Current exercise is m09

The X_train size is torch.Size([124, 240, 117])

The y_train size is torch.Size([124])

The X_test size is torch.Size([56, 240, 117])

The y_test size is torch.Size([56])

The cuda availability is False

The cuda device is cpu

All frames shape is torch.Size([60, 117])

The frame size is torch.Size([60, 117])

The number of frames are 4 , the frame size is 60 and stride is 60

Current device: cpu

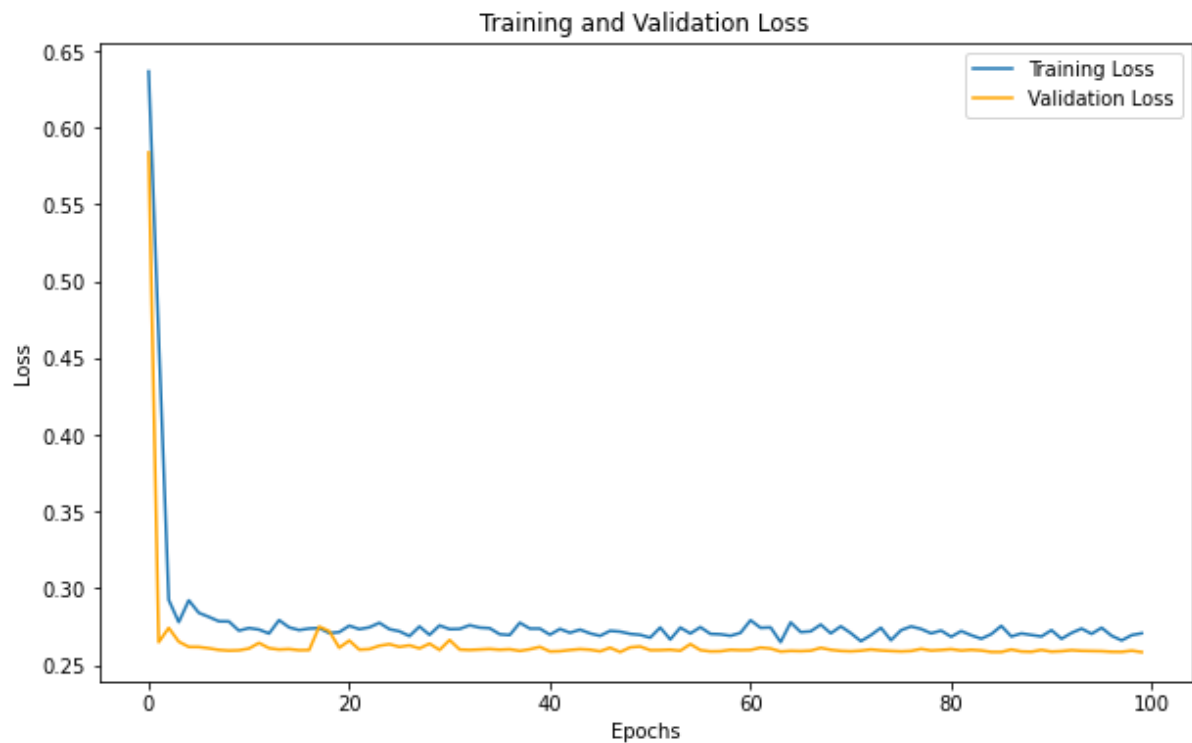Model output is tensor([0.5098], grad_fn=<SigmoidBackward0>)

The no. of frames are 4

The hyperparameters are : model_dim is = 48 , num_heads = 4 , dim_feedforward = 48 , num_layers = 6 , dropout = 0.1 , stride = 60 , frame_size = 60 , dense_layer_neurons = 118 , epochs = 100, learning_rate = 0.0001

