



Quiz module 2 : How does Machine Learning Work?

Module 2



Quizz to complete the second module of the AI4T Mooc (objective 1 : acculturation)

 **QUIZ 1 : Mechanisms in AI**

 **QUIZ 2 : Machine Learning Methods**

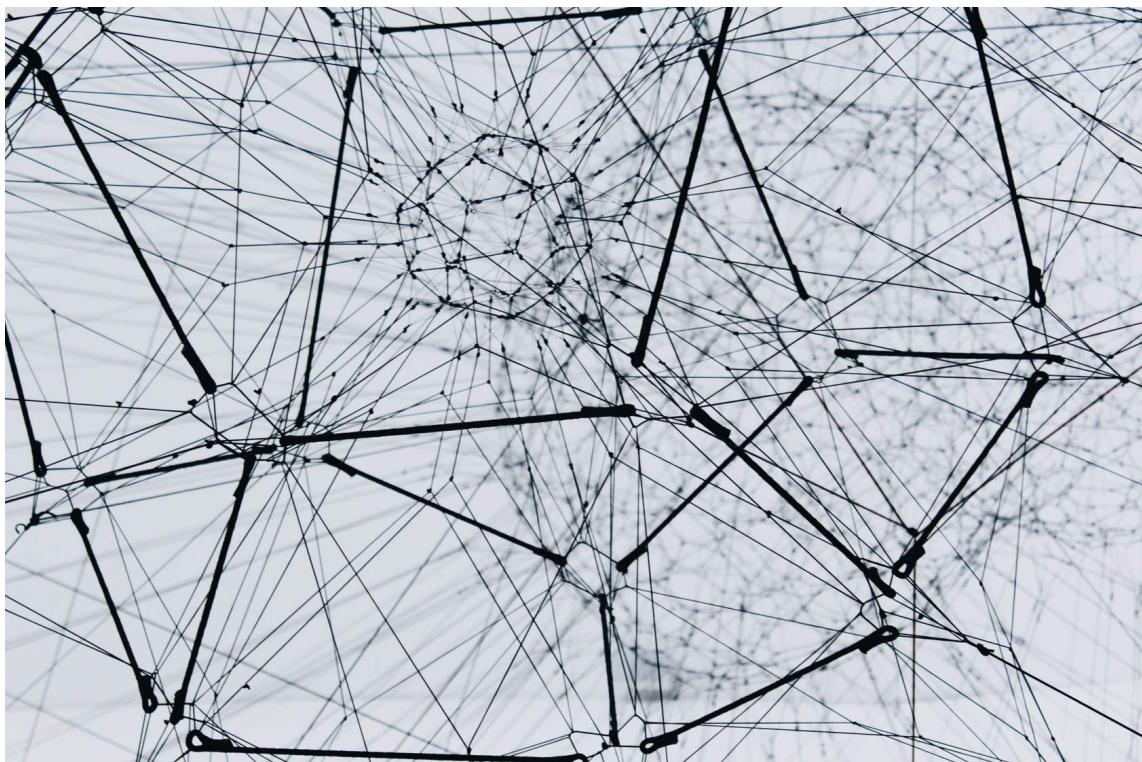
 **QUIZ 3 : AI Data**

QUIZ 1 : Mechanisms in AI

Question

01/04

What is an Artificial Neural Network?



- A programming technique where the program learns from data
- Networked data that communicates with each other
- Several "classical" algorithms put together
- A mechanism that has nothing to do with biological neurons: it's just a "fashionable" way to name any algorithm

- A mechanism loosely inspired by biological neurons: elementary units of computation connected to bring out a complex computation

- A mechanism that finely reproduces biological neurons: neurotransmitters, membrane structure, aso

Question

02/04

What is a prediction mechanism in artificial intelligence

- A mechanism that uses statistical regularities to estimate the probabilities of an unknown phenomenon (present or future)
- A mechanism that can see into the stars based on maps an imaginary mechanism, impossible to predict the future
- An imaginary mechanism, unable to predict the future
- A mechanism that works if and only if the phenomenon is completely predictive

Question

03/04

What AI is...and What it is not...



