## **Supplementary Data**

All the Accuracy curves have their x-axis corresponding to the Training Dataset size and the y-axis corresponding to the accuracy.

An epoch is the number of times the machine learning mode is passed on the training dataset during the learning process.

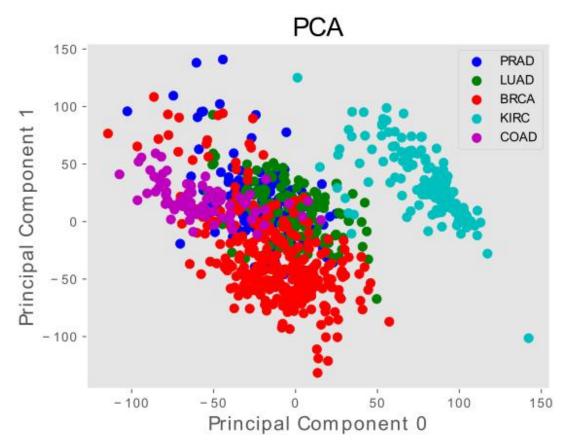


Figure 1: PCA Dimension Reduction Technique applied on the Dataset with the First and Second Components

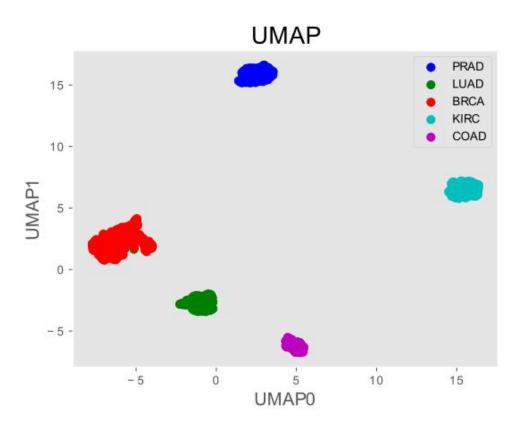


Figure 2: UMAP Dimension Reduction Technique applied on the Dataset

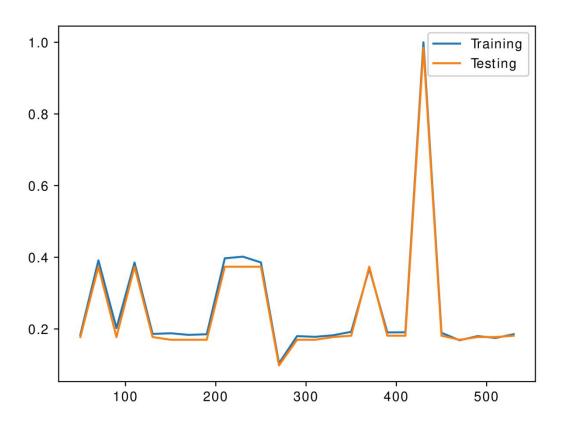


Figure 3: Accuracy Curve for the 4<sup>th</sup> Neural Network Configuration at the 20<sup>th</sup> epoch

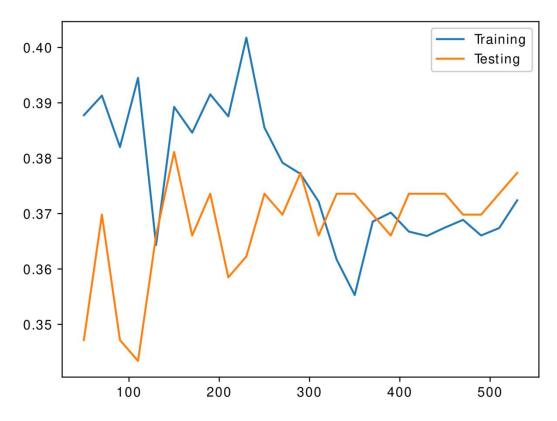


Figure 4: Accuracy Curve for the 6<sup>th</sup> Neural Network Configuration at the 20<sup>th</sup> epoch

