Introduction to Artificial Intelligence

Summer 2022

EXERCISE 5: Artificial Neural Networks

Consultations: **May 9th and May 11th, 2022 (on-line)**

Assessment: **May 16th and May 18th, 2022 (class 09 at the WUT)**

Teacher: Tomasz Lehmann, tomasz.lehmann.dokt@pw.edu.pl

This exercise is done in pairs.

1. Exercise details

Implement a N-layer perceptron for Iris classification. Dataset is attached to MS Teams post.

Verify how number of perceptron layers affect final metrics. The neural network should be trained with the stochastic gradient descent. The network can be implemented with library offering multilayer perceptron layers and error backpropagation. However, you must implement learning procedure yourself. Try to use at least two different cost functions and compere them each other.

Delivered solutions will be assessed by achieved results and correctness of research methods.

2. Technical details
   a. The preferred language to write your solutions is Python, however solutions in R, C++, C# and Java also will be accepted.

3. Handing-in guidelines
   a. The brief report with methods comparison should be sent on my e-mail before the classes. Please include "[EARIN] Exercise 5" in the title.
   b. You may get 0-7 pts for this assignment.