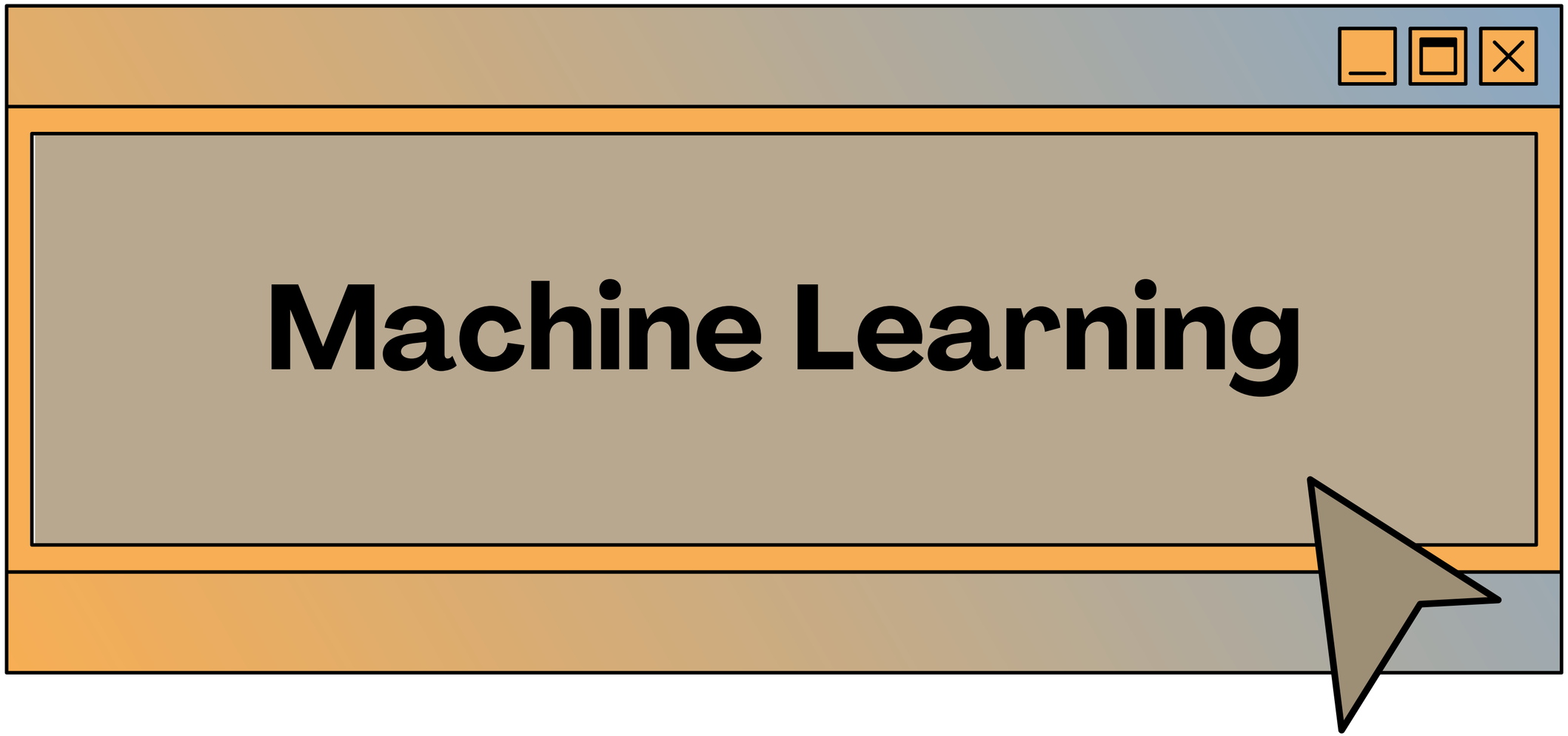

Machine Learning

Dados

Processo contínuo

Medidas

Targets

Monitoramento

Features

Sinal

Relacionamentos

Padrões

Informações escondidas no dataset

Aprendizado

Conjunto de Regras - Humano x Máquina

Aprenda com os Dados:

- **Aprender padrões**
- **Usar dados com input e a predição como output.**

Técnicas

Aprendizado Supervisionado

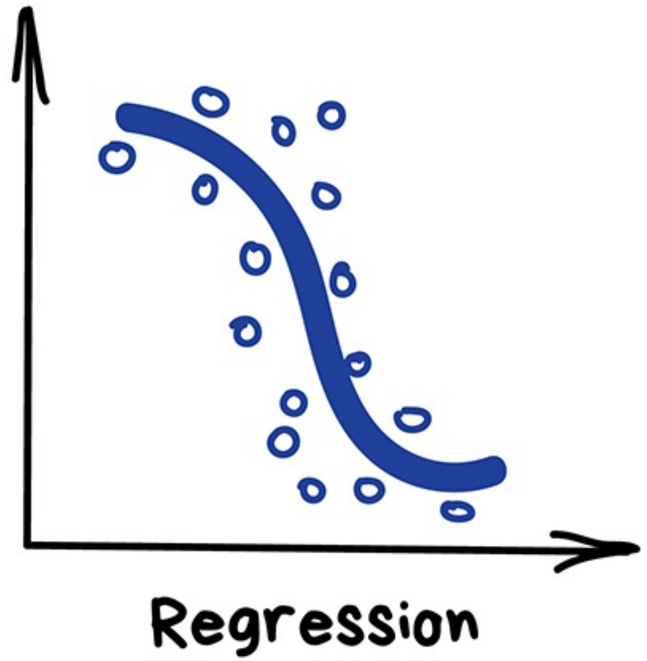
- **Regressão**
- **Classificação**

Aprendizado Não Supervisionado

- **Redução de dimensionalidade**
- **Clusterização - agrupamento**

Supervisionado

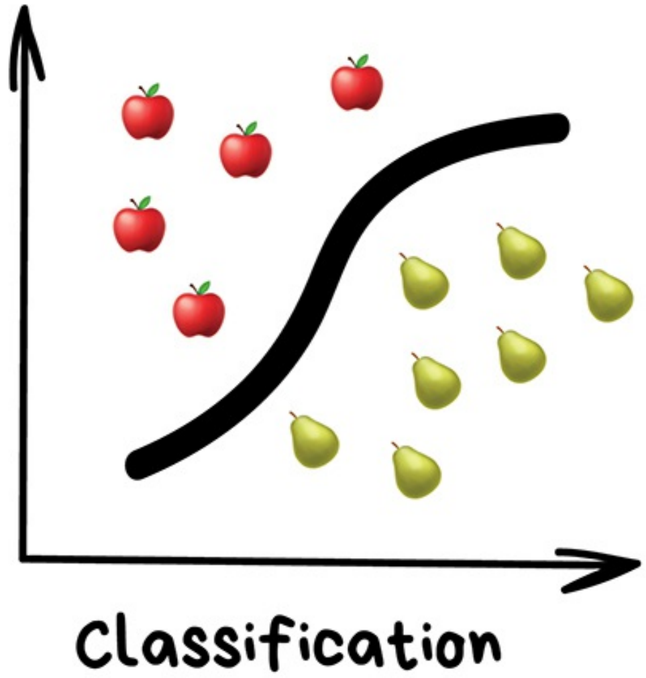
- Regressão



https://vas3k.com/blog/machine_learning/

