ML PERFORMANCE

HANDS ON

JEROEN VEEN
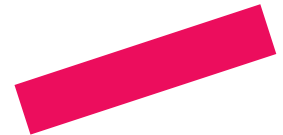
QUIZ TIME

- Individual, multiple-choice questions
- Online: http://www.socrative.com room **1PTGB6PY**
- Open book quiz, so books and slides can be consulted

- **HAN student number**, so NOT your name, nickname or anything else.
- Quiz starts exactly at class hour and takes 10 minutes.
- Be on time and have your equipment prepared.

CONFUSION MATRIX

ACTUAL

(Type I error)

PREDICTED

True Positive (TP)	False Positive (FP)
Reality: A wolf threatened. Shepherd said: "Wolf." Outcome: Shepherd is a hero.	Reality: No wolf threatened. Shepherd said: "Wolf." Outcome: Villagers are angry at shepherd for waking them up.
False Negative (FN)	True Negative (TN)
Reality: A wolf threatened. Shepherd said: "No wolf." Outcome: The wolf ate all the sheep.	Reality: No wolf threatened. Shepherd said: "No wolf." Outcome: Everyone is fine.

Type II error)

TRY IT FOR YOURSELF

- performance_01.py
  performance_02.py

LEARNING CURVES

- Cost as a function of the training set size (or the training iteration)

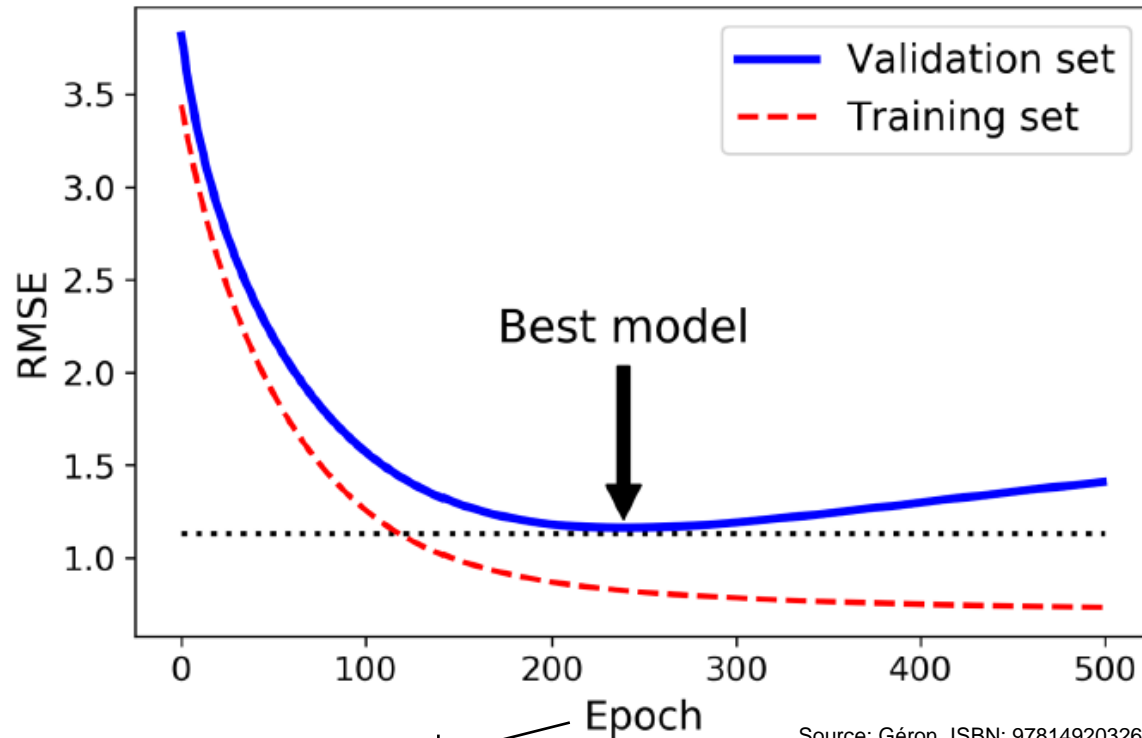- Examine evolution of train and validation learning curves

