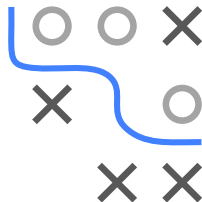
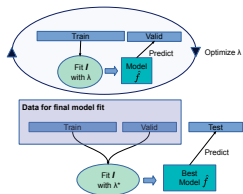


Nested Resampling Training - Validation - Test



- Understand how to fulfill the untouched test set principle by a 3-way split of the data
- Understand how thereby the tuning step can be seen as part of a more complex training procedure



TUNING PROBLEM

Remember:

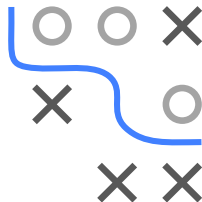
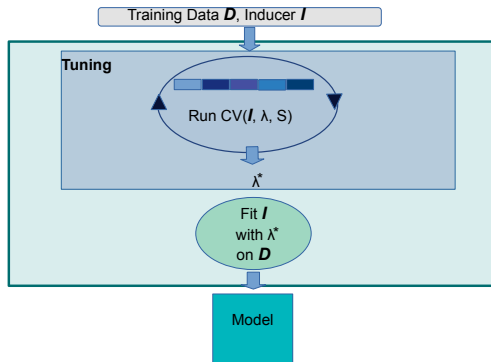
We need to

- **select an optimal learner**
 - without compromising the **accuracy of the performance estimate** for that learner
- for that we need an **untouched test set!**



TUNING AS PART OF MODEL BUILDING

- Effectively, the tuning step is now simply part of a more complex training procedure.
- We could see this as removing the hyperparameters from the inputs of the algorithm and making it “self-tuning”.



TUNING AS PART OF MODEL BUILDING / 2

More precisely: the combined training & validation set is actually the training set for the “self-tuning” endowed algorithm.

