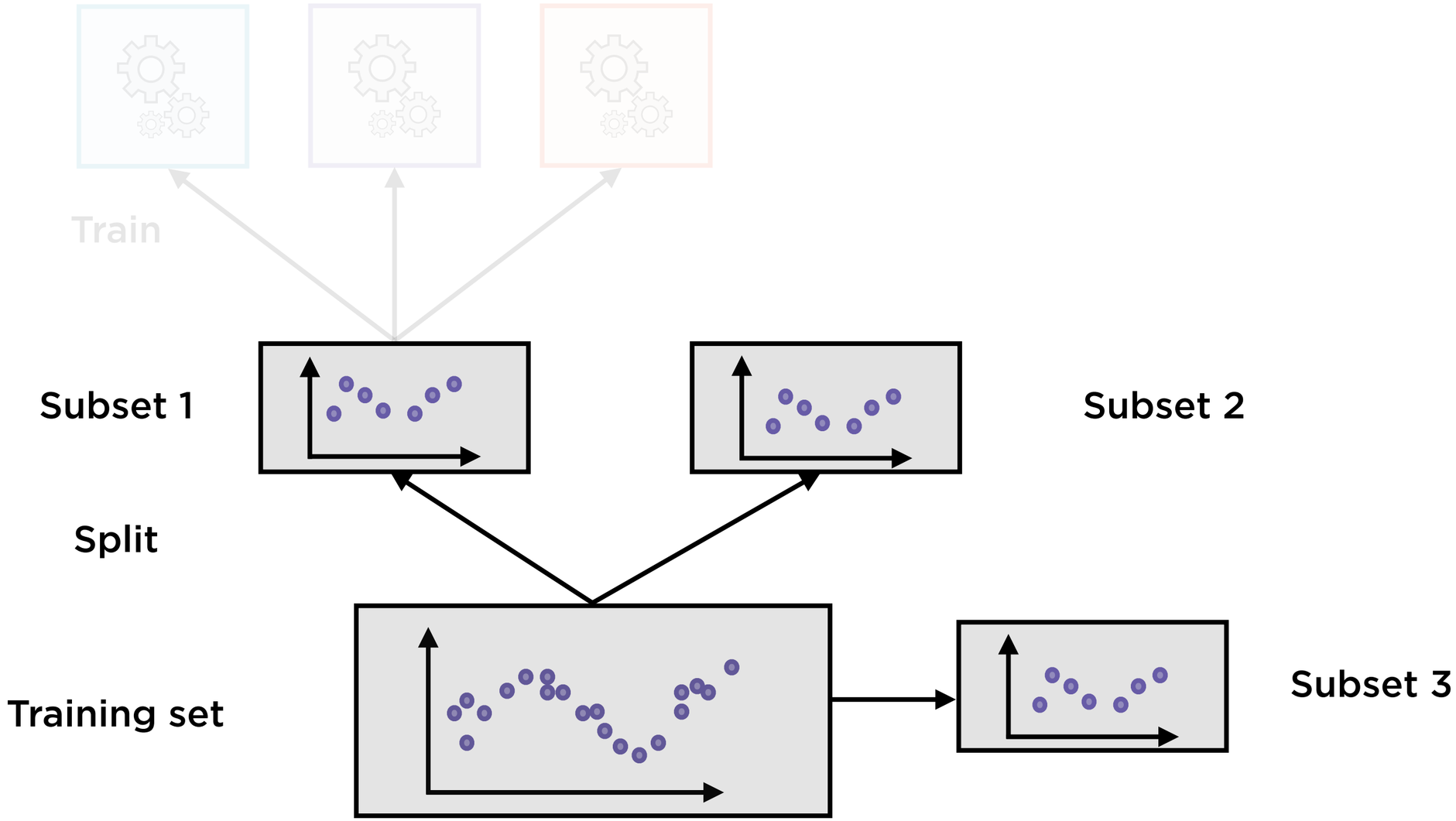
Model Stacking



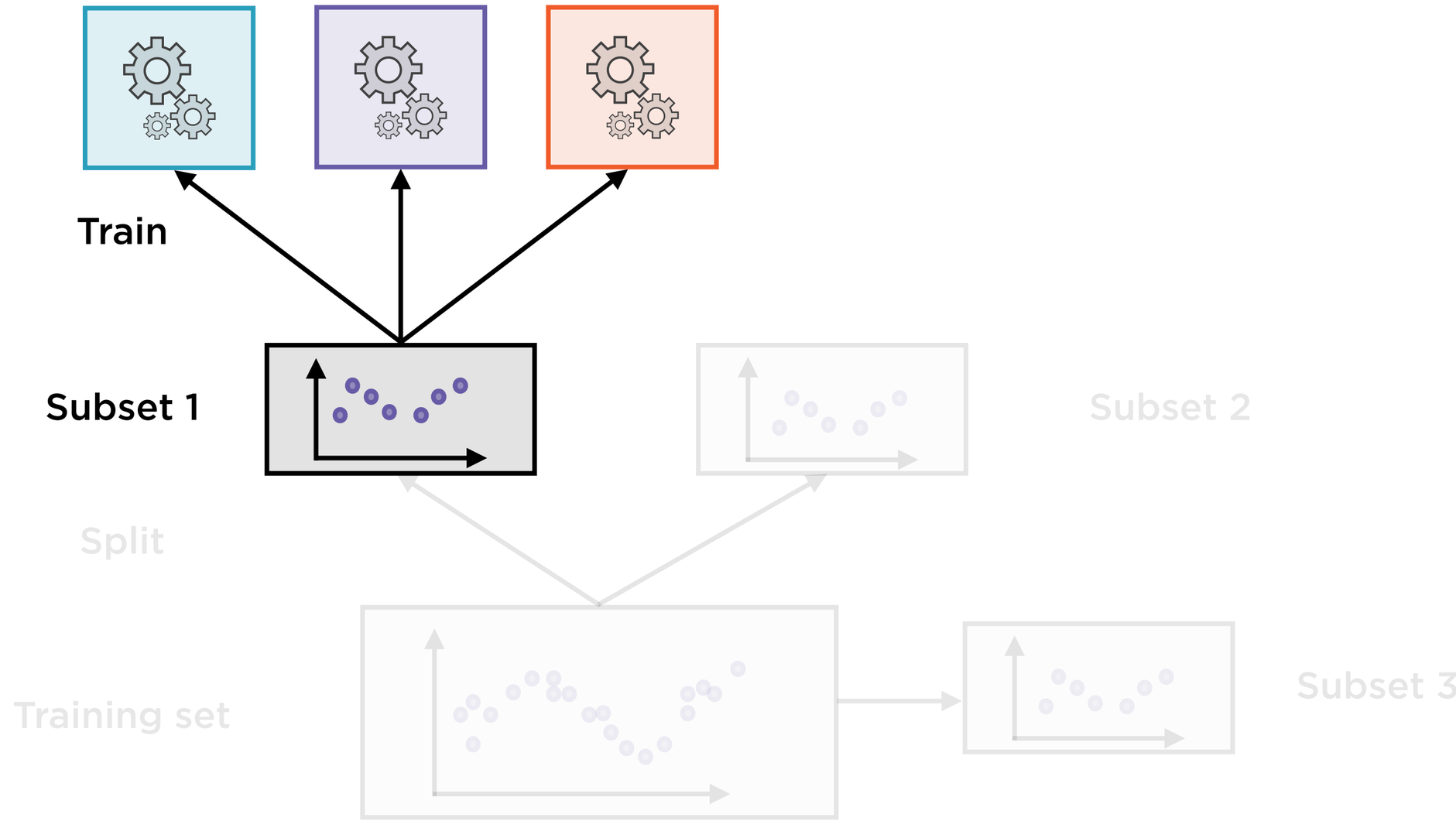
Training Individual Learners



