

Tensorflow Tutorial

Lesson 1

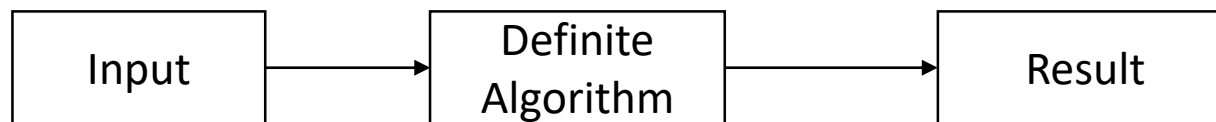
- Ground concepts of machine learning

Machine learning

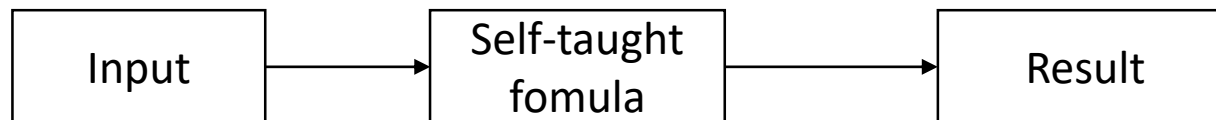
- Usually a program resolves around an easy to describe problem like
 - „What is the area of a circle“ or „How many taxes do I have to pay this year?“
 - All these questions can be written down in an easy code
- However, there might be examples where the algorithm cannot be described easily. However, the task can be described easily, e.g.:
 - Classification of an object or animal („What do you see?“)
 - Detection and classification of an object („What do you see where?“)
 - An example from economics:
 - Estimate the value of an investment -like a immobilie - based on its location and its area.

What's the price of the flat?

- Thanks to data from the past one knows how high the cost for the flat was (Ground truth) in relation to the location and the area
- A machine learning algorithm finds the optimal function by learning which output is expected in relation to the input
- After the learning process, the AI should be able to produce a good result



„normal“ programming



Machine learning

Machine learning

- Key – technologies over the last decades:
 - Decision trees
 - Nearest-Neighbor
 - Linear Regression
 - Neuronal Networks
 - Convolutional Neural Networks