

April 1 2023

The SNF was performed on the SND dataset introduced in the SNF-NN paper, and it was trained on the neural network with the same architecture mentioned by the SNF-NN paper. The same hyperparameters were used.

Results

Reported values for ten-fold cross-validation in the SNF-NN paper

Acc = 0.796

Rec= 0.816

F1 = 0.800

MCC = 0.593

AUC-ROC= 0.867

AUC-PR = 0.876

Values obtained for ten-fold cross-validation on our implementation

Test accuracy: 0.82

F1-score: 0.72

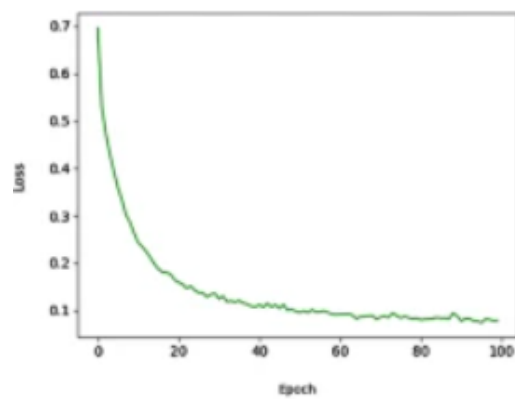
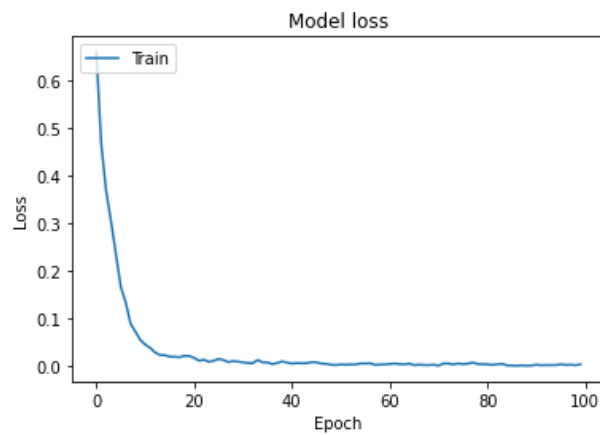
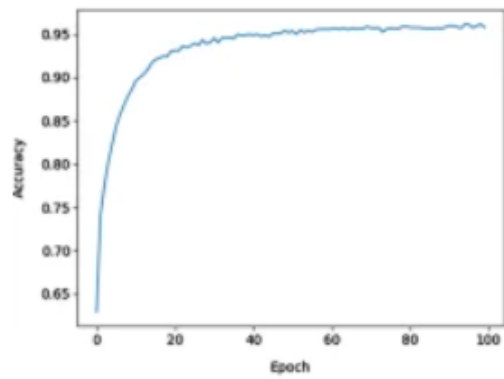
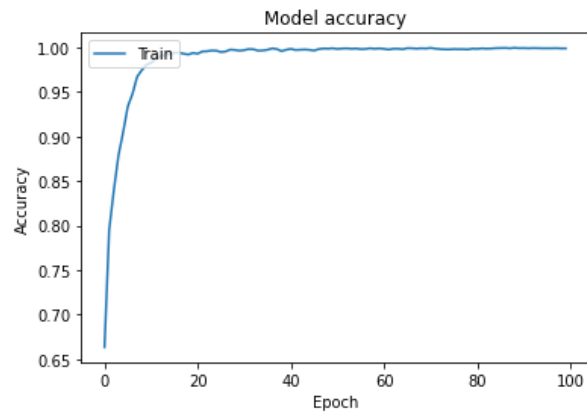
Recall: 0.64

MCC: 0.60

AUC-ROC: 0.85

AUC-PR: 0.79

Below, on the left are the graphs generated by us and on the right are those shown in the paper.



Takeaways

- Similarity network selection was not made because of which the scores obtained by our model do not closely resemble the scores reported in the paper.
- The paper did not specify the exact method of creating the false negative dataset, so a false positive dataset was randomly generated for this purpose