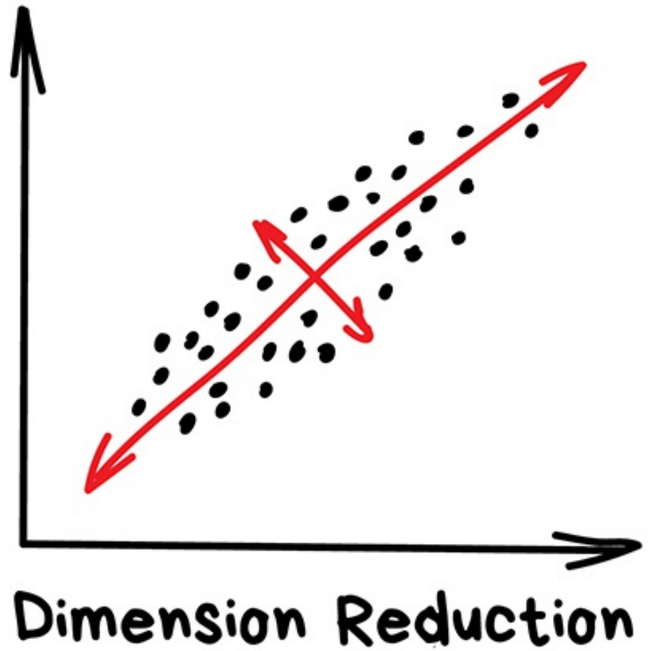
Supervisionado

- **Classificação**



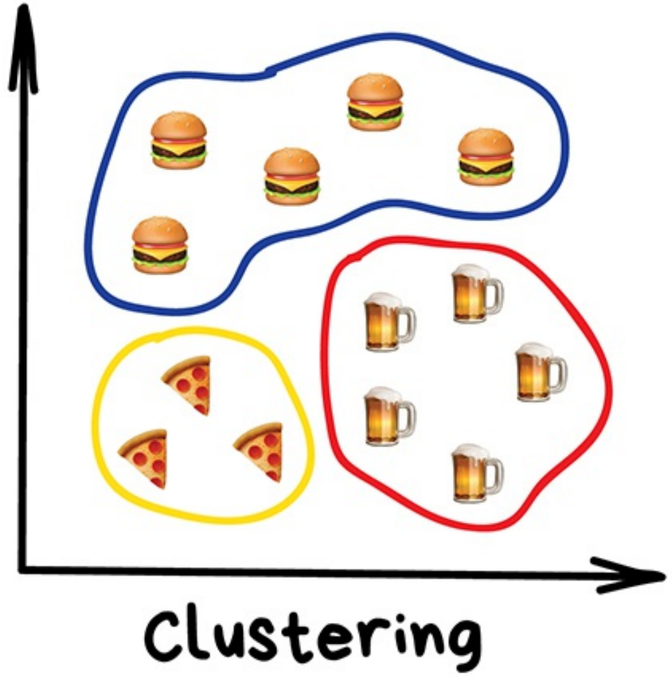
Não Supervisionado

- **Redução de Dimensionalidade**



Não Supervisionado

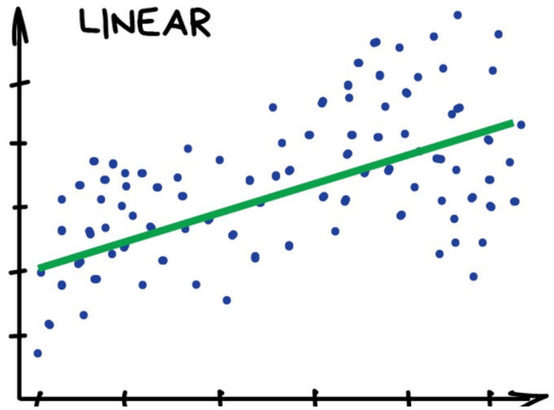
- **Clusterização**



Métodos Lineares

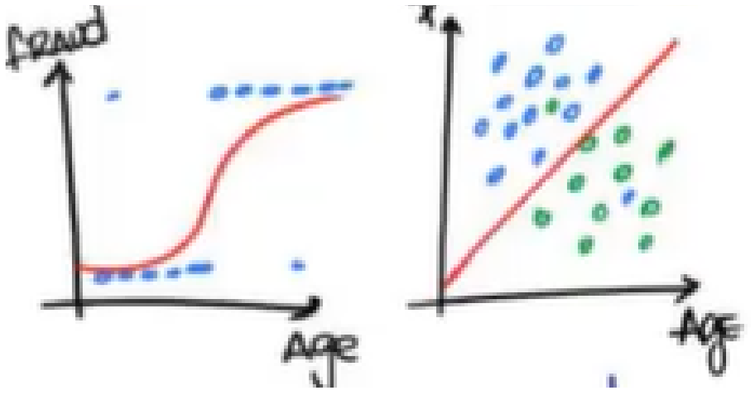
Problemas de Regressão:

- **Regressão Linear**

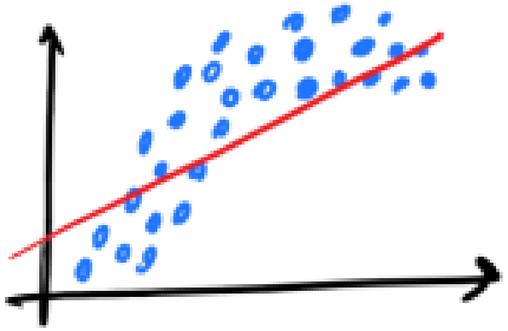


Problemas de classificação:

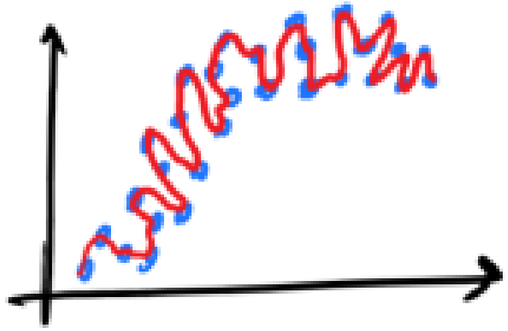
- **Regressão Logística**



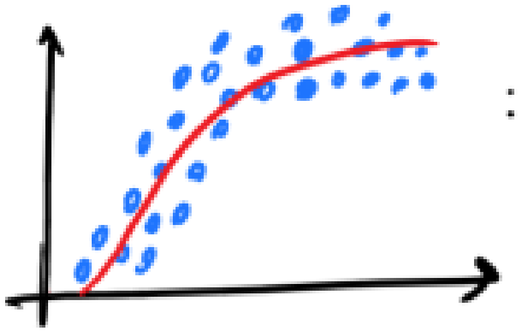
Bias e Variância - TradeOff



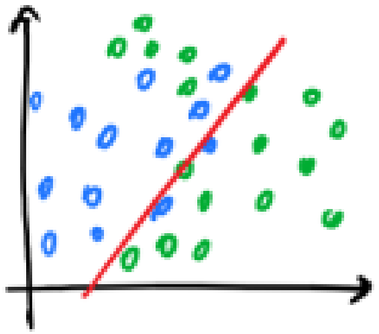