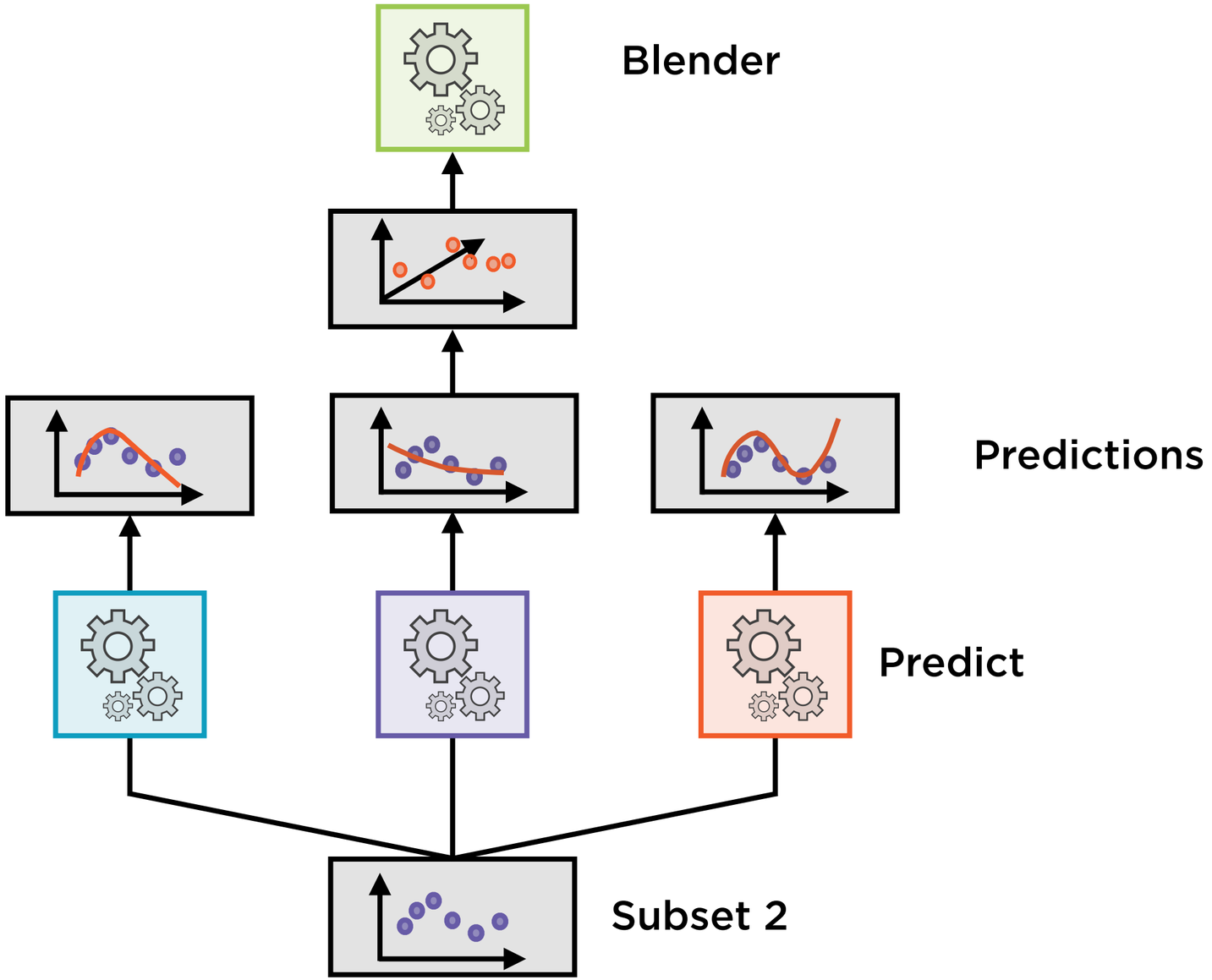
Training Individual Learners



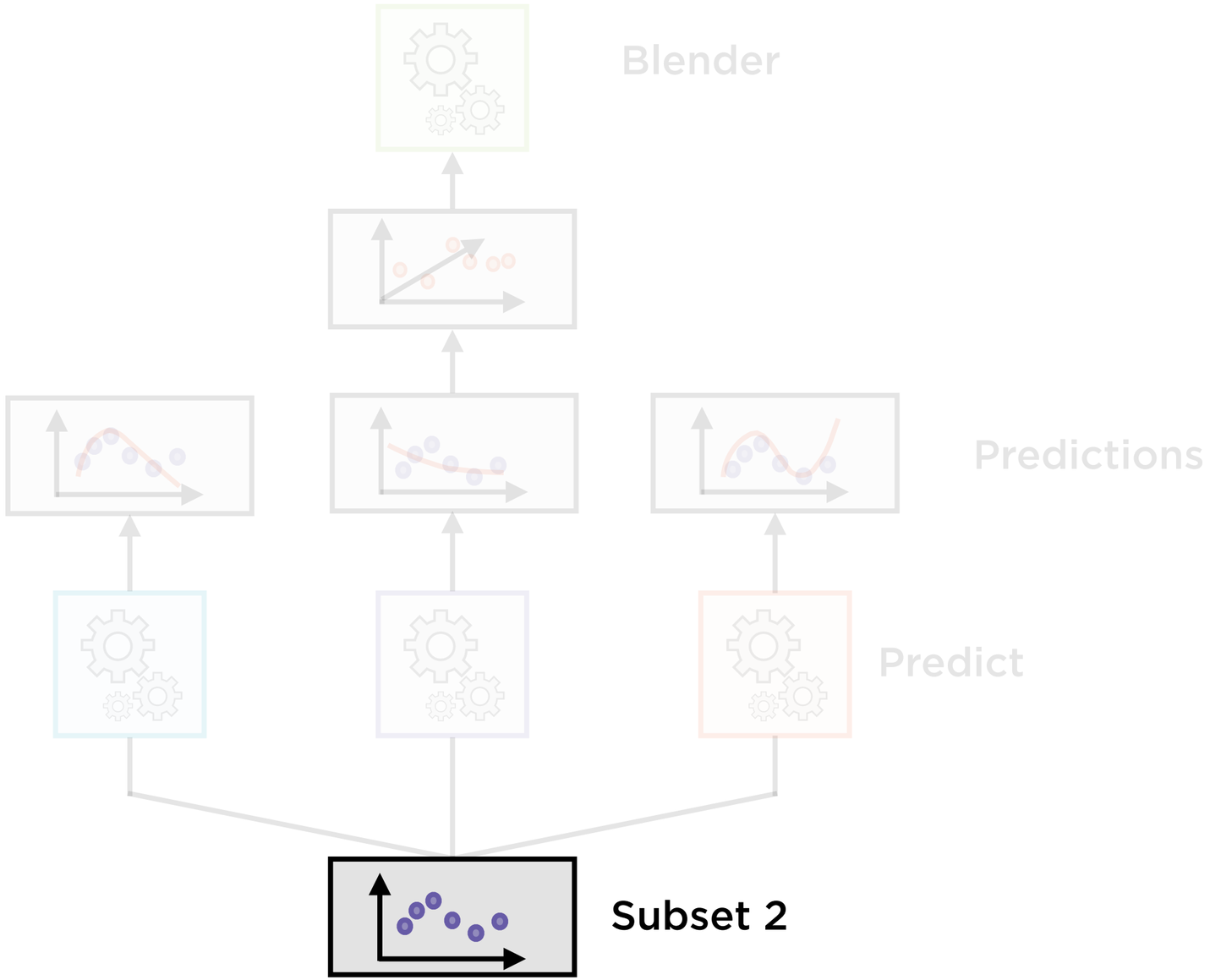
