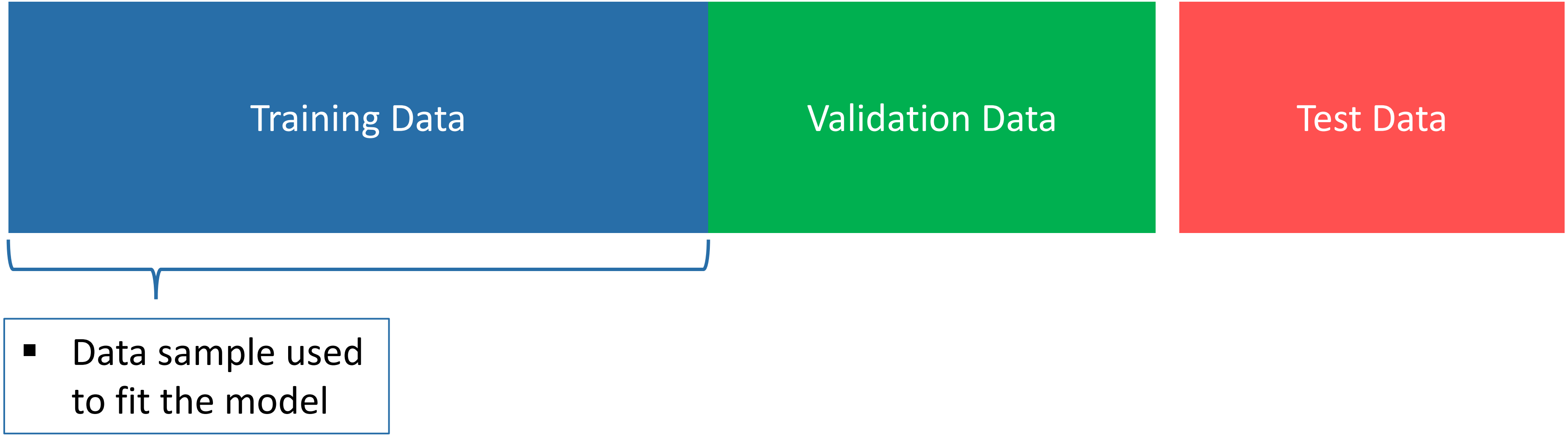
Train / Validation / Test Split - 101

Bert Gollnick

Train / Validation / Test Split - 101

Training Data



Training Data

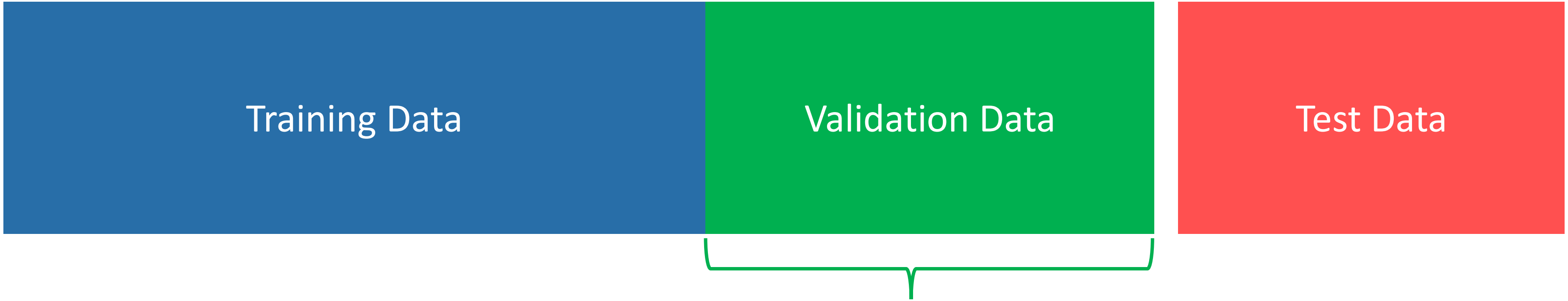
Validation Data

Test Data

- Data sample used to fit the model

Train / Validation / Test Split - 101

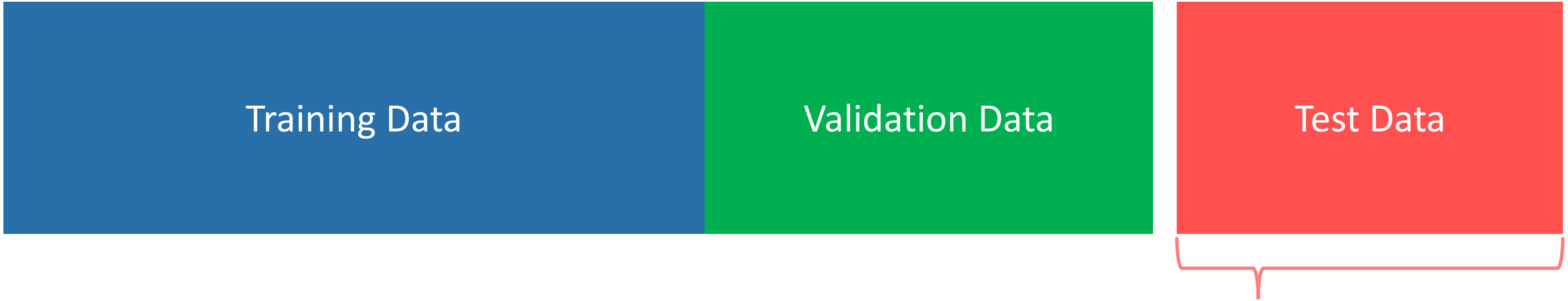
Validation Data



- Data sample used to evaluate the model
- Used to fine-tune model hyperparameters
- Model occasionally „sees“ the data, but does not learn from it
- Affects the model indirectly

