Current exercise is m08

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([0.5141], grad_fn=<SigmoidBackward0>)
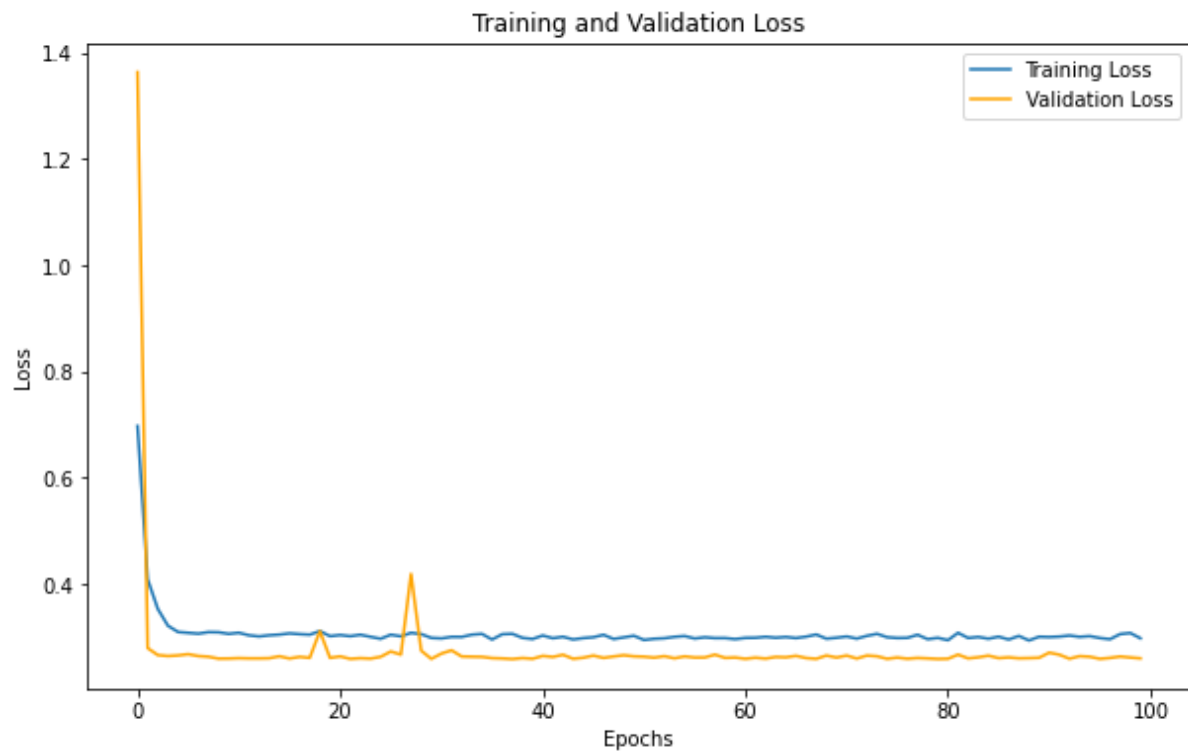
The no. of frames are 4

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: 0.697648   Val loss: 1.363562   Best model at epoch: 0