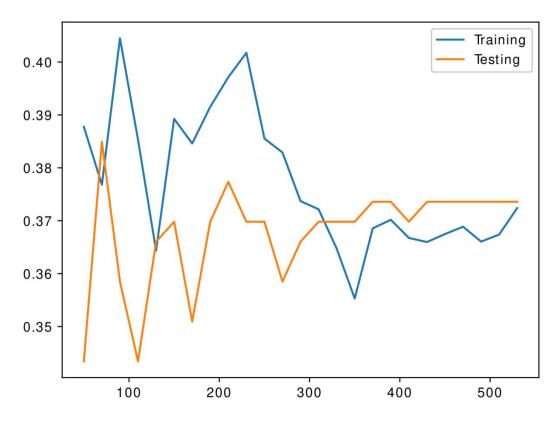


Figure 5: Accuracy Curve for the 5<sup>th</sup> Neural Network Configuration at the 20<sup>th</sup> epoch

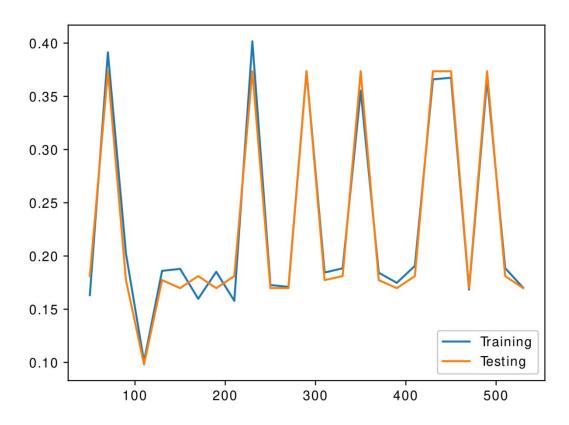


Figure 6: Accuracy Curve for the 4<sup>th</sup> Neural Network Configuration at the 50<sup>th</sup> epoch

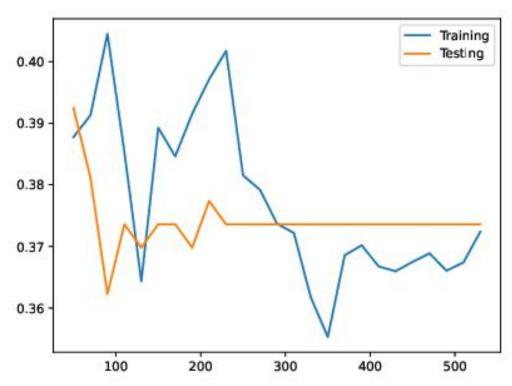


Figure 7: Accuracy Curve for the  $6^{th}$  Neural Network Configuration at the  $50^{th}$  epoch

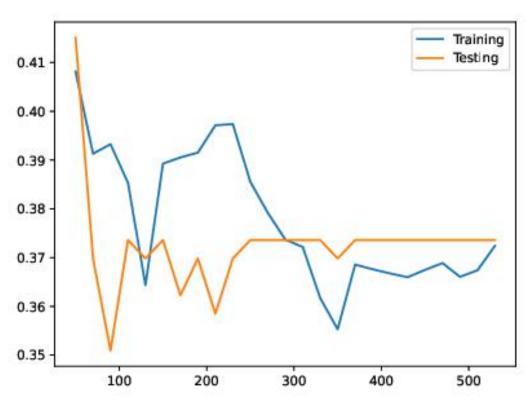


Figure 8: Accuracy Curve for the 5<sup>th</sup> Neural Network Configuration at the 50<sup>th</sup> epoch

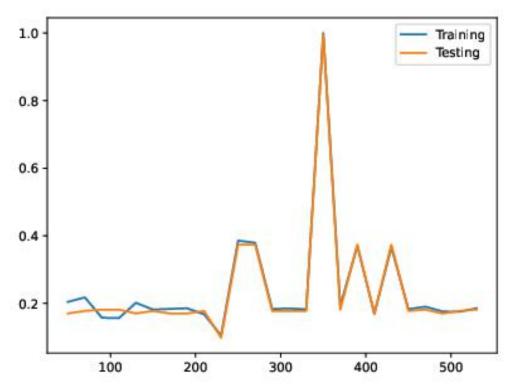


Figure 9: Accuracy Curve for the  $4^{th}$  Neural Network Configuration at the  $100^{th}$  epoch

