Neural Networks and Deep Learning

Cracow University of Technology

Lab Assignment 1:

Task: Write the code for a simple perceptron

You have a function named *"train"* for training the perceptron.

In this function you go through a specified number of iterations (epochs):

First calculate the accuracy for the whole dataset using a function named *"accuracy"*.

If accuracy is less than '1':

For each data in the dataset:

a) A function named "predict" is called to predict the output for each data.
b) Calculate the *error* based on this prediction.
c) Update all weights.

This is our dataset and the initial weights and bias:

```
data=    [[0.08, 0.72, 1.0],
          [0.01, 1.00, 0.0],
          [0.26, 0.58, 1.0],
          [0.35, 0.95, 0.0],
          [0.45, 0.15, 1.0],
          [0.60, 0.30, 1.0],
          [0.70, 0.65, 0.0],
          [0.92, 0.45, 0.0]]


weights = [1.00, -1.00]
bias = 0.20
```