Epoch [2/100], Loss: 0.409282   Val loss: 0.279800   Best model at epoch: 0

Epoch [3/100], Loss: 0.353577   Val loss: 0.266621   Best model at epoch: 0

Epoch [4/100], Loss: 0.321903   Val loss: 0.264848   Best model at epoch: 0

Epoch [5/100], Loss: 0.310049   Val loss: 0.265987   Best model at epoch: 0

Epoch [6/100], Loss: 0.308521   Val loss: 0.268302   Best model at epoch: 0

Epoch [7/100], Loss: 0.306979   Val loss: 0.264807   Best model at epoch: 0

Epoch [8/100], Loss: 0.309843   Val loss: 0.263507   Best model at epoch: 0

Epoch [9/100], Loss: 0.309553   Val loss: 0.259938   Best model at epoch: 0

Epoch [10/100], Loss: 0.306616   Val loss: 0.260100   Best model at epoch: 0

Epoch [11/100], Loss: 0.308616   Val loss: 0.260828   Best model at epoch: 0

Epoch [12/100], Loss: 0.303863   Val loss: 0.260384   Best model at epoch: 0

Epoch [13/100], Loss: 0.301767   Val loss: 0.260360   Best model at epoch: 0

Epoch [14/100], Loss: 0.303906   Val loss: 0.260739   Best model at epoch: 0

Epoch [15/100], Loss: 0.305168   Val loss: 0.264346   Best model at epoch: 0

Epoch [16/100], Loss: 0.307481   Val loss: 0.260201   Best model at epoch: 0

Epoch [17/100], Loss: 0.306080 Val loss: 0.263248 Best model at epoch: 17

Epoch [18/100], Loss: 0.305074 Val loss: 0.261448 Best model at epoch: 18

Epoch [19/100], Loss: 0.311697 Val loss: 0.311692 Best model at epoch: 18

Epoch [20/100], Loss: 0.302287 Val loss: 0.261361 Best model at epoch: 20

Epoch [21/100], Loss: 0.304314 Val loss: 0.264124 Best model at epoch: 20

Epoch [22/100], Loss: 0.302207 Val loss: 0.259513 Best model at epoch: 22

Epoch [23/100], Loss: 0.304882 Val loss: 0.260788 Best model at epoch: 22

Epoch [24/100], Loss: 0.300992 Val loss: 0.259959 Best model at epoch: 22

Epoch [25/100], Loss: 0.297331 Val loss: 0.263355 Best model at epoch: 22

Epoch [26/100], Loss: 0.304922 Val loss: 0.273371 Best model at epoch: 22

Epoch [27/100], Loss: 0.301994 Val loss: 0.267517 Best model at epoch: 22

Epoch [28/100], Loss: 0.308469 Val loss: 0.419348 Best model at epoch: 22

Epoch [29/100], Loss: 0.306122 Val loss: 0.275052 Best model at epoch: 22

Epoch [30/100], Loss: 0.298953 Val loss: 0.259503 Best model at epoch: 30

Epoch [31/100], Loss: 0.298032 Val loss: 0.269459 Best model at epoch: 30

Epoch [32/100], Loss: 0.300880 Val loss: 0.275595 Best model at epoch: 30

Epoch [33/100], Loss: 0.300749 Val loss: 0.264009 Best model at epoch: 30

Epoch [34/100], Loss: 0.305031 Val loss: 0.263530 Best model at epoch: 30

Epoch [35/100], Loss: 0.306531 Val loss: 0.263243 Best model at epoch: 30

Epoch [36/100], Loss: 0.295861 Val loss: 0.260918 Best model at epoch: 30

Epoch [37/100], Loss: 0.305901 Val loss: 0.260279 Best model at epoch: 30

Epoch [38/100], Loss: 0.306658 Val loss: 0.259164 Best model at epoch: 38

Epoch [39/100], Loss: 0.299060 Val loss: 0.260999 Best model at epoch: 38

Epoch [40/100], Loss: 0.296875 Val loss: 0.259682 Best model at epoch: 38

Epoch [41/100], Loss: 0.303483 Val loss: 0.265054 Best model at epoch: 38

Epoch [42/100], Loss: 0.298414 Val loss: 0.263131 Best model at epoch: 38

Epoch [43/100], Loss: 0.301063 Val loss: 0.267178 Best model at epoch: 38

Epoch [44/100], Loss: 0.296070 Val loss: 0.259721 Best model at epoch: 38

Epoch [45/100], Loss: 0.298596 Val loss: 0.261666 Best model at epoch: 38

Epoch [46/100], Loss: 0.300185 Val loss: 0.265672 Best model at epoch: 38

Epoch [47/100], Loss: 0.304778 Val loss: 0.261356 Best model at epoch: 38

Epoch [48/100], Loss: 0.296920 Val loss: 0.264029 Best model at epoch: 38

Epoch [49/100], Loss: 0.299953 Val loss: 0.266375 Best model at epoch: 38

Epoch [50/100], Loss: 0.302977 Val loss: 0.264251 Best model at epoch: 38

Epoch [51/100], Loss: 0.295079 Val loss: 0.263555 Best model at epoch: 38

Epoch [52/100], Loss: 0.297306 Val loss: 0.261831 Best model at epoch: 38

Epoch [53/100], Loss: 0.298266 Val loss: 0.264517 Best model at epoch: 38

