

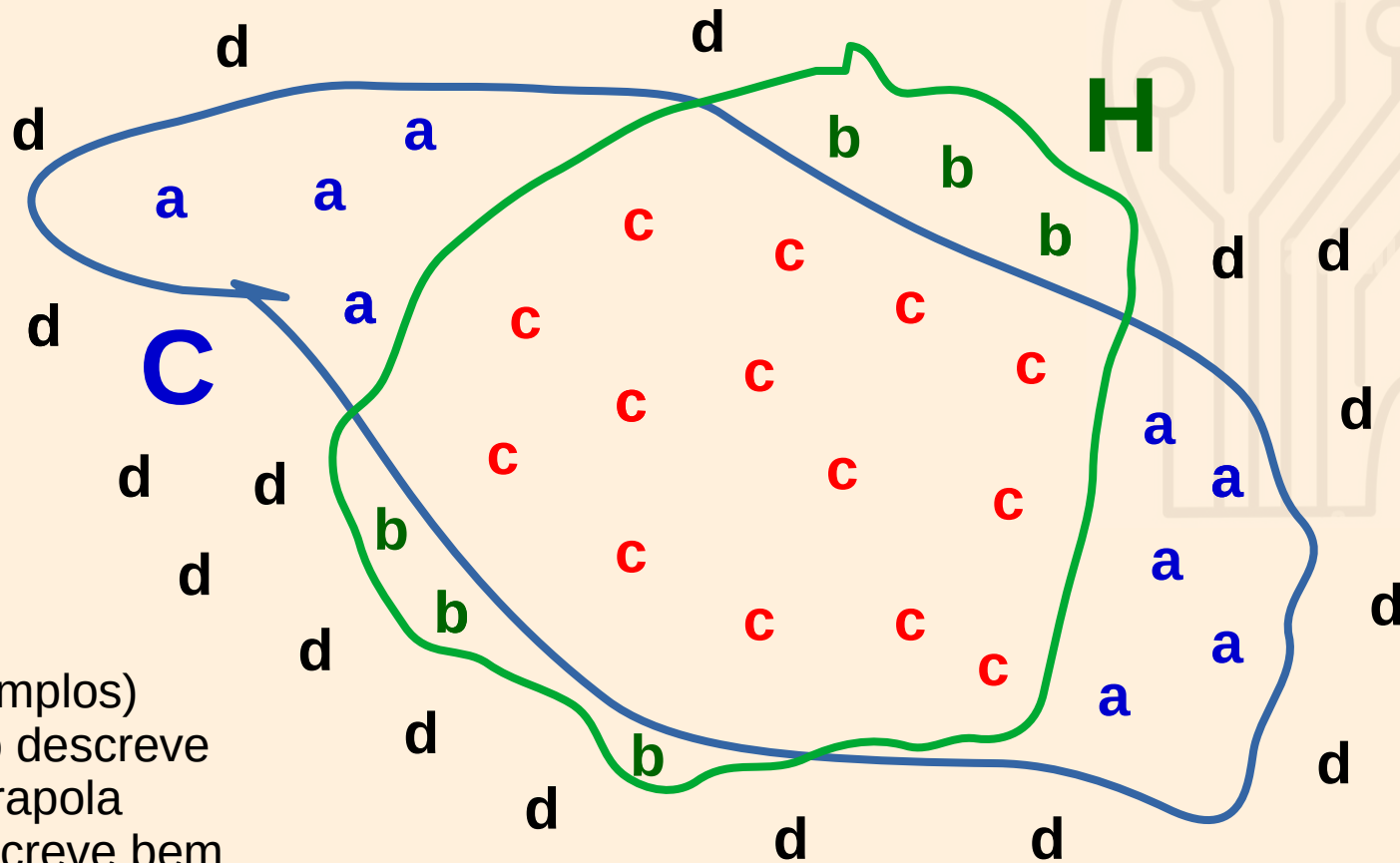
Natureza estatística do aprendizado

Conceito

Hipótese
(modelo)

Instâncias (exemplos)