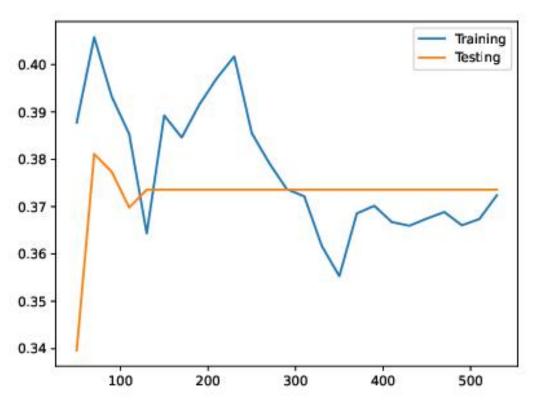


Figure 10: Accuracy Curve for the  $6^{th}$  Neural Network Configuration at the  $100^{th}$  epoch

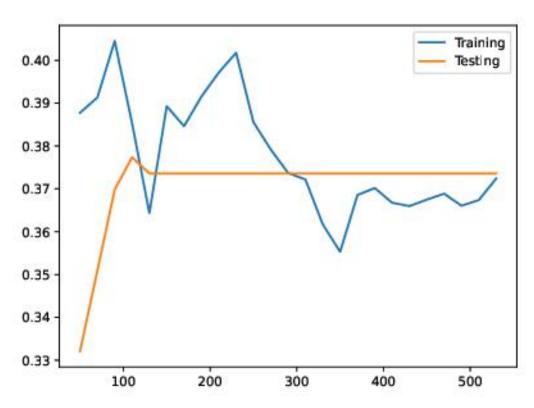


Figure 11: Accuracy Curve for the  $5^{th}$  Neural Network Configuration at the  $100^{th}$  epoch

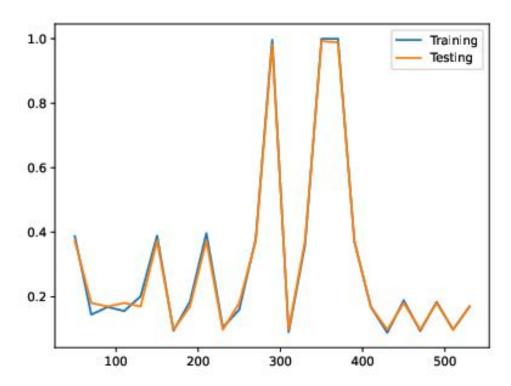


Figure 12: Accuracy Curve for the 1<sup>st</sup> Neural Network Configuration at the 20<sup>th</sup> epoch

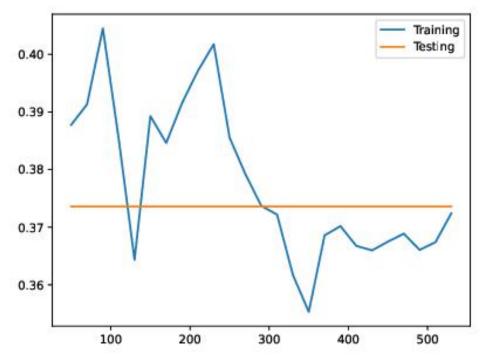


Figure 13: Accuracy Curve for the 3rd Neural Network Configuration at the 20<sup>th</sup> epoch

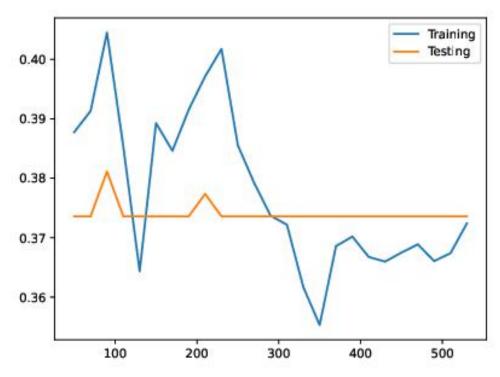


Figure 14: Accuracy Curve for the 2<sup>nd</sup> Neural Network Configuration at the 20<sup>th</sup> epoch

