Soft Computing Course

Project 2 : Construction an Artificial Neural Network (ANN)

This project is based on 2015 competition by The Famous Kaggle website. the competition was sponsored by TFI company. TFI is the company behind some of the world's most well-known restaurant brands including Burger King. The objective is to predict restaurants revenue based on factors such as demographic. you can feel descriptions in the following web address:

https://www.kaggle.com/c/restaurant-revenue-prediction/data

The objective of this project is to create an ANN model for the above-described problem. Follow these steps and send me (a) the PDF file of your report, (b) your MATLAB or Python codes, and (c) model prediction file by 11th of SHAHRIVAR 1399.

1- Design your ANN architecture and choose the number of layers and hidden neurons as you wish.

2- Use some portion of the data in “train in.csv” to train your ANN model. See the descriptions in the Kaggle website to understand what they mean. Be sure to normalize the inputs and standardize the outputs before starting the training process. Choose learning rate and other input parameters of the training process as you wish.

3- Asses the quality of ANN results by using the rest of data in train.csv, and present the results. Do you think that ANN provides sufficiently accurate results?

4- Change your training parameters and ANN architecture and re-do the raining process and compare the results (you should test at least three different ANN architecture).

5- Describe your choices and the work you have done in each step, and present the results in a report.

6- make predictions for the input data provided in “test.csv” and present outcome as a separate csv file.

Note: I encourage you to work together to learn to code for ANN and implement the project; But at the end, your ANN architectures and training parameters should not be the same!

good luck