Epoch [54/100], Loss: 0.300905 Val loss: 0.260635 Best model at epoch: 38

Epoch [55/100], Loss: 0.302464 Val loss: 0.264080 Best model at epoch: 38

Epoch [56/100], Loss: 0.297845 Val loss: 0.262055 Best model at epoch: 38

Epoch [57/100], Loss: 0.300091 Val loss: 0.262154 Best model at epoch: 38

Epoch [58/100], Loss: 0.298584 Val loss: 0.267419 Best model at epoch: 38

Epoch [59/100], Loss: 0.298649 Val loss: 0.261353 Best model at epoch: 38

Epoch [60/100], Loss: 0.296685 Val loss: 0.262040 Best model at epoch: 38

Epoch [61/100], Loss: 0.298964 Val loss: 0.259622 Best model at epoch: 38

Epoch [62/100], Loss: 0.299227 Val loss: 0.261761 Best model at epoch: 38

Epoch [63/100], Loss: 0.300961 Val loss: 0.260032 Best model at epoch: 38

Epoch [64/100], Loss: 0.299302 Val loss: 0.263084 Best model at epoch: 38

Epoch [65/100], Loss: 0.300662 Val loss: 0.262461 Best model at epoch: 38

Epoch [66/100], Loss: 0.298664 Val loss: 0.265142 Best model at epoch: 38

Epoch [67/100], Loss: 0.301278 Val loss: 0.261066 Best model at epoch: 38

Epoch [68/100], Loss: 0.305280 Val loss: 0.259575 Best model at epoch: 38

Epoch [69/100], Loss: 0.297519 Val loss: 0.265760 Best model at epoch: 38

Epoch [70/100], Loss: 0.299227 Val loss: 0.262004 Best model at epoch: 38

Epoch [71/100], Loss: 0.301624 Val loss: 0.265754 Best model at epoch: 38

Epoch [72/100], Loss: 0.297641 Val loss: 0.260143 Best model at epoch: 38

Epoch [73/100], Loss: 0.302810 Val loss: 0.265742 Best model at epoch: 38

Epoch [74/100], Loss: 0.306592 Val loss: 0.264376 Best model at epoch: 38

Epoch [75/100], Loss: 0.300222 Val loss: 0.259617 Best model at epoch: 38

Epoch [76/100], Loss: 0.298758 Val loss: 0.261969 Best model at epoch: 38

Epoch [77/100], Loss: 0.299058 Val loss: 0.259784 Best model at epoch: 38

Epoch [78/100], Loss: 0.304811 Val loss: 0.261190 Best model at epoch: 38

Epoch [79/100], Loss: 0.296608   Val loss: 0.260367   Best model at epoch: 38

Epoch [80/100], Loss: 0.299057   Val loss: 0.259323   Best model at epoch: 38

Epoch [81/100], Loss: 0.294689   Val loss: 0.259708   Best model at epoch: 38

Epoch [82/100], Loss: 0.308473   Val loss: 0.267468   Best model at epoch: 38

Epoch [83/100], Loss: 0.298829   Val loss: 0.260458   Best model at epoch: 38

Epoch [84/100], Loss: 0.300659   Val loss: 0.262467   Best model at epoch: 38

Epoch [85/100], Loss: 0.297447   Val loss: 0.265544   Best model at epoch: 38

Epoch [86/100], Loss: 0.301238   Val loss: 0.260970   Best model at epoch: 38

Epoch [87/100], Loss: 0.295940   Val loss: 0.262268   Best model at epoch: 38

Epoch [88/100], Loss: 0.302604   Val loss: 0.260575   Best model at epoch: 38

Epoch [89/100], Loss: 0.294189   Val loss: 0.260956   Best model at epoch: 38

Epoch [90/100], Loss: 0.301133   Val loss: 0.261582   Best model at epoch: 38

Epoch [91/100], Loss: 0.300545   Val loss: 0.271204   Best model at epoch: 38

Epoch [92/100], Loss: 0.301419   Val loss: 0.267335   Best model at epoch: 38

Epoch [93/100], Loss: 0.303441   Val loss: 0.259802   Best model at epoch: 38

Epoch [94/100], Loss: 0.300923   Val loss: 0.264569   Best model at epoch: 38

Epoch [95/100], Loss: 0.302299   Val loss: 0.263465   Best model at epoch: 38

Epoch [96/100], Loss: 0.298740   Val loss: 0.259560   Best model at epoch: 38

Epoch [97/100], Loss: 0.296498   Val loss: 0.261292   Best model at epoch: 38

Epoch [98/100], Loss: 0.306148   Val loss: 0.263888   Best model at epoch: 38

Epoch [99/100], Loss: 0.308157   Val loss: 0.262053   Best model at epoch: 38

Epoch [100/100], Loss: 0.298291   Val loss: 0.260481   Best model at epoch: 38

Training and Validation Loss

Total time in seconds : 5058.024848937988

The best model was found at epoch number 38

--- 01:24:18 seconds ---

The training loss is 0.2982912005873414

Performance with the best model is :

The test loss is 0.28417038172483444

Mean absolute deviation   : 0.017917

RMS deviation:: 0.032306

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