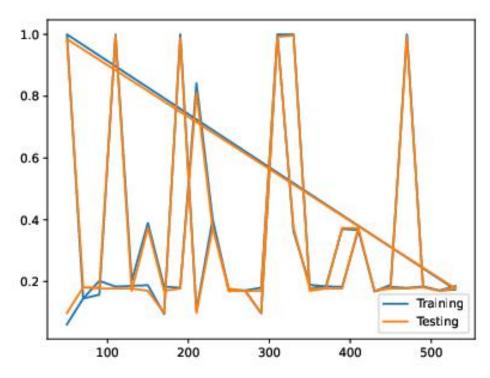


Figure 15: Accuracy Curve for the  $1^{\rm st}$  Neural Network Configuration at the  $50^{\rm th}$  epoch

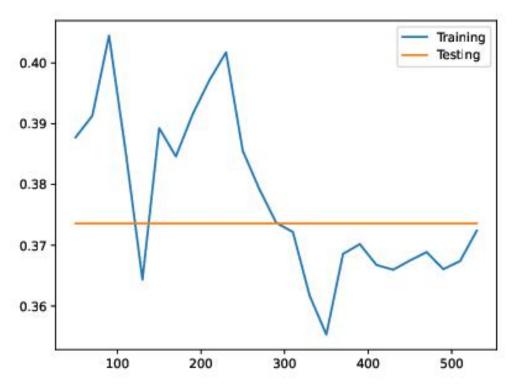


Figure 16: Accuracy Curve for the 3<sup>rd</sup> Neural Network Configuration at the 50<sup>th</sup> epoch

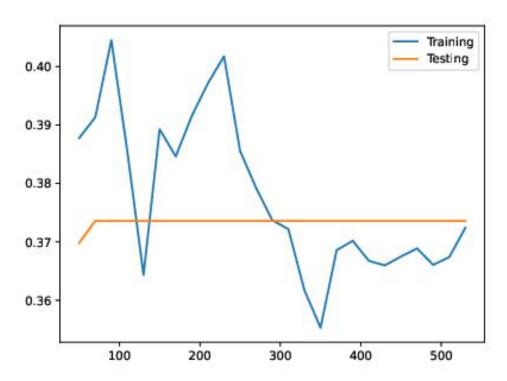


Figure 17: Accuracy Curve for the 2<sup>nd</sup> Neural Network Configuration at the 50<sup>th</sup> epoch

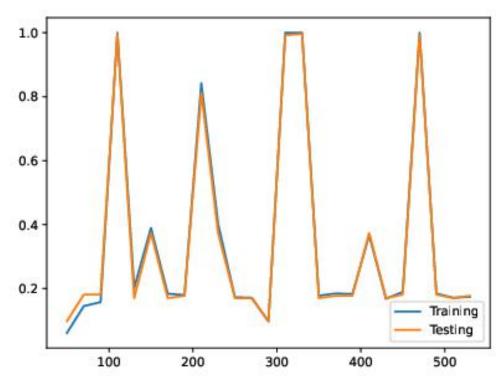


Figure 18: Accuracy Curve for the  $1^{\rm st}$  Neural Network Configuration at the  $100^{\rm th}$  epoch

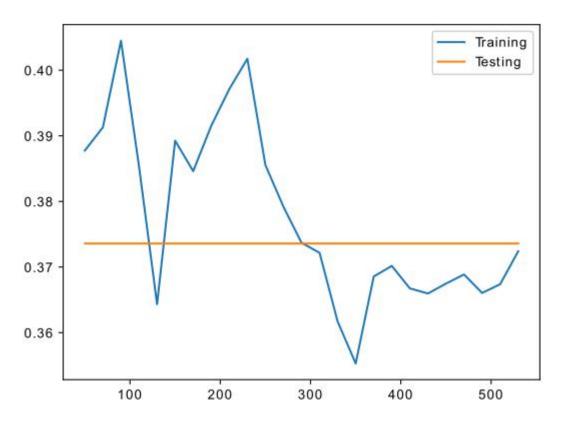


Figure 19: Accuracy Curve for the  $3^{\rm rd}$  Neural Network Configuration at the  $100^{\rm th}$  epoch

