

ASSIGNMENT 2

Due Date: 20 August 2019

QUESTION 1

You have to create a **multilayer** neural network with **one hidden layer** and train it using the **gradient decent algorithm**. You have to submit your code and your findings on the completed template. Here is the case study you should use:

The file ***HourlyData.csv*** contains the hourly electricity usage of a large industrial company from 1 January 2000 to 25 May 2009. Each row contains the year, month, day of the month, day of the week and 24 electricity readings (one for each hour of the day). You have to train a neural network(s) so that you can **forecast the hourly electricity usage for an entire week in the future**. Make sure you test you neural network on data not used during training.

You should further **investigate how the training time and generalization ability of the network can be improved** by making use of at **least 3** of the following techniques: **Prevention of overfitting, noise injection, appropriate weight initialization, dynamic learning rate, momentum, and network architecture**.