Epoch [1/100], Loss: 0.636643   Val loss: 0.583846   Best model at epoch: 0

Epoch [2/100], Loss: 0.463653   Val loss: 0.265070   Best model at epoch: 0

Epoch [3/100], Loss: 0.292584   Val loss: 0.274346   Best model at epoch: 0

Epoch [4/100], Loss: 0.278134   Val loss: 0.265420   Best model at epoch: 0

Epoch [5/100], Loss: 0.292318   Val loss: 0.262006   Best model at epoch: 0

Epoch [6/100], Loss: 0.284178   Val loss: 0.261960   Best model at epoch: 0

Epoch [7/100], Loss: 0.281523   Val loss: 0.261121   Best model at epoch: 0

Epoch [8/100], Loss: 0.278683   Val loss: 0.260056   Best model at epoch: 0

Epoch [9/100], Loss: 0.278575   Val loss: 0.259609   Best model at epoch: 0

Epoch [10/100], Loss: 0.272560   Val loss: 0.259794   Best model at epoch: 0

Epoch [11/100], Loss: 0.274264   Val loss: 0.260953   Best model at epoch: 0

Epoch [12/100], Loss: 0.273298   Val loss: 0.264592   Best model at epoch: 0

Epoch [13/100], Loss: 0.270720   Val loss: 0.261184   Best model at epoch: 0

Epoch [14/100], Loss: 0.279402   Val loss: 0.260304   Best model at epoch: 0

Epoch [15/100], Loss: 0.274705   Val loss: 0.260605   Best model at epoch: 0

Epoch [16/100], Loss: 0.272966   Val loss: 0.259864   Best model at epoch: 0

Epoch [17/100], Loss: 0.273939 Val loss: 0.259974 Best model at epoch: 17

Epoch [18/100], Loss: 0.274258 Val loss: 0.275214 Best model at epoch: 17

Epoch [19/100], Loss: 0.270994 Val loss: 0.272249 Best model at epoch: 17

Epoch [20/100], Loss: 0.271615 Val loss: 0.261463 Best model at epoch: 17

Epoch [21/100], Loss: 0.275782 Val loss: 0.266122 Best model at epoch: 17

Epoch [22/100], Loss: 0.273543 Val loss: 0.260228 Best model at epoch: 17

Epoch [23/100], Loss: 0.274733 Val loss: 0.260584 Best model at epoch: 17

Epoch [24/100], Loss: 0.277661 Val loss: 0.262742 Best model at epoch: 17

Epoch [25/100], Loss: 0.273550 Val loss: 0.263800 Best model at epoch: 17

Epoch [26/100], Loss: 0.272163 Val loss: 0.262006 Best model at epoch: 17

Epoch [27/100], Loss: 0.269038 Val loss: 0.263020 Best model at epoch: 17

Epoch [28/100], Loss: 0.275289 Val loss: 0.261027 Best model at epoch: 17

Epoch [29/100], Loss: 0.269814 Val loss: 0.264158 Best model at epoch: 17

Epoch [30/100], Loss: 0.275949 Val loss: 0.260026 Best model at epoch: 17

Epoch [31/100], Loss: 0.273547 Val loss: 0.266487 Best model at epoch: 17

Epoch [32/100], Loss: 0.273703 Val loss: 0.260299 Best model at epoch: 17

Epoch [33/100], Loss: 0.276096 Val loss: 0.260009 Best model at epoch: 17

Epoch [34/100], Loss: 0.274557 Val loss: 0.260333 Best model at epoch: 17

Epoch [35/100], Loss: 0.274166 Val loss: 0.260659 Best model at epoch: 17

Epoch [36/100], Loss: 0.270214 Val loss: 0.260169 Best model at epoch: 17

Epoch [37/100], Loss: 0.269720 Val loss: 0.260483 Best model at epoch: 17

Epoch [38/100], Loss: 0.277711 Val loss: 0.259417 Best model at epoch: 38

Epoch [39/100], Loss: 0.273915 Val loss: 0.260473 Best model at epoch: 38

Epoch [40/100], Loss: 0.273917 Val loss: 0.262026 Best model at epoch: 38

Epoch [41/100], Loss: 0.269926 Val loss: 0.259047 Best model at epoch: 41

Epoch [42/100], Loss: 0.273675 Val loss: 0.259231 Best model at epoch: 41

Epoch [43/100], Loss: 0.271187 Val loss: 0.259988 Best model at epoch: 41

Epoch [44/100], Loss: 0.273238 Val loss: 0.260577 Best model at epoch: 41

Epoch [45/100], Loss: 0.270811 Val loss: 0.260193 Best model at epoch: 41

Epoch [46/100], Loss: 0.269176 Val loss: 0.259143 Best model at epoch: 41

Epoch [47/100], Loss: 0.272472 Val loss: 0.261482 Best model at epoch: 41

Epoch [48/100], Loss: 0.271936   Val loss: 0.258703   Best model at epoch: 48

Epoch [49/100], Loss: 0.270481   Val loss: 0.261716   Best model at epoch: 48

Epoch [50/100], Loss: 0.269849   Val loss: 0.262262   Best model at epoch: 48

Epoch [51/100], Loss: 0.267999   Val loss: 0.259873   Best model at epoch: 48

Epoch [52/100], Loss: 0.274620   Val loss: 0.259919   Best model at epoch: 48

Epoch [53/100], Loss: 0.266825   Val loss: 0.260179   Best model at epoch: 48

Epoch [54/100], Loss: 0.274572   Val loss: 0.259515   Best model at epoch: 48