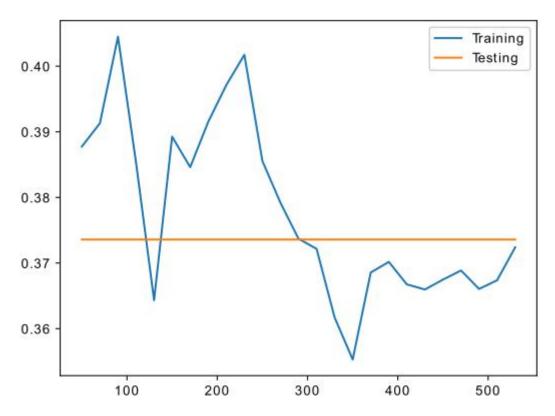


Figure 20: Accuracy Curve for the 2<sup>nd</sup> Neural Network Configuration at the 100<sup>th</sup> epoch

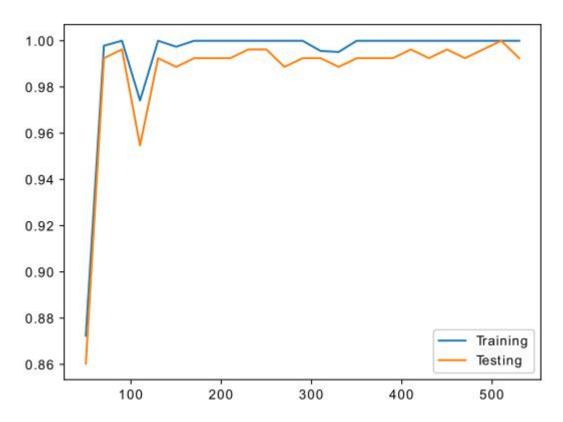


Figure 21: Accuracy Curve for the 7th Neural Network Configuration at the  $100^{\mathrm{th}}$  epoch