: under fitting



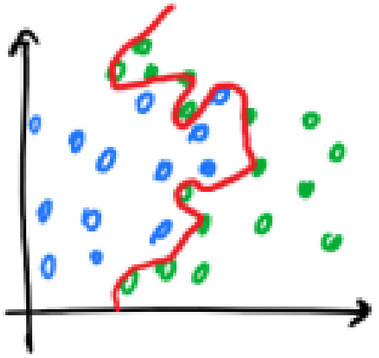
: overfitting



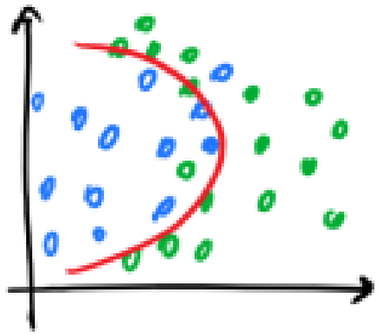
: generalization



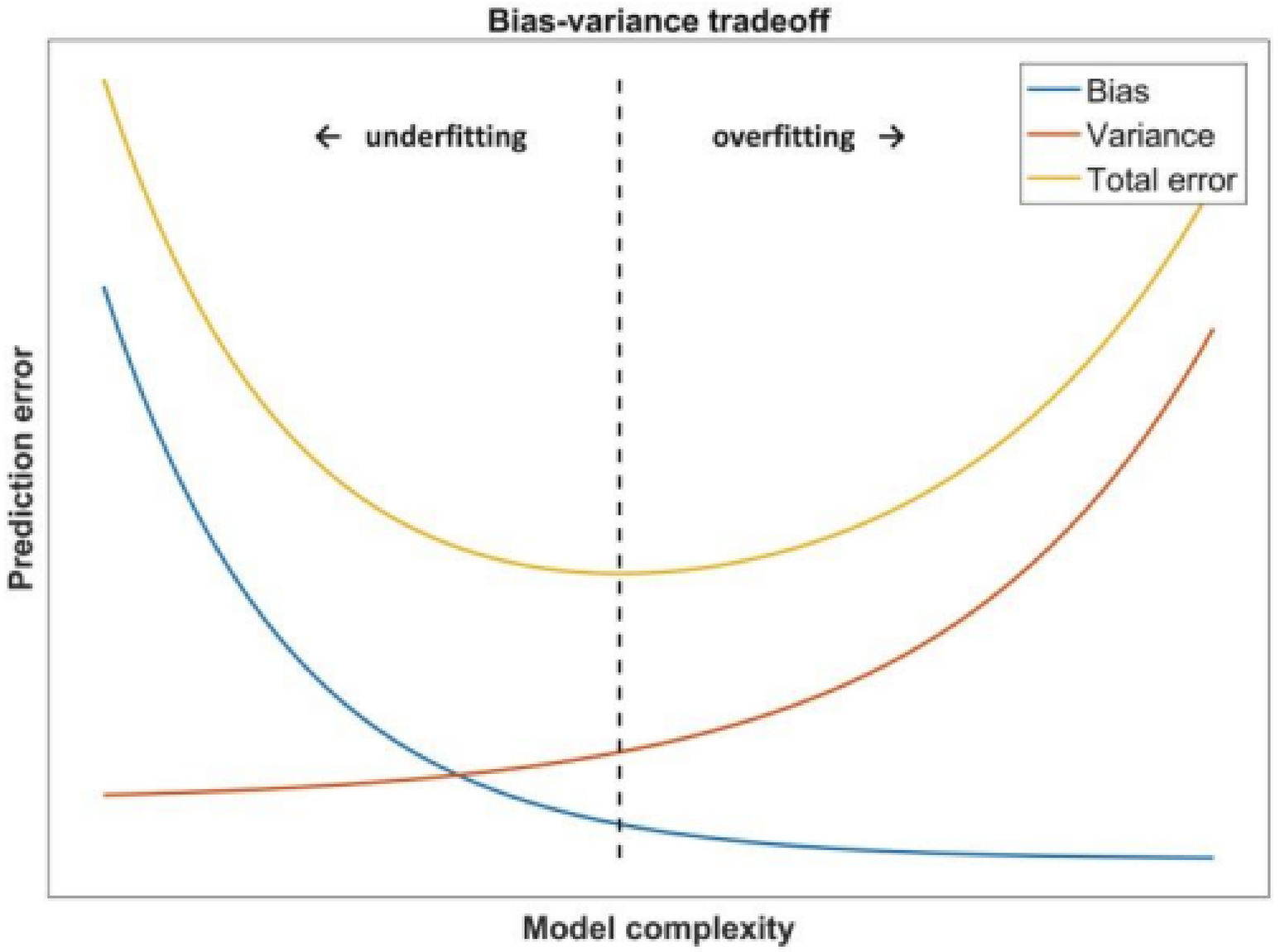
: under fitting