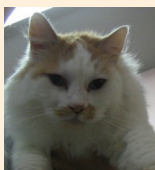
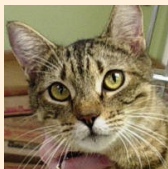
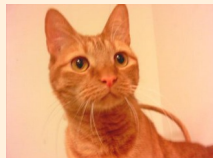
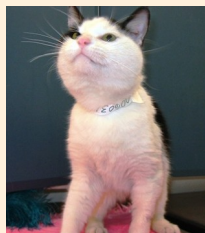
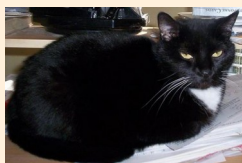
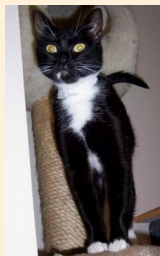
- a** – modelo não descreve
- b** – modelo extrapola
- c** – modelo descreve bem
- d** – outros conceitos



Natureza estatística do aprendizado

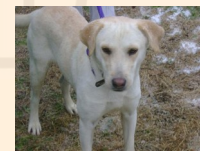
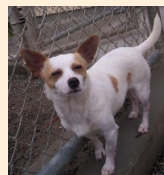
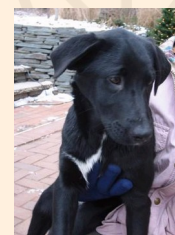
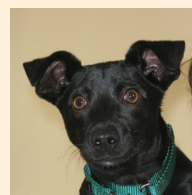
- exemplos

Classe “gato”

