Current exercise is m10

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([0.5189], 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: 0.438850   Val loss: 0.230741   Best model at epoch: 0

Epoch [2/100], Loss: 0.266229   Val loss: 0.227161   Best model at epoch: 0

Epoch [3/100], Loss: 0.240905   Val loss: 0.208620   Best model at epoch: 0

Epoch [4/100], Loss: 0.237355   Val loss: 0.212166   Best model at epoch: 0

Epoch [5/100], Loss: 0.233755   Val loss: 0.213306   Best model at epoch: 0

Epoch [6/100], Loss: 0.237605   Val loss: 0.206351   Best model at epoch: 0

Epoch [7/100], Loss: 0.237359   Val loss: 0.209443   Best model at epoch: 0

Epoch [8/100], Loss: 0.240526   Val loss: 0.208198   Best model at epoch: 0

Epoch [9/100], Loss: 0.235175   Val loss: 0.210792   Best model at epoch: 0

Epoch [10/100], Loss: 0.235096   Val loss: 0.206468   Best model at epoch: 0

Epoch [11/100], Loss: 0.233061   Val loss: 0.206124   Best model at epoch: 0

Epoch [12/100], Loss: 0.237045   Val loss: 0.206435   Best model at epoch: 0

Epoch [13/100], Loss: 0.234137   Val loss: 0.206572   Best model at epoch: 0

Epoch [14/100], Loss: 0.231737   Val loss: 0.205945   Best model at epoch: 0
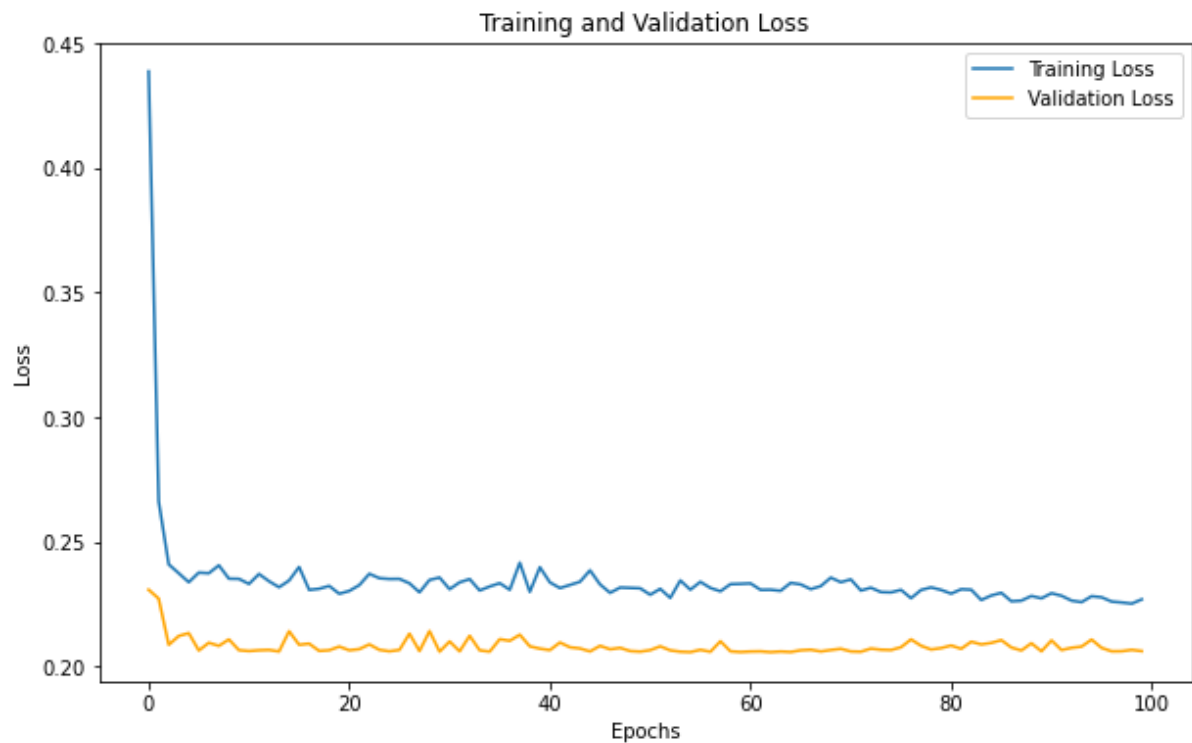
Epoch [15/100], Loss: 0.234426   Val loss: 0.214072   Best model at epoch: 0

