

Hyperparameter Tuning

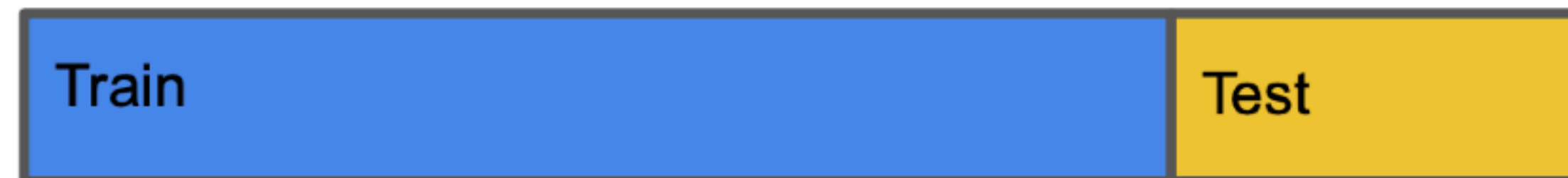
- **Parameters:** values in your model that your model chooses (e.g. coefficients)
- **Hyperparameters:** values in your model that your model does NOT choose (e.g. K in KNN, max_depth in DTs)

Two options:

1. Choose the hyperparameter based on domain knowledge
2. Choose the hyperparameter using hyperparameter tuning

Train-Test-Validation: The validation set serves as a pretend-test-set for us to see how well different hyperparameter values do on unseen data without touching our actual test set

No Hyperparameters:

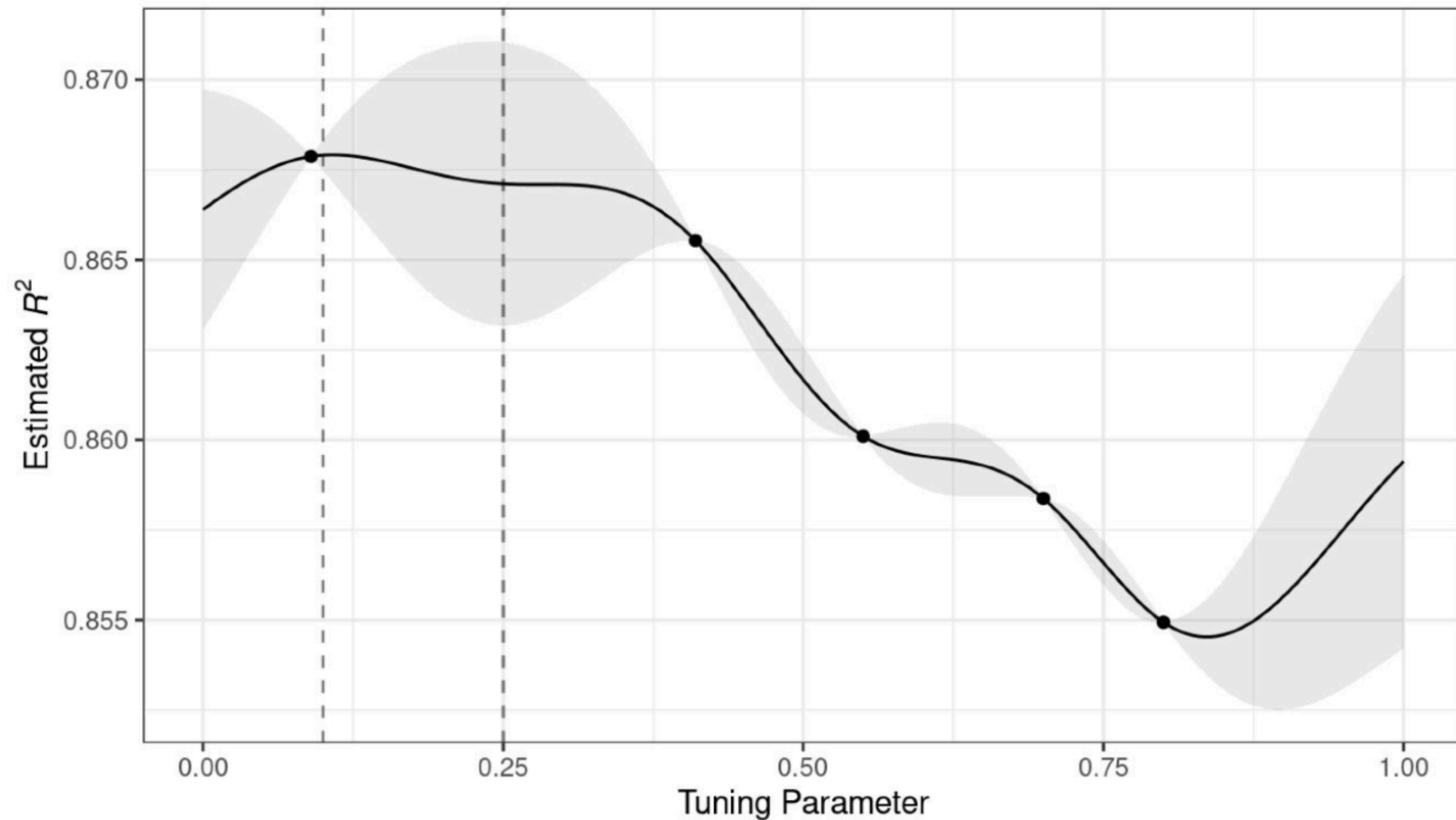


With Hyperparameters:



Hyperparameter Tuning

- Grid search
- Random search
- Bayesian optimization



[source: <https://www.tmwr.org/iterative-search.html>]