Current exercise is m01

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([0.5113], 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: 0.833901   Val loss: 0.283606   Best model at epoch: 0

Epoch [2/100], Loss: 0.536327   Val loss: 0.237373   Best model at epoch: 0

Epoch [3/100], Loss: 0.336638   Val loss: 0.234434   Best model at epoch: 0

Epoch [4/100], Loss: 0.331909   Val loss: 0.280844   Best model at epoch: 0

Epoch [5/100], Loss: 0.334415   Val loss: 0.233608   Best model at epoch: 0

Epoch [6/100], Loss: 0.328647   Val loss: 0.235719   Best model at epoch: 0

Epoch [7/100], Loss: 0.319999   Val loss: 0.234319   Best model at epoch: 0

Epoch [8/100], Loss: 0.321558   Val loss: 0.237030   Best model at epoch: 0

Epoch [9/100], Loss: 0.320295   Val loss: 0.235316   Best model at epoch: 0

Epoch [10/100], Loss: 0.317712   Val loss: 0.235375   Best model at epoch: 0

Epoch [11/100], Loss: 0.320462   Val loss: 0.235777   Best model at epoch: 0

Epoch [12/100], Loss: 0.320863   Val loss: 0.233712   Best model at epoch: 0

Epoch [13/100], Loss: 0.317057   Val loss: 0.234385   Best model at epoch: 0

Epoch [14/100], Loss: 0.319319   Val loss: 0.236734   Best model at epoch: 0
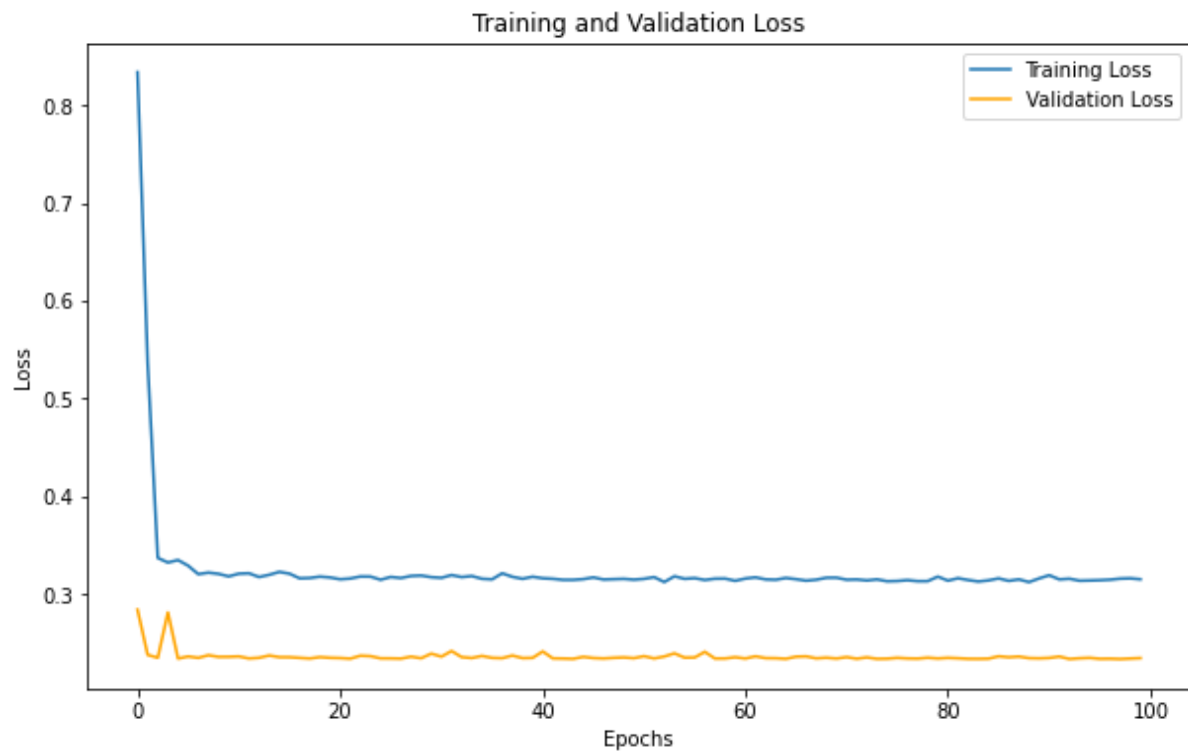
Epoch [15/100], Loss: 0.322322   Val loss: 0.235030   Best model at epoch: 0