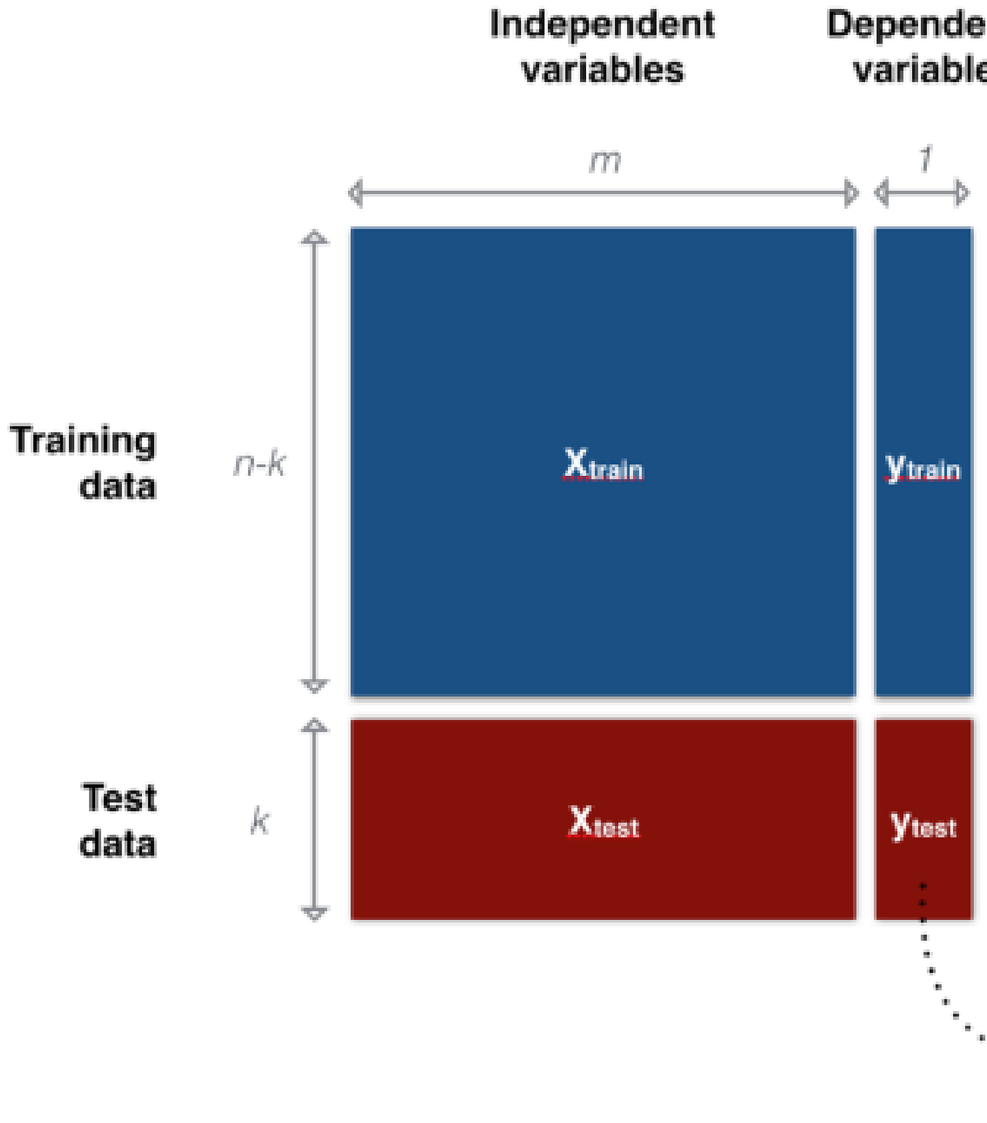


: overfitting



: generalization


Bias-variance tradeoff
← underfitting
overfitting →
Bias
Variance
Total error
Prediction error
Model complexity