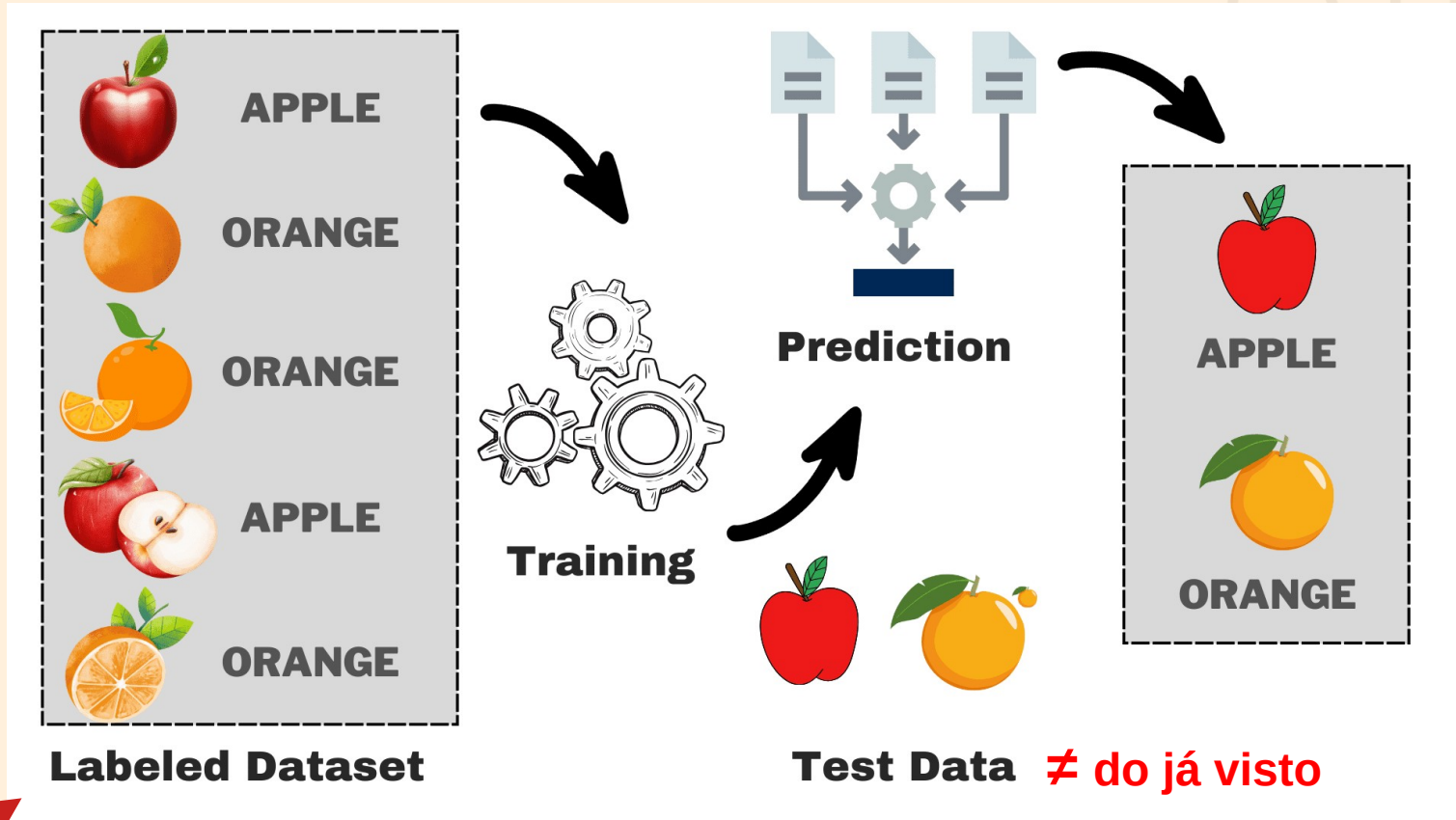


- contraexemplos

Classe “não-gato”



Aprendizado supervisionado



Aprendizado supervisionado

Exemplos de Treino

Dia	Aspecto	Temp.	Humidade	Vento	Jogar Ténis
D1	Sol	Quente	Elevada	Fraco	Não
D2	Sol	Quente	Elevada	Forte	Não
D3	Nuvens	Quente	Elevada	Fraco	Sim
D4	Chuva	Ameno	Elevada	Fraco	Sim
D5	Chuva	Fresco	Normal	Fraco	Sim
D6	Chuva	Fresco	Normal	Forte	Não
D7	Nuvens	Fresco	Normal	Fraco	Sim
D8	Sol	Ameno	Elevada	Fraco	Não
D9	Sol	Fresco	Normal	Fraco	Sim
D10	Chuva	Ameno	Normal	Forte	Sim
D11	Sol	Ameno	Normal	Forte	Sim
D12	Nuvens	Ameno	Elevada	Forte	Sim
D13	Nuvens	Quente	Normal	Fraco	Sim
D14	Chuva	Ameno	Elevada	Forte	Não

Existem regras que definem quando jogar ou não jogar?

Em função do clima do dia?

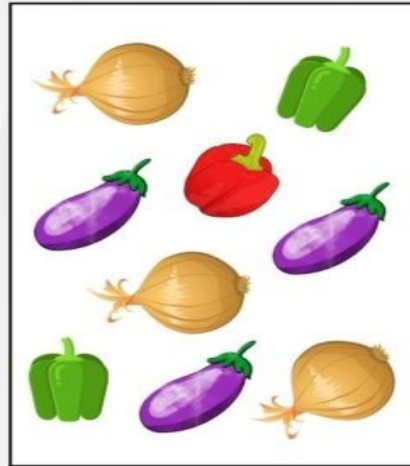
2 classes:
sim / não

Aprendizado não-supervisionado

UNSUPERVISED LEARNING

Unsupervised learning is a type of machine learning where the algorithm learns from unlabeled data without any predefined outputs or target variables.

Input Raw Data



Unlabeled Data

Interpretation



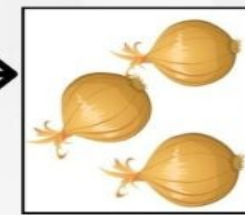
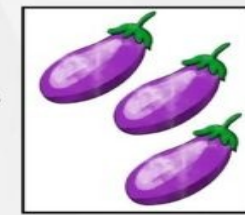
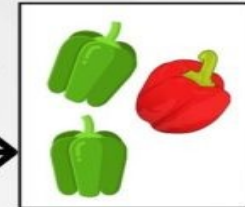
Algorithms