Source: https://www.dataquest.io/blog/learning-curves-machine-learning/
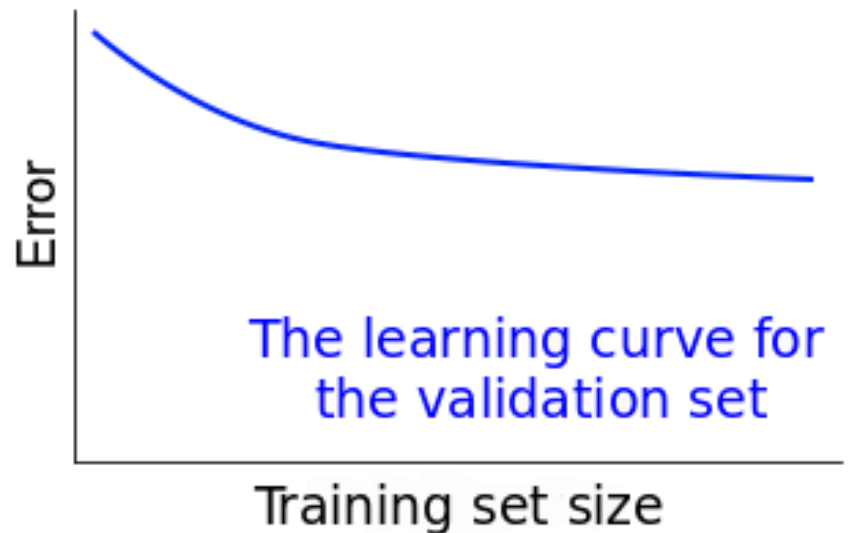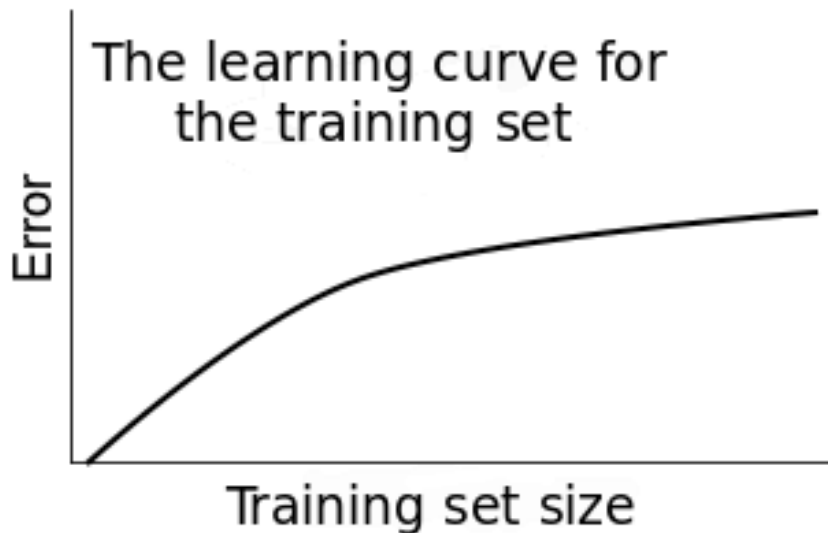
TRY IT FOR YOURSELF

- performance_03.py

EARLY STOPPING

- Interpretation of learning curves

Source: Géron, ISBN: 9781492032632

epoch means that each sample in the training dataset has been used to update the internal model parameters

LEANING CURVES IN REGRESSION

- Exercise 02: Plot the learning curves for polynomial regression and experiment with various degrees

- Can you interpret the curves?

- Build on Regression_01.py
  and see Géron, page 130-134

WORK ON YOUR EVD3 PROJECT