RNN – Time Series – 10 epochs

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Units | Kernel  Weight initializer | Recurrent  Weight initializer | Kernel regularizer | Recurrent regularizer | Train  loss | Validation loss | Test loss | Time In min |
| 32 | glorot\_uniform | orthogonal | L1 | L1 | 0.3492 | 0.3413 | 0.524 | 7.833 |
| 32 | orthogonal | orthogonal | L1 | L1 | 0.3566 | 0.3625 | 0.649 | 7.33 |
| 32 | glorot\_uniform | glorot\_uniform | L1 | L1 | 0.3571 | 0.3469 | 0.5361 | 7.7 |
| 32 | orthogonal | glorot\_uniform | L1 | L1 | 0.3512 | 0.3318 | 0.5307 | 7.883 |
| 32 | glorot\_uniform | orthogonal | L2 | L2 | 0.2550 | 0.2271 | 0.6234 | 7.5 |
| 32 | orthogonal | orthogonal | L2 | L2 | 0.2850 | 0.2441 | 0.5870 | 7.15 |
| 32 | orthogonal | glorot\_uniform | L2 | L2 | 0.2988 | 0.2881 | 0.6294 | 7.12 |
| 32 | glorot\_uniform | glorot\_uniform | L2 | L2 | 0.3482 | 0.2961 | 0.6073 | 7.14 |
| 32 | glorot\_uniform | orthogonal | L1 | L2 | 0.2904 | 0.5121 | 0.8723 | 7.15 |
| 32 | glorot\_uniform | glorot\_uniform | L1 | L2 | 0.3223 | 0.3096 | 0.5977 | 6.966 |
| 32 | orthogonal | glorot\_uniform | L1 | L2 | 0.3372 | 0.3687 | 0.5990 | 6.78 |
| 32 | orthogonal | orthogonal | L1 | L2 | 0.3202 | 0.2952 | 0.6590 | 6.83 |
| 32 | glorot\_uniform | glorot\_uniform | L2 | L1 | 0.3252 | 0.3086 | 0.5141 | 7.03 |
| 32 | orthogonal | glorot\_uniform | L2 | L1 | 0.3751 | 0.3485 | 0.6549 | 7.16 |
| 32 | glorot\_uniform | orthogonal | L2 | L1 | 0.3341 | 0.3283 | 0.5369 | 6.96 |
| 32 | orthogonal | orthogonal | L2 | L1 | 0.3089 | 0.2924 | 0.5781 | 6.7 |

LSTM – Time Series – 10 epochs

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Units | Kernel  Weight initializer | Recurrent  Weight initializer | Kernel regularizer | Recurrent regularizer | Train  loss | Validation loss | Test loss | Time In min |
| 32 | glorot\_uniform | orthogonal | L1 | L1 | 0.3881 | 0.3744 | 0.6167 | 11.68 |
| 32 | orthogonal | orthogonal | L1 | L1 | 0.3764 | 0.3577 | 0.6728 | 13.1 |
| 32 | glorot\_uniform | glorot\_uniform | L1 | L1 | 0.3941 | 0.3772 | 0.6442 | 13.03 |
| 32 | orthogonal | glorot\_uniform | L1 | L1 | 0.3664 | 0.3611 | 0.6807 | 11.93 |
| 32 | glorot\_uniform | orthogonal | L2 | L2 | 0.2981 | 0.3237 | 0.6383 | 11.83 |
| 32 | orthogonal | orthogonal | L2 | L2 | 0.2194 | 0.2225 | 0.6501 | 12.11 |
| 32 | orthogonal | glorot\_uniform | L2 | L2 | 0.2413 | 0.2149 | 0.6214 | 12.05 |
| 32 | glorot\_uniform | glorot\_uniform | L2 | L2 | 0.2107 | 0.1965 | 0.6440 | 10.86 |
| 32 | glorot\_uniform | orthogonal | L1 | L2 | 0.2706 | 0.2493 | 0.7878 | 12.23 |
| 32 | glorot\_uniform | glorot\_uniform | L1 | L2 | 0.2709 | 0.2421 | 0.7588 | 12.21 |
| 32 | orthogonal | glorot\_uniform | L1 | L2 | 0.2602 | 0.2338 | 0.8013 | 12.08 |
| 32 | orthogonal | orthogonal | L1 | L2 | 0.2974 | 0.2945 | 0.7674 | 13.38 |
| 32 | glorot\_uniform | glorot\_uniform | L2 | L1 | 0.3051 | 0.3034 | 0.5955 | 12.81 |
| 32 | orthogonal | glorot\_uniform | L2 | L1 | 0.3025 | 0.3085 | 0.6542 | 11.91 |
| 32 | glorot\_uniform | orthogonal | L2 | L1 | 0.3126 | 0.3139 | 0.5851 | 13.58 |
| 32 | orthogonal | orthogonal | L2 | L1 | 0.3137 | 0.3180 | 0.5686 | 13.33 |

CNN-CT – Time Series – 5 epochs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No of Units | Kernel  Weight initializer | Kernel regularizer | Train  loss | Validation  loss | Time In min |
| 32 | glorot\_uniform | L1 | 10.52 | 8.37 | 3.2 |
| 32 | orthogonal | L1 | 22.28 | 18.11 | 3.10 |
| 32 | glorot\_uniform | L2 | 2.85 | 4.30 | 2.12 |
| 32 | orthogonal | L2 | 3.87 | 4.59 | 2.32 |

MNIST – 10 epchos

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Layers | Kernel  Weight initializer | Kernel regularizer | Train  loss | Validation loss | Test loss | Train  Accuracy | Validation  Accuracy | Test  Accuracy | Time In min |
| 3 | glorot\_uniform | L1 | 1.1187 | 0.9264 | 0.198 | 0.9406 | 0.9728 | 0.9741 | 9.16 |
| 3 | glorot\_uniform | L2 | 0.5798 | 0.5073 | 0.5046 | 0.9701 | 0.9861 | 0.9867 | 8.25 |
| 3 | orthogonal | L1 | 5.0117 | 4.5852 | 4.5875 | 0.9246 | 0.9707 | 0.9689 | 8.43 |
| 3 | orthogonal | L2 | 0.9409 | 0.8256 | 0.8253 | 0.9522 | 0.9824 | 0.9811 | 8.61 |
| 3 | zeros | L1 | 2.3010 | 2.3021 | 2.3010 | 0.1140 | 0.1060 | 0.1135 | 8.25 |
| 3 | zeros | L2 | 2.3001 | 2.3011 | 2.3001 | 0.1104 | 0.1006 | 0.1153 | 8.06 |