Neural Networks Coding Task 1

Weather Prediction

Due by December 10, 2022

Given weather in Szeged 2006-2016 Develop a Python program that detects the **humidity** using MLNN.

The online data set of weather in Szeged 2006-2016 that will be used for your project is available at project folder on course **Google Drive** with file named Weather in Szeged 2006-2016.rar or online in the following website:

https://www.kaggle.com/budincsevity/szeged-weather?select=weatherHistory.csv

Follow the following tasks during the development process of the MLNN:

(i)   Perform all necessary preprocessing for the given dataset
(ii)   Suggest the MLNN architecture
(iii)   Randomly set the weights' values.
(iv)   Update the weights using batch learning algorithm, using 10 epochs each of randomly selected 10 training patterns from the training set (70 % of the dataset). After each epoch, compute the MSE error on the test set (20 patterns randomly selected from the rest of the dataset). Then draw a chart with a horizontal axis titled "Epoch number" ranging from 1 to 10, and a vertical axis titled "MSE".
(v)   Give your comments on the resulting graph.

Best wishes ☺