EE6222: Assignment 1

Using this RVFL as the base model, you are asked to investigate various issues as listed in your lecture slides. You can refer to your lecture slides for further details on RVFL.

1. Effect of direct links from the input layer to the output layer (i.e. with and without)
2. Performance comparisons of 2 activation functions: one from “relu, sigmoid, radbas, sine” and one from “hardlim, tribas”
3. Performance of Moore-Penrose pseudoinverse and ridge regression (or regularized least square solutions) for the computation of the output weights.

You can use around 8-10 datasets. If your computer cannot handle large datasets with more than 20000 samples, you can exclude them. You should also very exclude small datasets. You can also have some 2 class and more than 2 class problems.

You need to prepare a written report presenting your conclusions based on the experimental results and upload it via NTUlearn subject website. Your report will be subjected to plagiarism checking. You need to upload either pdf or word file.

Submission deadline is on Monday in Week 13 (8th November)

Optional Extension: If you’ve time, you can consider investigating the deep RVFL versions presented in:

Random Vector Functional Link Neural Network based Ensemble Deep Learning, Pattern Recognition, 107978, 2020

(Codes available from GitHub)