Train / Validation / Test Split - 101

Test Data



Training Data

Validation Data

Test Data

- Data sample used to provide an unbiased evaluation of final model
- Provides gold-standard
- Model “sees” data only once
- used to evaluate competing models
- Same distribution as validation data
- Often only training and validation data is used, and no test data.

Train / Validation / Test Split - 101

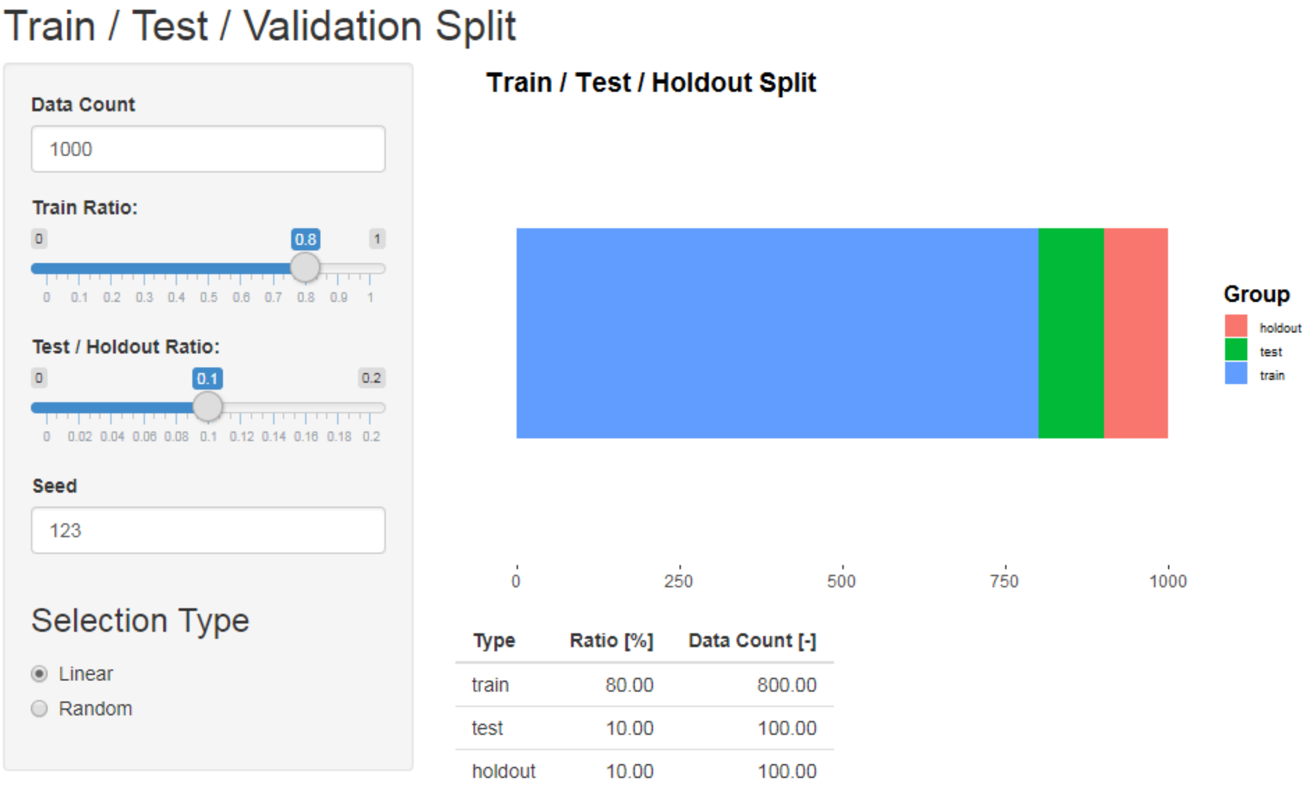
Split Ratio

- Depends on two things: total number of samples, actual model
- Some models require more training data
- Validation data big enough to detect differences between models
- Models with few hyperparameters will be easy to validate → smaller validation dataset
- Models with many hyperparameters will be harder to validate → larger validation dataset

Train / Validation / Test Split - 101

Interactive

Live Shiny-app!



Train / Test / Validation Split

Data Count: 1000

Train Ratio: 0.8

Test / Holdout Ratio: 0.1

Seed: 123

Selection Type

● Linear

○ Random

Type	Ratio [%]	Data Count [-]
train	80.00	800.00
test	10.00	100.00
holdout	10.00	100.00