Training Individual Learners



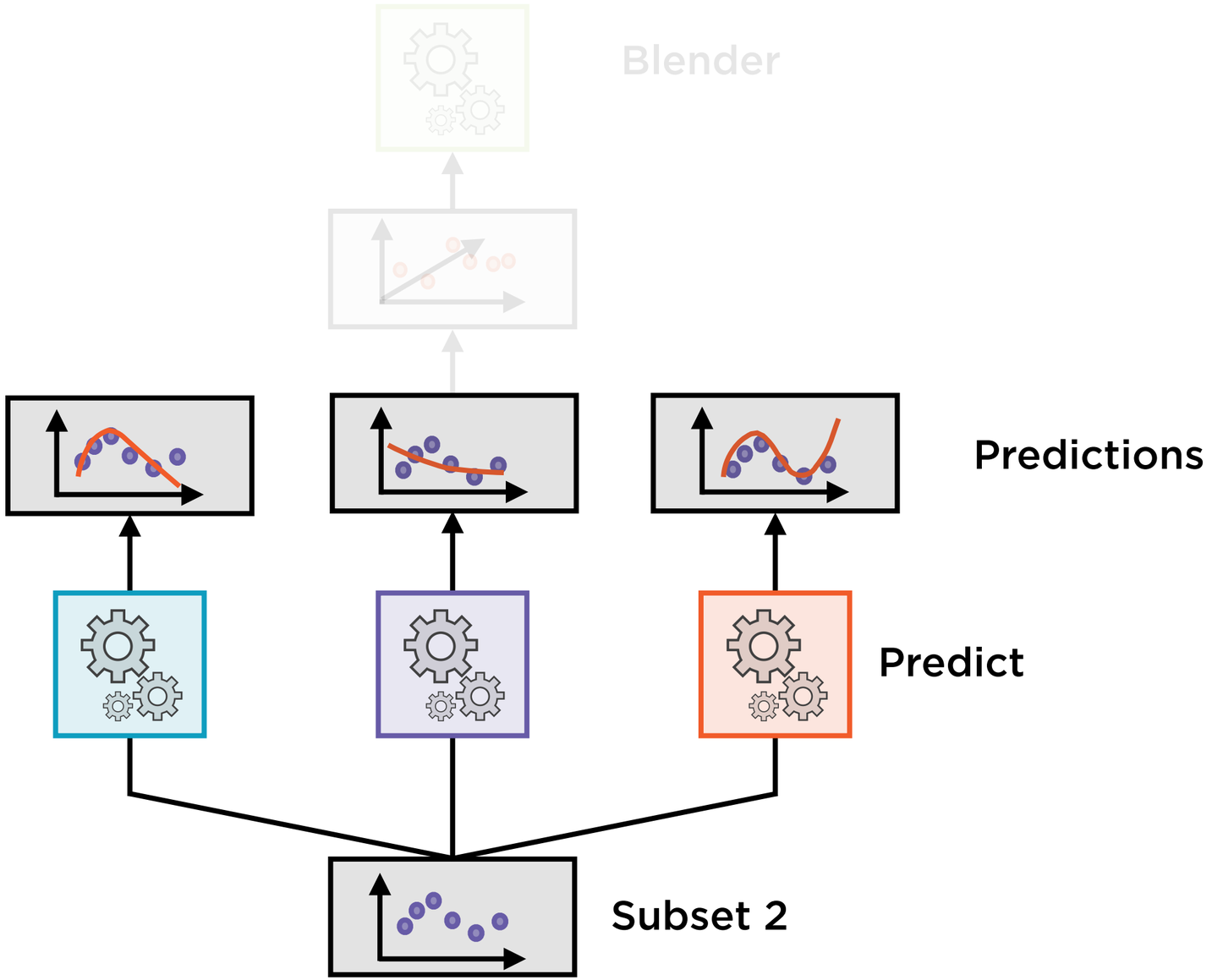
Training the Blender



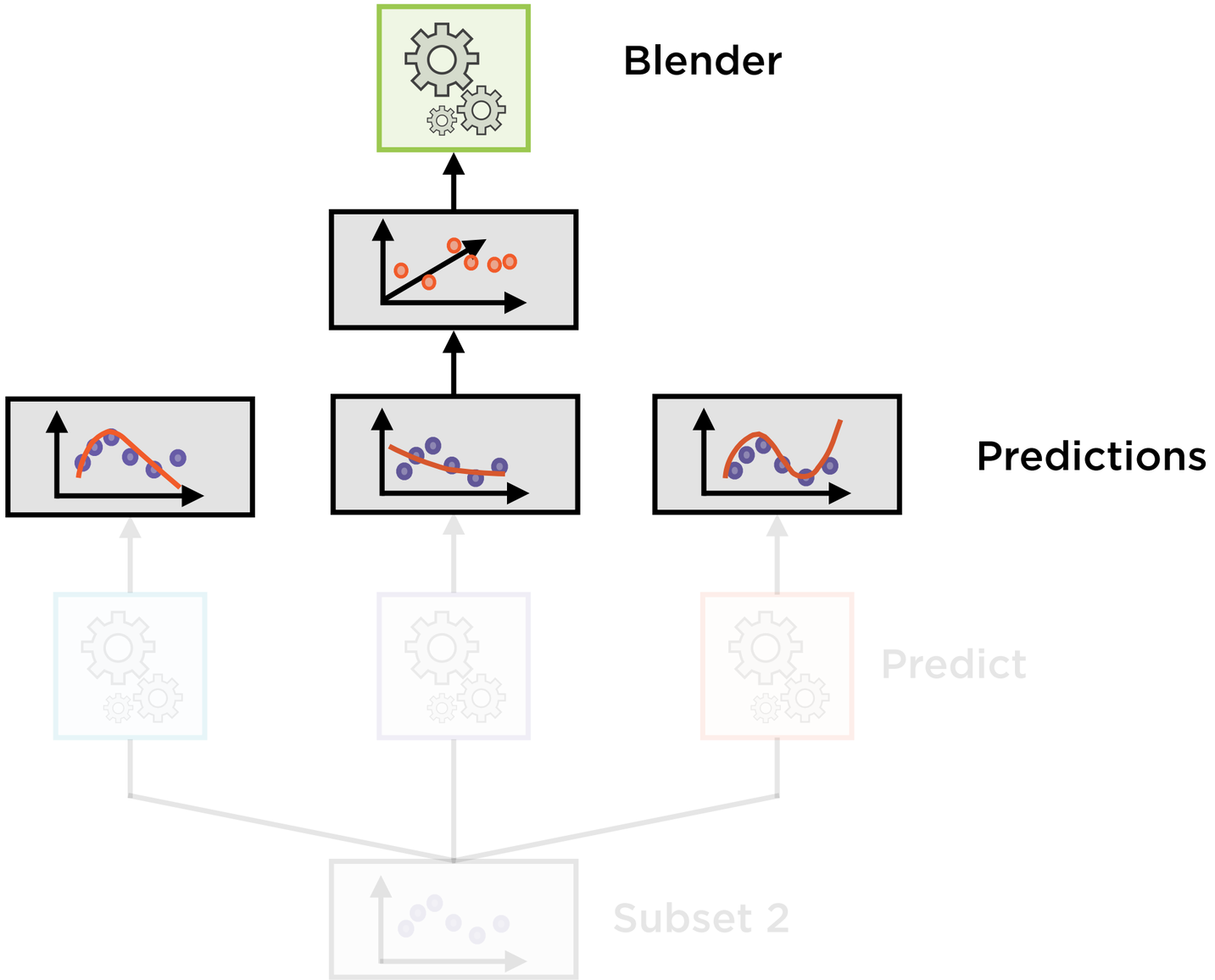
