**LAB-4**

**Keras – Losses**

|  |  |  |
| --- | --- | --- |
| **Loss Function** | **Test Loss** | **Test Accuracy** |
| Mean\_squared\_error | 0.0037307754256583523 | 0.9773 |
| Mean\_absolute\_error | 0.0043383005766493826 | 0.9783 |
| Mean\_absolute\_percentage\_error | 2214799.7618897 | 0.9779 |
| Mean\_squared\_logarithmic\_error | 0.0016280918620522607 | 0.9822 |
| Squared\_hinge | 0.902059716796875 | 0.9781 |
| hinge | 0.9017534790039062 | 0.9827 |
| Categorical\_hinge | 0.03717582763769146 | 0.9812 |
| logcosh | 0.0014972359071866225 | 0.9821 |
| Categorical\_crossentropy | 0.1864341840430116 | 0.9842 |
| Binary\_crossentropy | 0.036881936030498025 | 0.99660999584198 |
| Kullback\_leibler\_divergence | 0.21174889647573564 | 0.9826 |
| Poisson | 0.12265446733236313 | 0.9817 |
| Cosine\_proximity | 0.9824294725418091 | 0.9819 |

**Keras-Call Backs**

Check-pointed Neural Network Model Accuracy : 99.14%

**Keras-Metrics**

|  |  |  |
| --- | --- | --- |
| **Metric** | **Test Loss** | **Test Accuracy** |
| Accuracy | 0.0951114544181129 | 0.9785 |
| Binary\_accuracy | 0.1270233417146791 | 0.9965199954986572 |
| Categorical\_accuracy | 0.14374884396642368 | 0.9823 |
| Sparse\_categorical\_accuracy | 0.6186 | 0.5000 |
| Top\_k\_categorical\_accuracy | 0.1242443458878613 | 0.9998 |
| Sparse\_top\_k\_categorical\_accuracy | 0.5141 | 0.5000 |
| Cosine\_proximity | 0.7072 | Cosine\_proximity:  -5.0000e-01 |