MLP (5-5-1)

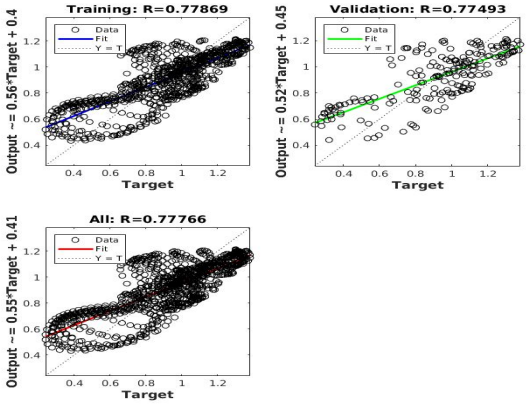

Fig 1(a). Training and Validation R

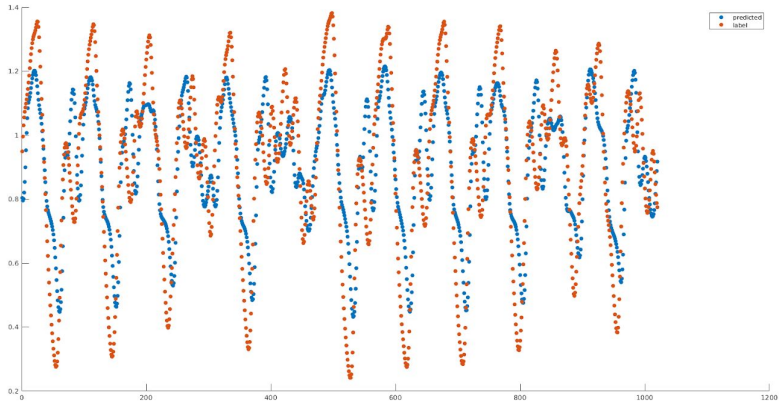

Fig 1(b). Scatter plot; Predicted (Blue) vs Label (Orange)

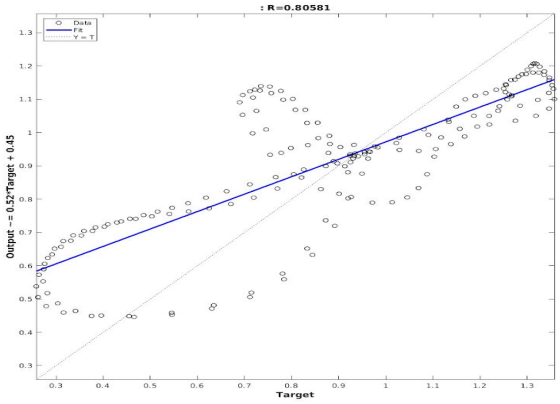

Fig 2(a). R for held out data set

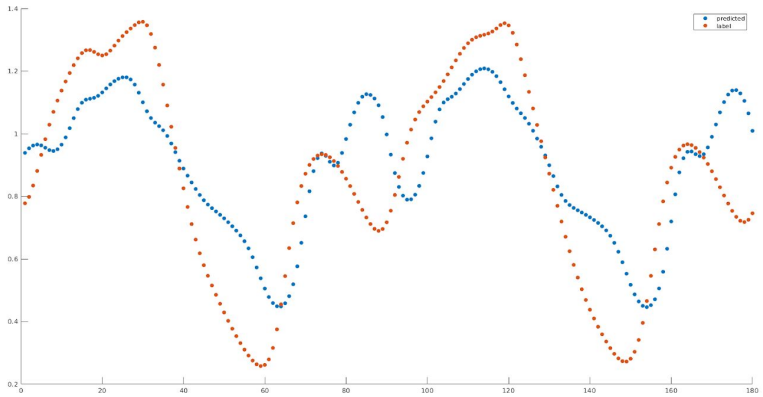

Fig 2(b). Held out scatter plot; Predicted (Blue) vs Label (Orange)

It can be inferred from Fig 1 and Fig 2 that a 2 layer architecture did not perform well and an average R value of approx 0.8 was observed. Further, changing the no. of hidden nodes from 5 did not help very much and hence a 3 layer architecture was tested. (results given below)

MLP (5-8-4-1)

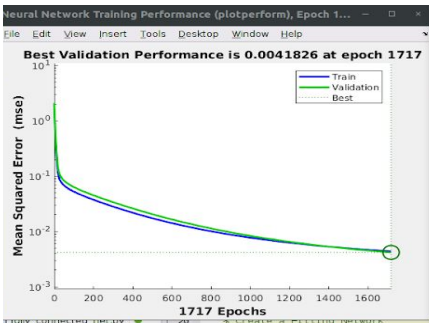

Fig 3(a). Training and Validation error

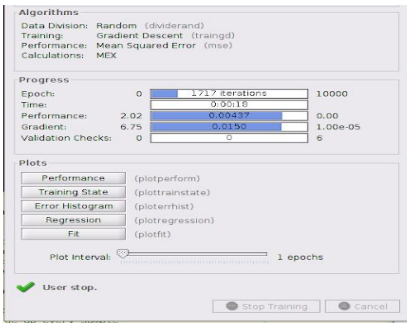

Fig 3(a). Training Parameters

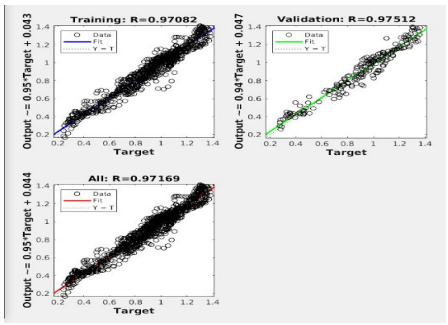

Fig 3(a). Training and Validation R

It can be inferred from the above figure that the error converged more rapidly for a 3 layer configuration and as soon as the validation error started to become equivalent to the training error, early stopping was used in order to avoid overfitting. It can be inferred from Fig 4 that the network performed well on held out data set.

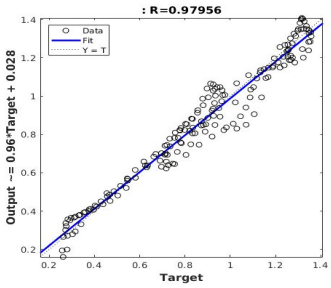

Fig 4(a). R for held out data set

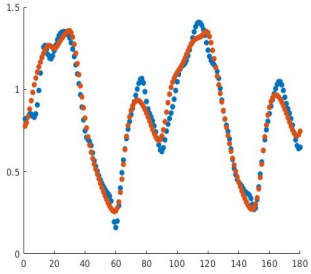

Fig 4b). Held out scatter plot; Predicted (Blue) vs Label (Orange)