Training the Blender



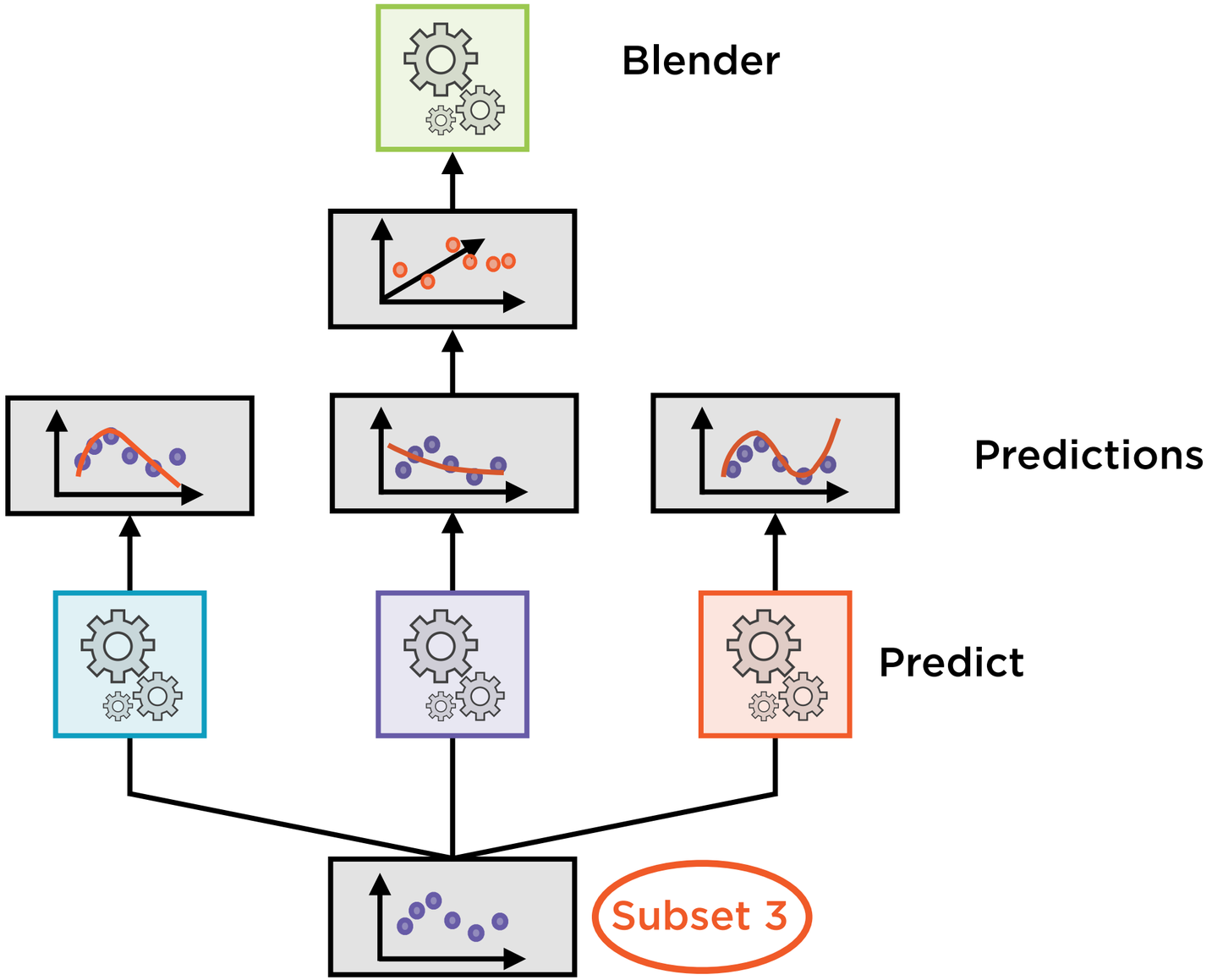
Training the Blender



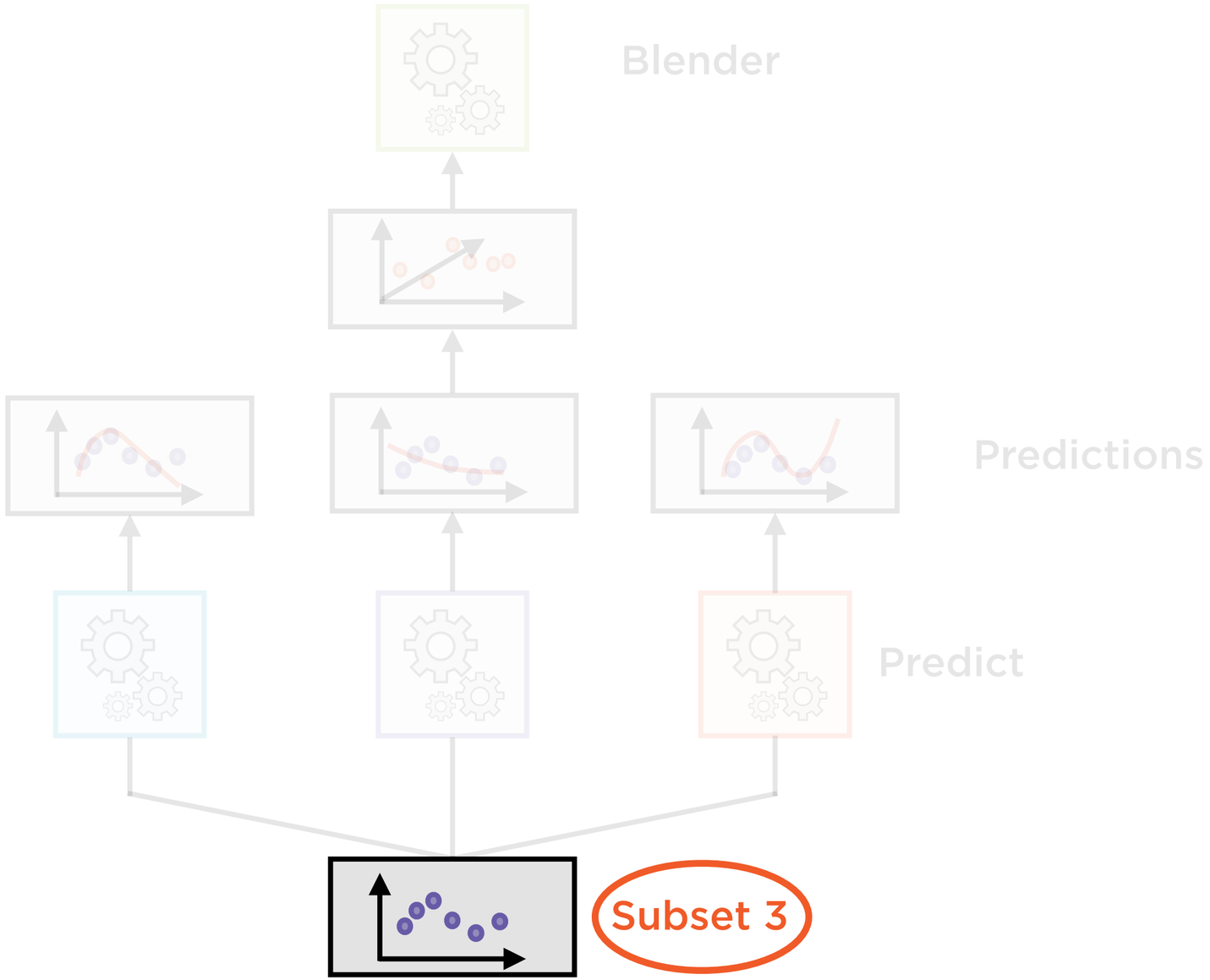
