## Results

The results were obtained by running 6 different model architectures through the pre-processed training data. The results closely align with the original results observed by the authors. Table 1 shows the results for 80 epochs run on Google Collab Pro. Table 2 contains the data from the original experiment.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Architecture** | **Average Precision** | **AUROC** | **F1 score** | **PPV** | **NPV** | **Sensitivity** | **Specificity** |
| ODE\_BIRNN\_Atention | 0.31 | 0.737 | 0.367 | 0.995 | 0.882 | 0.7 | 0.658 |
| ODE\_BIRNN | 0.328 | 0.743 | 0.379 | 0.895 | 0.883 | 0.647 | 0.733 |
| ODE\_ATTENTION | 0.297 | 0.723 | 0.343 | 0.894 | 0.884 | 0.704 | 0.642 |
| MCE\_BIRNN\_ATTENTION | 0.307 | 0.735 | 0.363 | 0.991 | 0.883 | 0.67 | 0.7 |
| MCE\_BIRNN | 0.308 | 0.73 | 0.364 | 1 | 0.883 | 0.675 | 0.69 |
| MCE\_ATTENTION | 0.278 | 0.691 | 0.319 | 0.945 | 0.883 | 0.675 | 0.629 |

Table 1: Results from Re-producing the results on Google Collab Pro

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Average Precision** | **AUROC** | **F1-Score** | **Sensitivity** | **Specificity** |
| ODE + RNN + Attention | 0.314 | 0.739 | 0.376 | 0.685 | 0.677 |
| ODE + RNN | 0.331 | 0.739 | 0.372 | 0.672 | 0.697 |
| ODE + Attention | 0.294 | 0.717 | 0.333 | 0.776 | 0.554 |
| MCE + RNN + Attention | 0.317 | 0.736 | 0.373 | 0.630 | 0.744 |
| MCE + RNN | 0.298 | 0.727 | 0.361 | 0.654 | 0.706 |
| MCE + Attention | 0.269 | 0.689 | 0.312 | 0.686 | 0.616 |

Table 2: Results from Original from the paper

From the Results the ODE + BiRNN model that uses Ordinary Differential Equation Embedding methods combined with a bi-directional neural network for both the original results and the results produced by our experiments.