



**University of
Zurich** ^{UZH}

Institute of Computational Linguistics

Introduction to Machine Learning

Lesson 2

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model











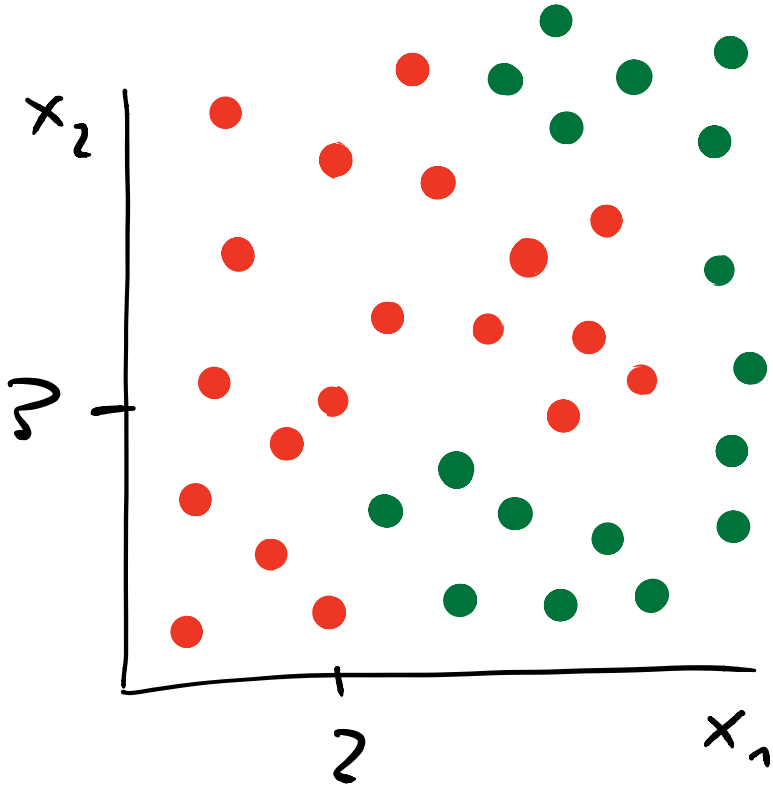
Topic of this lesson

- a first classification algorithm: K Nearest Neighbor (KNN)

X y

Visualize training data

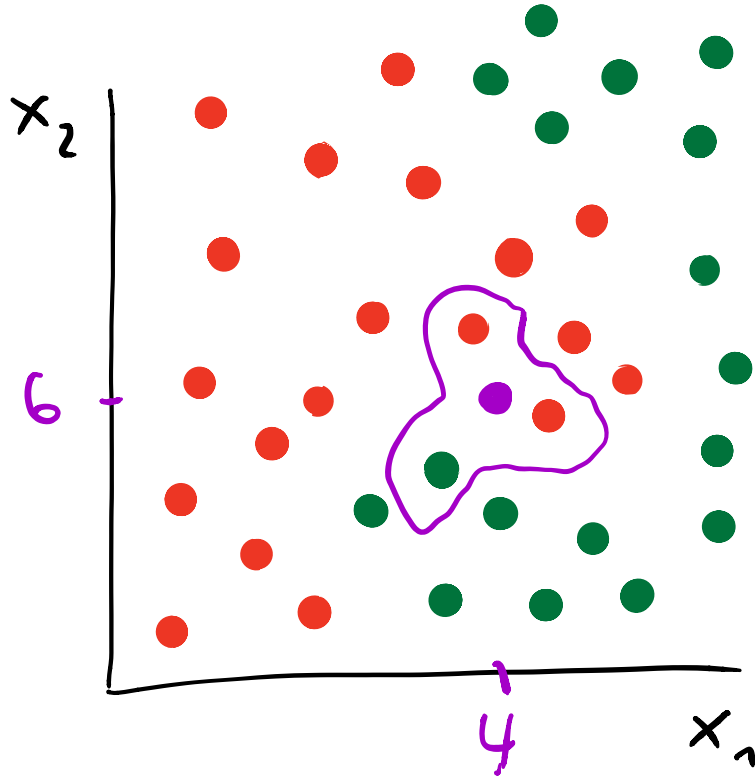
$$x = \begin{bmatrix} 2 \\ 3 \end{bmatrix}$$



KNN

K nearest neighbor (KNN)

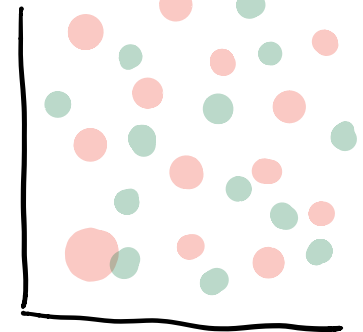
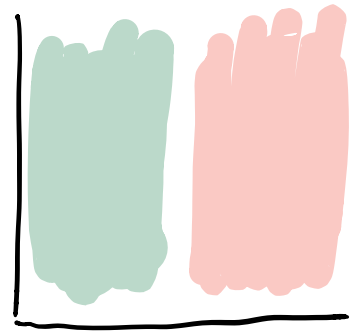
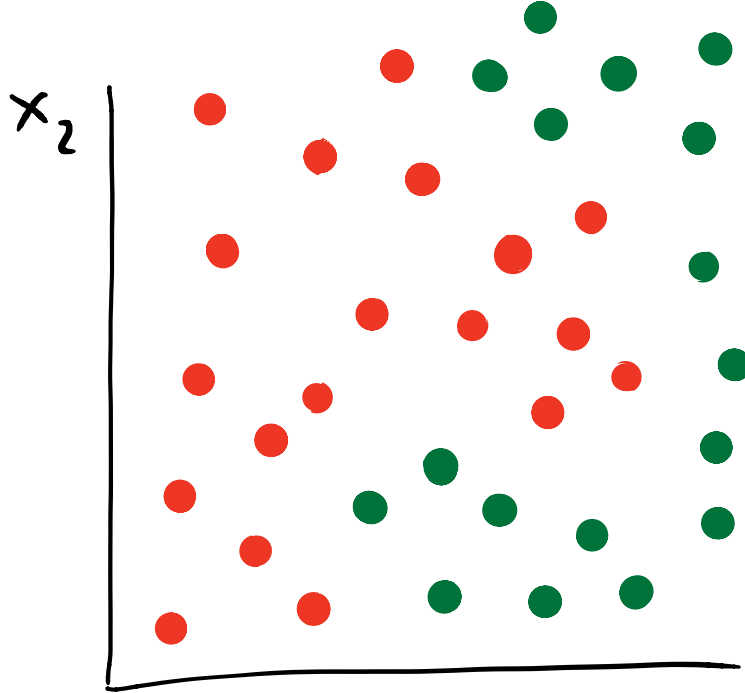
$$K = 3$$



$$\bullet = \begin{bmatrix} 4 \\ 6 \end{bmatrix}$$

$$\bullet = \bullet$$

K nearest neighbor (KNN)



decision region

Summary

- KNN as first classifier
- k : how many neighbors are considered
- fast to train, slow to use

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