Epoch [16/100], Loss: 0.320484   Val loss: 0.234980   Best model at epoch: 0

Epoch [17/100], Loss: 0.315733   Val loss: 0.234322   Best model at epoch: 17

Epoch [18/100], Loss: 0.316047   Val loss: 0.233677   Best model at epoch: 18

Epoch [19/100], Loss: 0.317470   Val loss: 0.235079   Best model at epoch: 18

Epoch [20/100], Loss: 0.316605   Val loss: 0.234377   Best model at epoch: 18

Epoch [21/100], Loss: 0.314774   Val loss: 0.234127   Best model at epoch: 18

Epoch [22/100], Loss: 0.315520   Val loss: 0.233478   Best model at epoch: 22

Epoch [23/100], Loss: 0.317581   Val loss: 0.236512   Best model at epoch: 22

Epoch [24/100], Loss: 0.317483   Val loss: 0.236047   Best model at epoch: 22

Epoch [25/100], Loss: 0.314270   Val loss: 0.233802   Best model at epoch: 22

Epoch [26/100], Loss: 0.317100   Val loss: 0.233755   Best model at epoch: 22

Epoch [27/100], Loss: 0.316029   Val loss: 0.233536   Best model at epoch: 22

Epoch [28/100], Loss: 0.318143   Val loss: 0.235548   Best model at epoch: 22

Epoch [29/100], Loss: 0.318570   Val loss: 0.233922   Best model at epoch: 22

Epoch [30/100], Loss: 0.316899   Val loss: 0.238642   Best model at epoch: 22

Epoch [31/100], Loss: 0.316226   Val loss: 0.235576   Best model at epoch: 22

Epoch [32/100], Loss: 0.319041   Val loss: 0.241320   Best model at epoch: 22

Epoch [33/100], Loss: 0.317014   Val loss: 0.235064   Best model at epoch: 22

Epoch [34/100], Loss: 0.318046   Val loss: 0.234180   Best model at epoch: 22

Epoch [35/100], Loss: 0.315260   Val loss: 0.236270   Best model at epoch: 22

Epoch [36/100], Loss: 0.314686   Val loss: 0.234326   Best model at epoch: 22

Epoch [37/100], Loss: 0.320852   Val loss: 0.233999   Best model at epoch: 22

Epoch [38/100], Loss: 0.317278   Val loss: 0.236688   Best model at epoch: 22

Epoch [39/100], Loss: 0.315229   Val loss: 0.234093   Best model at epoch: 22

Epoch [40/100], Loss: 0.317323   Val loss: 0.234285   Best model at epoch: 22

Epoch [41/100], Loss: 0.315785   Val loss: 0.240865   Best model at epoch: 22

Epoch [42/100], Loss: 0.315237   Val loss: 0.233780   Best model at epoch: 22

Epoch [43/100], Loss: 0.314171   Val loss: 0.233616   Best model at epoch: 22

Epoch [44/100], Loss: 0.314154   Val loss: 0.233306   Best model at epoch: 44

Epoch [45/100], Loss: 0.314901   Val loss: 0.235334   Best model at epoch: 44

Epoch [46/100], Loss: 0.316641   Val loss: 0.234139   Best model at epoch: 44

Epoch [47/100], Loss: 0.314516   Val loss: 0.233721   Best model at epoch: 44

Epoch [48/100], Loss: 0.314853   Val loss: 0.234350   Best model at epoch: 44

Epoch [49/100], Loss: 0.315193   Val loss: 0.234746   Best model at epoch: 44

Epoch [50/100], Loss: 0.314366   Val loss: 0.234033   Best model at epoch: 44

Epoch [51/100], Loss: 0.315180   Val loss: 0.236016   Best model at epoch: 44

Epoch [52/100], Loss: 0.316933   Val loss: 0.233745   Best model at epoch: 44

Epoch [53/100], Loss: 0.311911   Val loss: 0.235703   Best model at epoch: 44

Epoch [54/100], Loss: 0.317803   Val loss: 0.238926   Best model at epoch: 44

Epoch [55/100], Loss: 0.315243   Val loss: 0.234561   Best model at epoch: 44

Epoch [56/100], Loss: 0.315920   Val loss: 0.234701   Best model at epoch: 44

Epoch [57/100], Loss: 0.314039   Val loss: 0.240471   Best model at epoch: 44

Epoch [58/100], Loss: 0.315356   Val loss: 0.233638   Best model at epoch: 44

Epoch [59/100], Loss: 0.315472   Val loss: 0.233703   Best model at epoch: 44

Epoch [60/100], Loss: 0.313181   Val loss: 0.234976   Best model at epoch: 44

