

# AIR QUALITY AND PREDICTION OF TAMIL NADU

Air quality monitoring data are used to check the concentration with the ambient air quality standards provided by the government. The purpose of prediction is to develop effective emission control strategies and also helps to find the contribution of each source causing pollution.

**TABLE I. FIVE YEAR MEAN FOR DIFFERENT AIR POLLUTANTS**

<b>Variables</b>	<b>2015 to 2019</b>
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	44.63
SO <sub>2</sub> (µg/m <sup>3</sup> )	14.46
NO <sub>x</sub> (µg/m <sup>3</sup> )	10.25
Temperature (°C)	29.04
Relative humidity (%)	66.51
Wind speed (m/s)	0.96
Wind direction (degree)	194.23

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The above table I shows the average value for five years of all variables and the table II gives the parameters to be used in prediction, its units, minimum and maximum range of values, their mean.

## Chennai district Revenue divisions and taluks



### *A. Performance of Tansig Function*

The following figure 5 appears during the training process. This graph shows the performance of network versus the number of epochs. During training the performance of the network starts from a large value at first and the weights are altered to have minimum epoch value in the function. In the graph, the black dashed line represents the best performance validation of the network. The green line represents the validation training set, when it intersects with the black line

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### B. Performance of Purelin Transfer Function

The following figure 7 shows that the best performance is achieved by the model using purelin transfer function with the minimum MSE of 0.094.

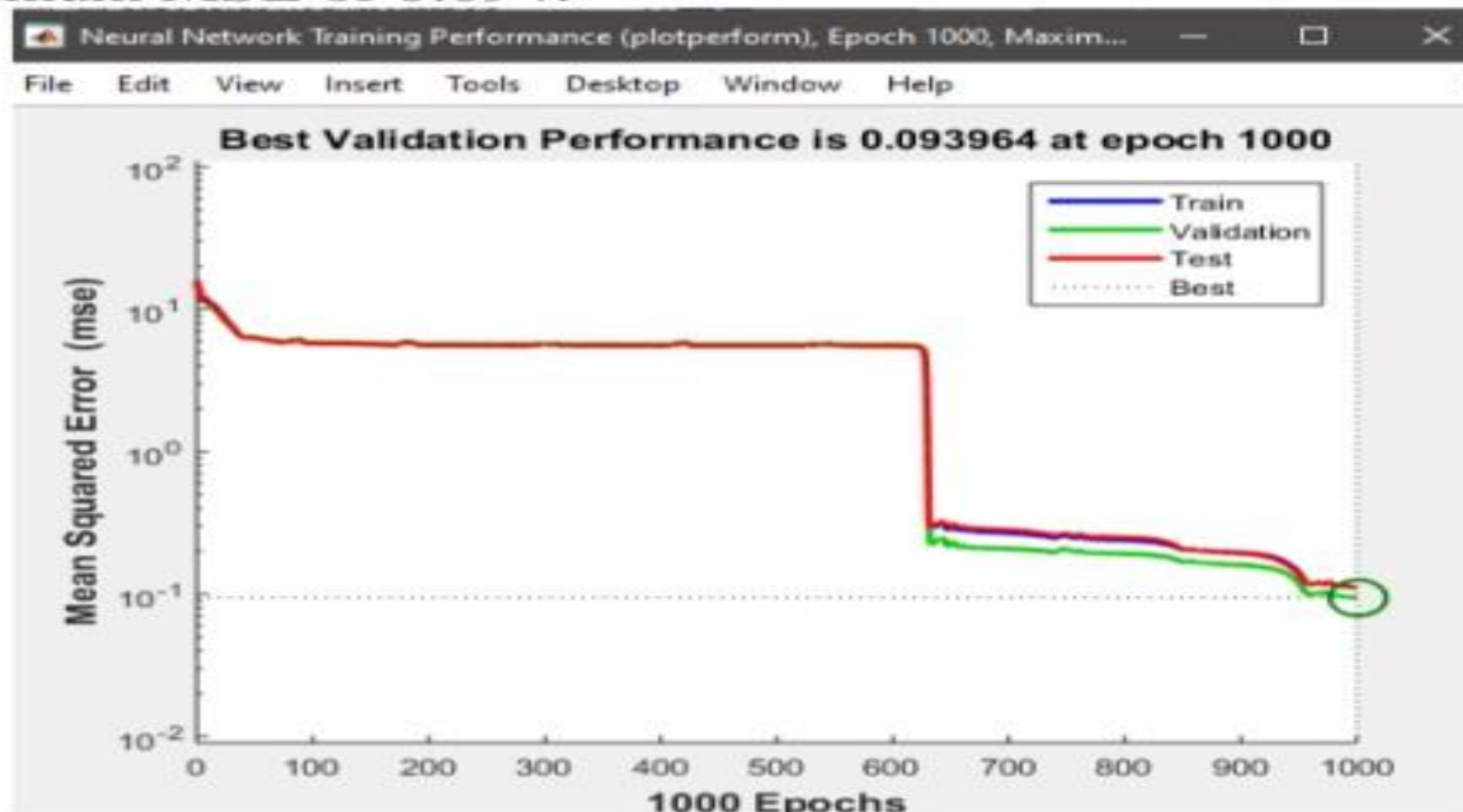


Fig. 7. Performance of purelin function



## REFERENCES

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