Training the Blender



Testing the Blender



Testing the Blender



Demo

Building a classification model using stacked generalization i.e. stacking as an ensemble technique

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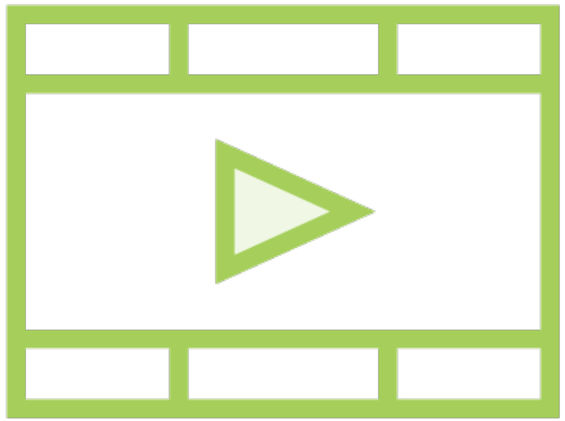
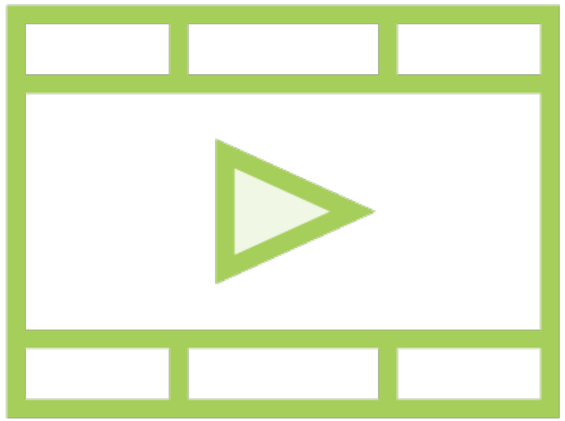
Related Courses



Building Features from Numeric Data

Building Features from Text Data

Related Courses



Building Neural Networks with scikit-learn

Foundations of PyTorch