**Kaldi RNN Script Documentation**

**LSTM Script:*****04f\_train\_lstm.sh (3 layered, uni-directional)***

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| --- |
| . 00\_init\_paths.sh  local/nnet3/run\_lstm.sh --affix bidirectional \  --lstm-delay " -1 -2 -3 " \  --label-delay 5 \  --cell-dim 512 \  --num-lstm-layers 3 \  --hidden-dim 1024 \  --splice-indexes "-2,-1,0,1,2 0 0" \  --recurrent-projection-dim 128 \  --non-recurrent-projection-dim 128 \  --chunk-left-context 40 \  --chunk-right-context 0 \  --num-epochs 10 \  --initial-effective-lrate 0.0006 \  --final-effective-lrate 0.00006 \  --num-jobs-initial 2 \  --num-jobs-final 6 |

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**GRU script: *04g\_train\_gru.sh (3 layered, uni-directional)***

|  |
| --- |
| . 00\_init\_paths.sh  local/nnet3/run\_gru.sh --affix bidirectional \  --gru-delay " -1 -2 -3 " \  --label-delay 5 \  --num-gru-layers 3 \  --hidden-dim 1024 \  --splice-indexes "-2,-1,0,1,2 0 0" \  --recurrent-projection-dim 512 \  --non-recurrent-projection-dim 512 \  --chunk-left-context 40 \  --chunk-right-context 0 \  --num-epochs 10 \  --initial-effective-lrate 0.0006 \  --final-effective-lrate 0.00006 \  --num-jobs-initial 2 \  --num-jobs-final 6 |

Following 2 changes should be done for Bidirectional LSTM or GRU:

1. **gru\_delay=”[-1,1] [-2,2] [-3,3]” or lstm delay=”[-1,1] [-2,2] [-3,3]”**

**A three layer stacked bi-directional GRU would use recurrence connections with delay -1 for the forward, 1 for the backward at layer 1, -2 for the forward, 2 for the backward at layer 2, and so on at layer3.**

1. **chunk\_right\_context=40**

**# number of steps used in the estimation of LSTM/GRU state before prediction of the first label (usually used in bidirectional LSTM/GRU case)**