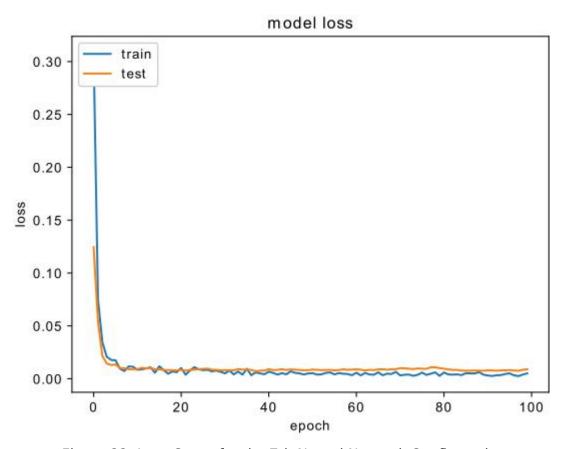


Figure 22: Loss Curve for the 7th Neural Network Configuration

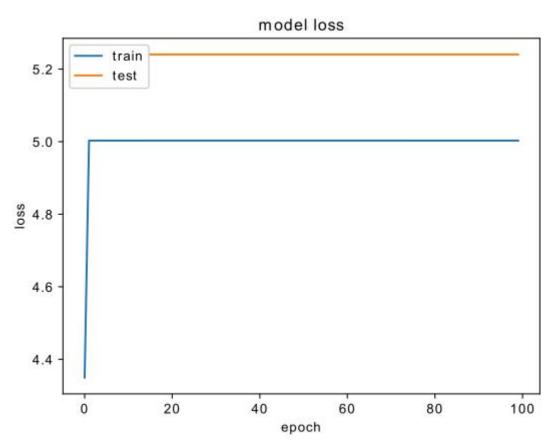


Figure 23: Loss Curve for the 1<sup>st</sup> Neural Network Configuration

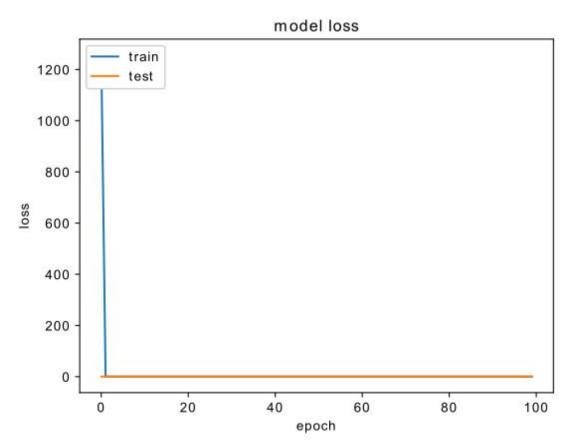


Figure 24: Loss Curve for the 3<sup>rd</sup> Neural Network Configuration

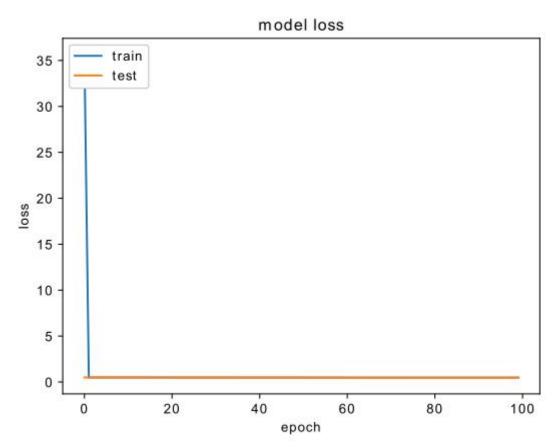


Figure 25: Loss Curve for the 2<sup>nd</sup> Neural Network Configuration

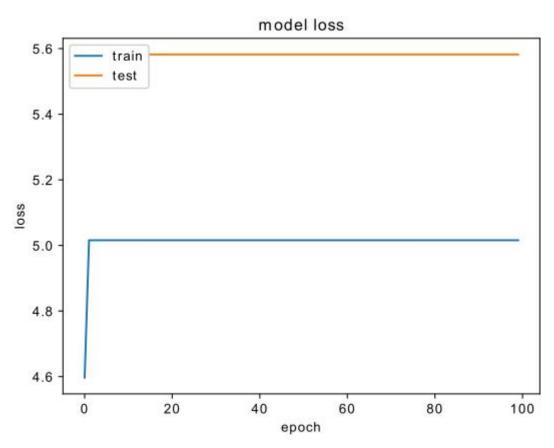


Figure 26: Loss Curve for the 4<sup>th</sup> Neural Network Configuration

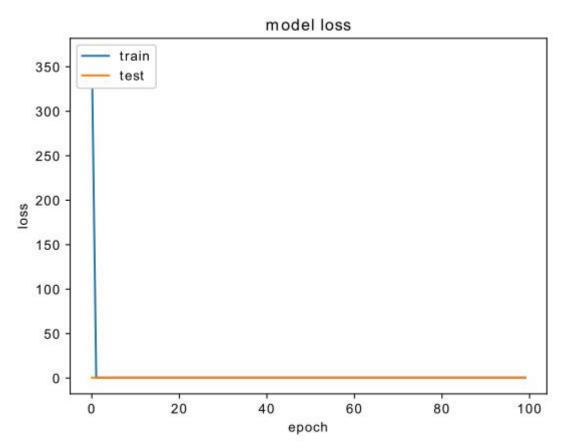


Figure 27: Loss Curve for the 3<sup>rd</sup> Neural Network Configuration

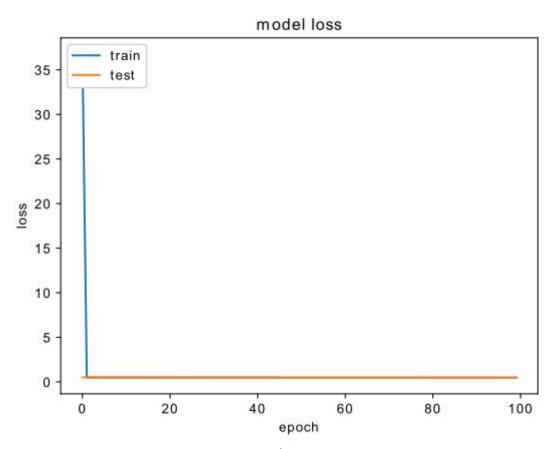


Figure 28: Loss Curve for the 5<sup>th</sup> Neural Network Configuration