TIES 4911 (2024): Guidelines for the Demo 1

Your surname:
Your first name:

Form the groups of 3 persons…

Demo Group members:
-
-
-

Demo-1_Task-1:

a) Present the results of your Task-1 to the group members. Make cross- and self-evaluation of the Task-1-1 and Task-1-2 completion.

Name	<your name>	< member name>	< member name>	< *member name*>
Evaluation				

Legend: 3 - done what has been required, 2 - something was not completed (2/3 are done), 1 - only a little is done

b) Present the results of your Task-1-3(extra) (if done) to the group members. Make cross- and self-evaluation of this task as well.

Name	<your name>	< member name>	< member name>	< *member name*>
Evaluation				

Legend: done or not

Demo-1_Task-2:

- Build a Linear Regression model for the following dataset (http://users.jyu.fi/~olkhriye/ties4911/demos/demo1/Automobile_price_data_Raw_set.csv)
- Build own **DNN** and **scikit-learn LinearRegressor** based models and compare their performance.
- Take column [***price***] as dependent parameter (our prediction target) and following columns as independent parameters: ***make***, ***body-style***, ***wheel-base***, ***engine-size***, ***horsepower***, ***peak-rpm***, ***highway-mpg***. Predict the "price" value for the following input:

  (make, body-style, wheel-base, engine-size, horsepower, peak-rpm, highway-mpg)
  [audi, hatchback, 99.5, 131, 160, 5500, 22]

DNN:

Predicted value: _____
MSE of the trained model: _____

scikit-learn LinearRegressor:

Predicted value: _____
Score of the trained model: _____

Present the results: code, predicted value and accuracy of your trained model…

Make self-evaluation of the group work with respect to a personal contribution of each member and distribute 100 points among team members:

Name	<member name 1>	< member name 2>	< member name 3>
Points			

Files to include in the demo results (archive file ties4911-demo01-(*your_surname*).zip):

- *Demo-1_Task-instructions.doc (this file)*
- *source code (.py or .ipynb, files) , of the Demo task 2.*

Send the results as an archive to lecturer (oleksiy . khriyenko @ jyu . fi) before the deadline (end of 28.01.2024).

Some relevant links:

https://github.com/Avik-Jain/100-Days-Of-ML-Code/blob/master/Code/Day%201_Data%20PreProcessing.md

https://stackabuse.com/tensorflow-2-0-solving-classification-and-regression-problems/

https://www.bogotobogo.com/python/scikit-learn/scikit_machine_learning_Data_Preprocessing-Missing-Data-Categorical-Data.php

https://machinelearningmastery.com/how-to-prepare-categorical-data-for-deep-learning-in-python/

https://www.tensorflow.org/tutorials/structured_data/feature_columns