Epoch [61/100], Loss: 0.315506   Val loss: 0.233664   Best model at epoch: 44

Epoch [62/100], Loss: 0.316688   Val loss: 0.235874   Best model at epoch: 44

Epoch [63/100], Loss: 0.314629   Val loss: 0.234054   Best model at epoch: 44

Epoch [64/100], Loss: 0.314267   Val loss: 0.233941   Best model at epoch: 44

Epoch [65/100], Loss: 0.316074   Val loss: 0.233323   Best model at epoch: 44

Epoch [66/100], Loss: 0.314853   Val loss: 0.235506   Best model at epoch: 44

Epoch [67/100], Loss: 0.313337   Val loss: 0.235814   Best model at epoch: 44

Epoch [68/100], Loss: 0.314300   Val loss: 0.233832   Best model at epoch: 44

Epoch [69/100], Loss: 0.316287   Val loss: 0.234491   Best model at epoch: 44

Epoch [70/100], Loss: 0.316354   Val loss: 0.233642   Best model at epoch: 44

Epoch [71/100], Loss: 0.314287   Val loss: 0.235073   Best model at epoch: 44

Epoch [72/100], Loss: 0.314528   Val loss: 0.233427   Best model at epoch: 44

Epoch [73/100], Loss: 0.313577   Val loss: 0.234814   Best model at epoch: 44

Epoch [74/100], Loss: 0.314617   Val loss: 0.233300   Best model at epoch: 74

Epoch [75/100], Loss: 0.312706   Val loss: 0.233471   Best model at epoch: 74

Epoch [76/100], Loss: 0.312979   Val loss: 0.234334   Best model at epoch: 74

Epoch [77/100], Loss: 0.313844   Val loss: 0.233730   Best model at epoch: 74

Epoch [78/100], Loss: 0.312812   Val loss: 0.233534   Best model at epoch: 74

Epoch [79/100], Loss: 0.312834   Val loss: 0.234473   Best model at epoch: 74

Epoch [80/100], Loss: 0.317442   Val loss: 0.233700   Best model at epoch: 74

Epoch [81/100], Loss: 0.313357   Val loss: 0.234322   Best model at epoch: 74

Epoch [82/100], Loss: 0.315836   Val loss: 0.233904   Best model at epoch: 74

Epoch [83/100], Loss: 0.313966   Val loss: 0.233330   Best model at epoch: 74

Epoch [84/100], Loss: 0.312465   Val loss: 0.233287   Best model at epoch: 84

Epoch [85/100], Loss: 0.313606   Val loss: 0.233490   Best model at epoch: 84

Epoch [86/100], Loss: 0.315639   Val loss: 0.235907   Best model at epoch: 84

Epoch [87/100], Loss: 0.313136   Val loss: 0.234942   Best model at epoch: 84

Epoch [88/100], Loss: 0.314643   Val loss: 0.235618   Best model at epoch: 84

Epoch [89/100], Loss: 0.311860   Val loss: 0.234054   Best model at epoch: 84

Epoch [90/100], Loss: 0.315598   Val loss: 0.233820   Best model at epoch: 84

Epoch [91/100], Loss: 0.318850   Val loss: 0.234238   Best model at epoch: 84

Epoch [92/100], Loss: 0.314635   Val loss: 0.235629   Best model at epoch: 84

Epoch [93/100], Loss: 0.315314   Val loss: 0.233164   Best model at epoch: 93

Epoch [94/100], Loss: 0.313274   Val loss: 0.233901   Best model at epoch: 93

Epoch [95/100], Loss: 0.313500   Val loss: 0.234331   Best model at epoch: 93

Epoch [96/100], Loss: 0.313816   Val loss: 0.233323   Best model at epoch: 93

Epoch [97/100], Loss: 0.314324   Val loss: 0.233440   Best model at epoch: 93

Epoch [98/100], Loss: 0.315407   Val loss: 0.233098   Best model at epoch: 98

Epoch [99/100], Loss: 0.315720   Val loss: 0.233602   Best model at epoch: 98

Epoch [100/100], Loss: 0.314767   Val loss: 0.234061   Best model at epoch: 98

Training and Validation Loss

Total time in seconds : 5127.388920545578

The best model was found at epoch number 98

--- 01:25:27 seconds ---

The training loss is 0.3147667290659638

Performance with the best model is :

The test loss is 0.30107400034155163

Mean absolute deviation   : 0.009162

RMS deviation:: 0.013641

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