**Training Set**
- **Data Flow:** During the training process, data from the training set flows through the model.
- **Parameter Updates:** The model uses optimization algorithms (like stochastic gradient descent) to calculate the error (loss) between its predictions and the actual values in the training data. This error is then used to update the model's internal parameters (weights and biases). The goal is to minimize this error.
- **Backpropagation:** A key algorithm called backpropagation is used to efficiently compute how each parameter in the model contributes to the overall error. This information is used to adjust the parameters in the direction that reduces the error.
- **Iteration:** The model sees the training data multiple times (epochs) to learn the underlying patterns.

**Validation Set**
- **Data Flow:** Data from the validation set also flows through the model.
- **Evaluation, Not Training:** The model's parameters are *not* updated using the validation data. Instead, the validation set provides an independent measure of how well the model is performing on unseen data.
- **Metrics:** We calculate performance metrics (like accuracy, precision, or loss) on the validation set. These metrics tell us how well the model is generalizing.
- **Monitoring:** We monitor these metrics during training. If the performance on the validation set starts to degrade while the performance on the training set continues to improve, it's a sign of overfitting.
- **Hyperparameter Tuning:** The validation set helps us adjust hyperparameters, which are settings that control the learning process itself (e.g., learning rate, batch size, number of epochs). We might train several models with different hyperparameter values and compare their performance on the validation set to choose the best ones.

**In essence:**
- The training set is used to teach the model *how* to perform a task.
- The validation set is used to check *how well* the model is learning and to guide decisions about how to improve the training process.