Epoch [55/100], Loss: 0.270745   Val loss: 0.263847   Best model at epoch: 48

Epoch [56/100], Loss: 0.274846   Val loss: 0.259923   Best model at epoch: 48

Epoch [57/100], Loss: 0.270483   Val loss: 0.259081   Best model at epoch: 48

Epoch [58/100], Loss: 0.270202   Val loss: 0.259187   Best model at epoch: 48

Epoch [59/100], Loss: 0.269228   Val loss: 0.260113   Best model at epoch: 48

Epoch [60/100], Loss: 0.271140   Val loss: 0.259888   Best model at epoch: 48

Epoch [61/100], Loss: 0.279345   Val loss: 0.259978   Best model at epoch: 48

Epoch [62/100], Loss: 0.274424   Val loss: 0.261558   Best model at epoch: 48

Epoch [63/100], Loss: 0.274692   Val loss: 0.260947   Best model at epoch: 48

Epoch [64/100], Loss: 0.265094   Val loss: 0.258984   Best model at epoch: 48

Epoch [65/100], Loss: 0.277954   Val loss: 0.259433   Best model at epoch: 48

Epoch [66/100], Loss: 0.271645   Val loss: 0.259286   Best model at epoch: 48

Epoch [67/100], Loss: 0.272143   Val loss: 0.259566   Best model at epoch: 48

Epoch [68/100], Loss: 0.276521   Val loss: 0.261400   Best model at epoch: 48

Epoch [69/100], Loss: 0.270845   Val loss: 0.260118   Best model at epoch: 48

Epoch [70/100], Loss: 0.275380   Val loss: 0.259408   Best model at epoch: 48

Epoch [71/100], Loss: 0.270963   Val loss: 0.259157   Best model at epoch: 48

Epoch [72/100], Loss: 0.265735   Val loss: 0.259548   Best model at epoch: 48

Epoch [73/100], Loss: 0.269665   Val loss: 0.260356   Best model at epoch: 48

Epoch [74/100], Loss: 0.274454   Val loss: 0.259715   Best model at epoch: 48

Epoch [75/100], Loss: 0.266343   Val loss: 0.259363   Best model at epoch: 48

Epoch [76/100], Loss: 0.272860   Val loss: 0.259086   Best model at epoch: 48

Epoch [77/100], Loss: 0.275308   Val loss: 0.259365   Best model at epoch: 48

Epoch [78/100], Loss: 0.273682   Val loss: 0.260716   Best model at epoch: 48

Epoch [79/100], Loss: 0.270824   Val loss: 0.259643   Best model at epoch: 48

Epoch [80/100], Loss: 0.272623   Val loss: 0.260004   Best model at epoch: 48

Epoch [81/100], Loss: 0.268592   Val loss: 0.260549   Best model at epoch: 48

Epoch [82/100], Loss: 0.272299   Val loss: 0.259645   Best model at epoch: 48

Epoch [83/100], Loss: 0.269584   Val loss: 0.260112   Best model at epoch: 48

Epoch [84/100], Loss: 0.267314   Val loss: 0.259681   Best model at epoch: 48

Epoch [85/100], Loss: 0.270325   Val loss: 0.258711   Best model at epoch: 48

Epoch [86/100], Loss: 0.275666   Val loss: 0.258699   Best model at epoch: 86

Epoch [87/100], Loss: 0.268803   Val loss: 0.260314   Best model at epoch: 86

Epoch [88/100], Loss: 0.270772   Val loss: 0.259024   Best model at epoch: 86

Epoch [89/100], Loss: 0.269759   Val loss: 0.258837   Best model at epoch: 86

Epoch [90/100], Loss: 0.268805   Val loss: 0.260049   Best model at epoch: 86

Epoch [91/100], Loss: 0.272890   Val loss: 0.258922   Best model at epoch: 86

Epoch [92/100], Loss: 0.267275   Val loss: 0.259226   Best model at epoch: 86

Epoch [93/100], Loss: 0.271103   Val loss: 0.259877   Best model at epoch: 86

Epoch [94/100], Loss: 0.273899   Val loss: 0.259466   Best model at epoch: 86

Epoch [95/100], Loss: 0.270487   Val loss: 0.259350   Best model at epoch: 86

Epoch [96/100], Loss: 0.274445   Val loss: 0.259236   Best model at epoch: 86

Epoch [97/100], Loss: 0.269229   Val loss: 0.258827   Best model at epoch: 86

Epoch [98/100], Loss: 0.266229   Val loss: 0.258774   Best model at epoch: 86

Epoch [99/100], Loss: 0.269678   Val loss: 0.259580   Best model at epoch: 86

Epoch [100/100], Loss: 0.270872   Val loss: 0.258595   Best model at epoch: 100

Training and Validation Loss

Total time in seconds : 5090.364315986633

The best model was found at epoch number 100

--- 01:24:50 seconds ---

The training loss is 0.2708723349077208

Performance with the best model is :

The test loss is 0.2689200935087034

Mean absolute deviation   : 0.016382

RMS deviation:: 0.024573

The hyperparameters are : model_dim is = 48 , num_heads = 4 , dim_feedforward = 48 , num_layers = 6 , dropout = 0.1 , stride = 60 , frame_size = 60 , dense_layer_neurons = 118 , epochs = 100, learning_rate = 0.0001