- ≡ It can simulate emotions but not feel them

Human Intelligence

- ≡ It is incarnated in a body

Artificial Intelligence

- ≡ It cannot develop independently, not even check its own bugs

Human Intelligence

- ≡ It develops through a formal language

Artificial Intelligence

≡ It develops through a complex non-formal language

Artificial Intelligence

≡ It exceeds human performance on specific tasks

Artificial Intelligence

≡ It uses statistics on a large amount of data to learn

Artificial Intelligence

≡ It has general cognitive abilities

Artificial Intelligence

≡ It has a limited capacity in a specific area

Human Intelligence

≡ It relies on emotional capacities

Human Intelligence

Question

04/04

What can be done today with AI algorithms ?



-
- Translate a text mechanically from one language to another
 - Automatically generate a painting indistinguishable from a real Van-Gogh painting
 - Drive a car autonomously in the city
 - Drive a train or land a plane

- Translate a poem from one language to another, taking into account the culture and sensitivity of the people who will read it

- A robot that feels emotions

- A robot that simulates emotions

QUIZ 2 : Machine Learning Methods

Supervised Learning

The solution to be found is provided with the data

Examples or prototypes are given to identify new data

Unsupervised Learning

The mechanism detects regularities in the data, such as the number of parameter

Similar data are grouped together to understand "its" geography (clustering)

Reinforcement Learning

Feedback is given as a positive (reward) or negative value for learning on each

CONTINUE

When is it best to use reinforcement learning?

- to program cobots (robots that operate in interaction with humans)
- to make good coffee based on consumer satisfaction
- to teach an algorithm to win at a game without explicitly programming a strategy



to model the behaviour of an animal at the level of its action selection



to automatically generate any program in Python

SUBMIT

CONTINUE

QUIZ 3 : AI Data

Data is a key element of AI. Let's look at some of the ways in which it is collected.

Question

01/02

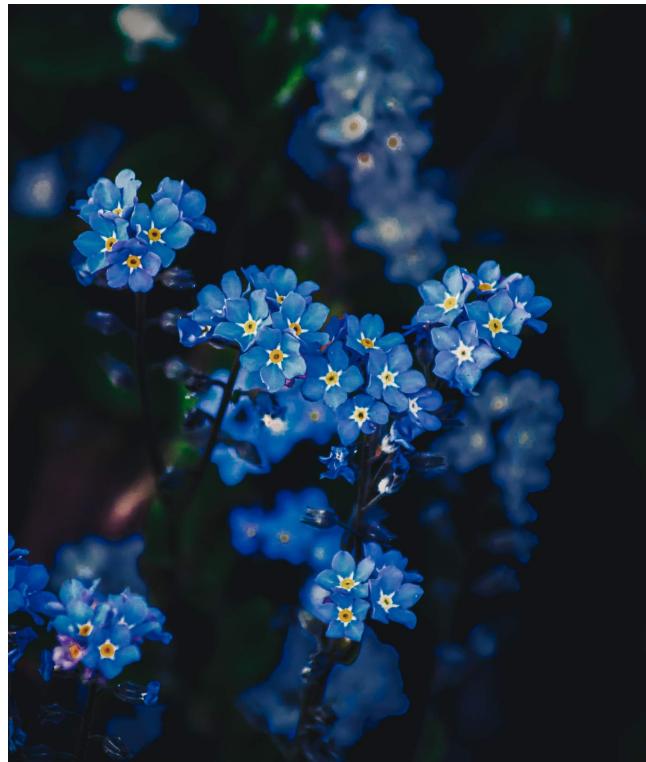
Where does the data that is used in machine learning systems come from?

- They are made automatically and only by the artificial intelligence itself.
- They are produced by people who are paid per click and tag thousands of images by hand.
- In machine learning systems, there is no longer any need for data.
- Our personal data is used as a knowledge base.

Question

02/02

You have to invent an AI that has to help recognise flowers: what data is needed?



-
- flower data (photos with precision on the place, date, etc.) proposed by people who want to participate, even if there may be wrong answers.
 - Wikipedia textual content analysed by a character recognition algorithm
 - hand-labelled images of flowers