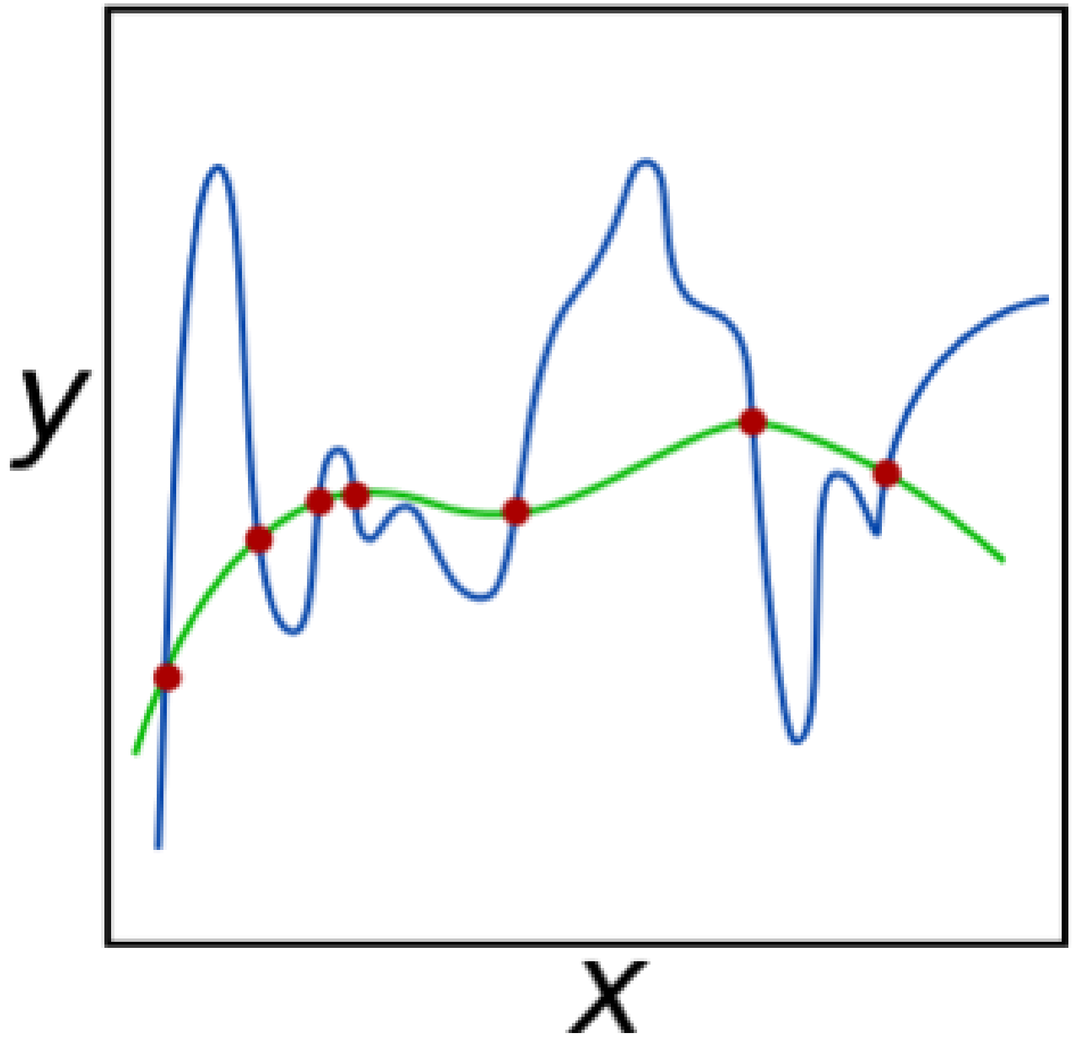


Validation Techniques

Train Test Split

Time Split

Cross Validation


y
x