Train / Validation / Test Split - 101

Bert Gollnick

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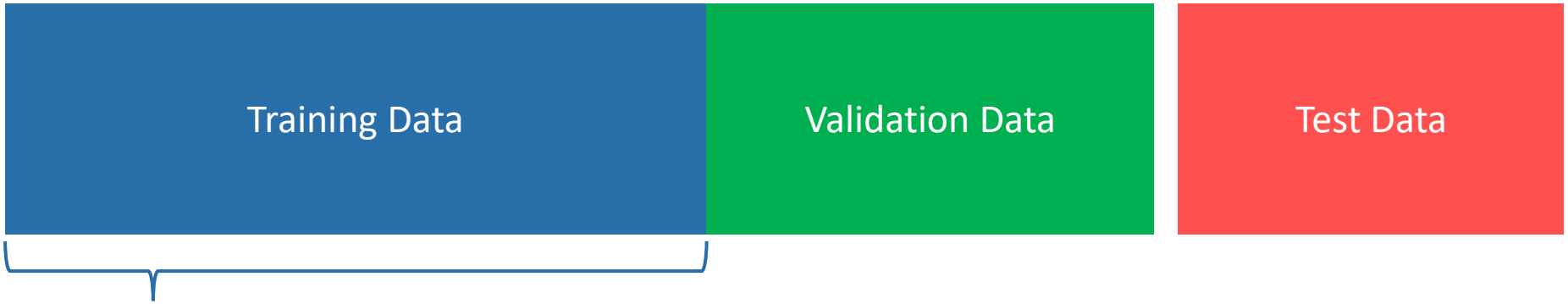
Training Data



- Data sample used to fit the model

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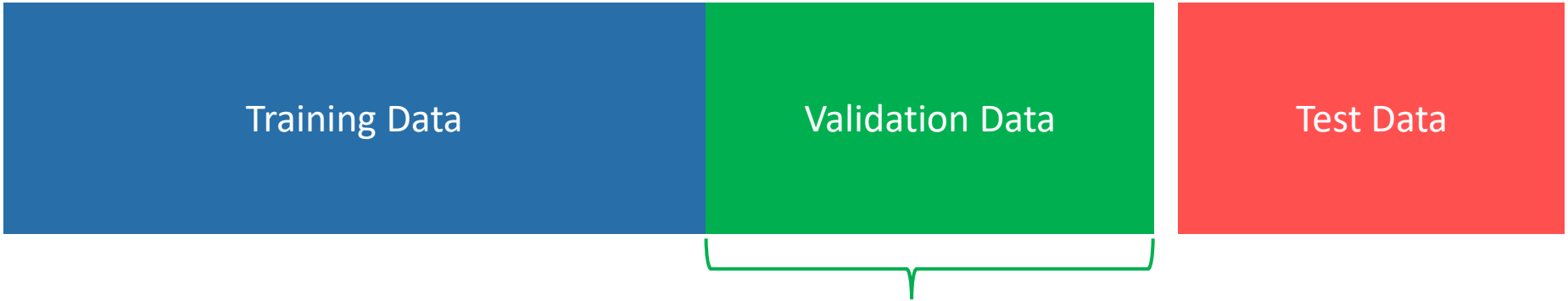
Validation Data



- 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

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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.

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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

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Interactive

Live Shiny-app!