Processing



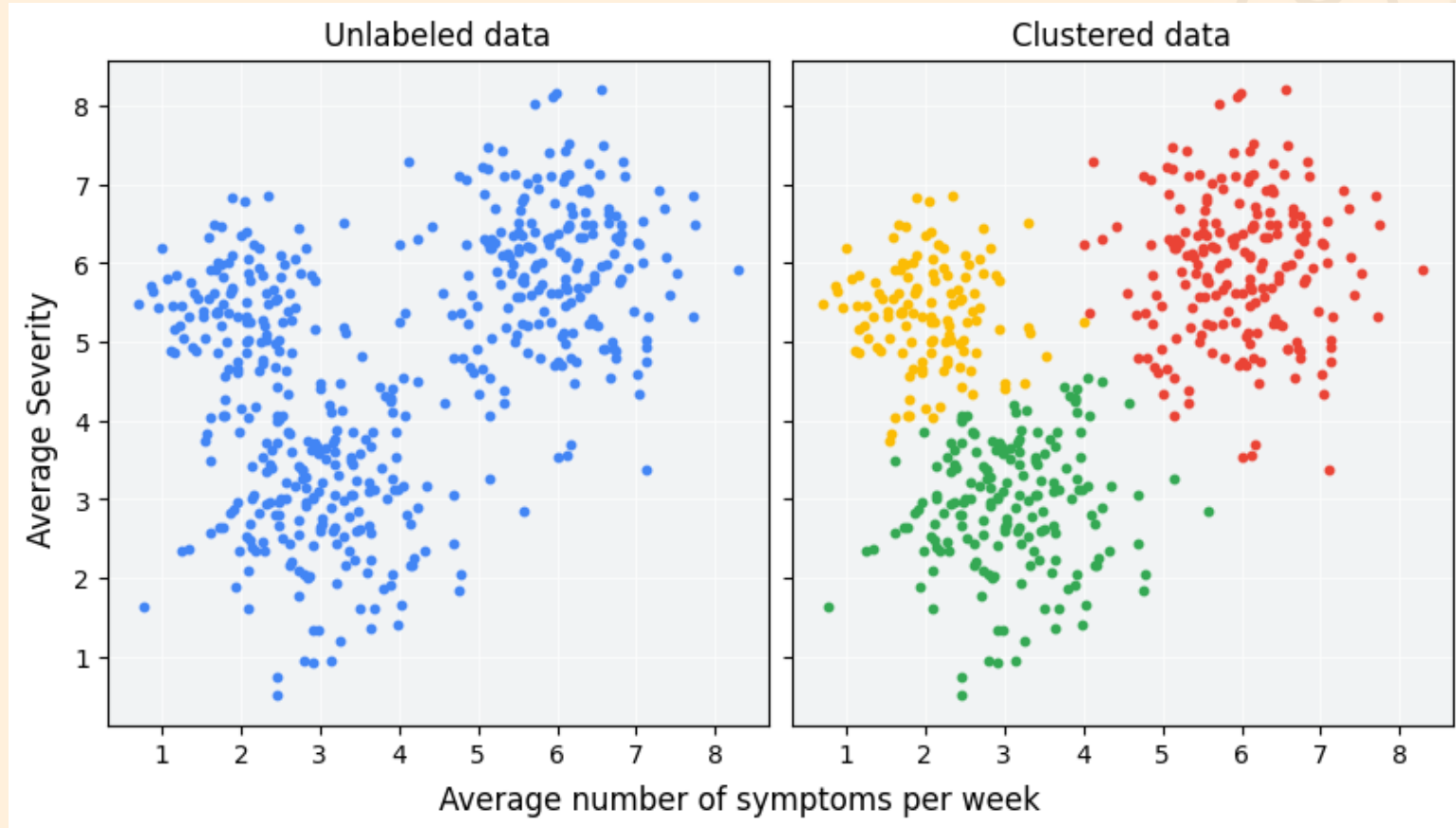
Outputs



3 classes

ROTULAR
POSTERIOR
MENTE

Aprendizado não-supervisionado



3 classes