Epoch [16/100], Loss: 0.239875   Val loss: 0.208640   Best model at epoch: 0

Epoch [17/100], Loss: 0.230671   Val loss: 0.209099   Best model at epoch: 17

Epoch [18/100], Loss: 0.231113   Val loss: 0.206179   Best model at epoch: 18

Epoch [19/100], Loss: 0.232252   Val loss: 0.206446   Best model at epoch: 18

Epoch [20/100], Loss: 0.229116   Val loss: 0.207916   Best model at epoch: 18

Epoch [21/100], Loss: 0.230249   Val loss: 0.206435   Best model at epoch: 18

Epoch [22/100], Loss: 0.232588   Val loss: 0.206893   Best model at epoch: 18

Epoch [23/100], Loss: 0.237121   Val loss: 0.208802   Best model at epoch: 18

Epoch [24/100], Loss: 0.235368   Val loss: 0.206618   Best model at epoch: 18

Epoch [25/100], Loss: 0.235049   Val loss: 0.206025   Best model at epoch: 25

Epoch [26/100], Loss: 0.235088   Val loss: 0.206569   Best model at epoch: 25

Epoch [27/100], Loss: 0.233306   Val loss: 0.213102   Best model at epoch: 25

Epoch [28/100], Loss: 0.229713   Val loss: 0.206103   Best model at epoch: 25

Epoch [29/100], Loss: 0.234657   Val loss: 0.214131   Best model at epoch: 25

Epoch [30/100], Loss: 0.235618   Val loss: 0.205892   Best model at epoch: 30

Epoch [31/100], Loss: 0.230946   Val loss: 0.209967   Best model at epoch: 30

Epoch [32/100], Loss: 0.233704   Val loss: 0.206015   Best model at epoch: 30

Epoch [33/100], Loss: 0.234997   Val loss: 0.212252   Best model at epoch: 30

Epoch [34/100], Loss: 0.230439   Val loss: 0.206408   Best model at epoch: 30

Epoch [35/100], Loss: 0.232036   Val loss: 0.205901   Best model at epoch: 30

Epoch [36/100], Loss: 0.233367   Val loss: 0.210879   Best model at epoch: 30

Epoch [37/100], Loss: 0.230700   Val loss: 0.210234   Best model at epoch: 30

Epoch [38/100], Loss: 0.241580   Val loss: 0.212663   Best model at epoch: 30

Epoch [39/100], Loss: 0.229884   Val loss: 0.208018   Best model at epoch: 30

Epoch [40/100], Loss: 0.239766   Val loss: 0.207086   Best model at epoch: 30

Epoch [41/100], Loss: 0.233682   Val loss: 0.206509   Best model at epoch: 30

Epoch [42/100], Loss: 0.231394   Val loss: 0.209549   Best model at epoch: 30

Epoch [43/100], Loss: 0.232651   Val loss: 0.207632   Best model at epoch: 30

Epoch [44/100], Loss: 0.233939   Val loss: 0.207166   Best model at epoch: 30

Epoch [45/100], Loss: 0.238507   Val loss: 0.205973   Best model at epoch: 30

Epoch [46/100], Loss: 0.232852   Val loss: 0.208216   Best model at epoch: 30

Epoch [47/100], Loss: 0.229504   Val loss: 0.206835   Best model at epoch: 30

Epoch [48/100], Loss: 0.231612   Val loss: 0.207398   Best model at epoch: 30

Epoch [49/100], Loss: 0.231463   Val loss: 0.206127   Best model at epoch: 30

Epoch [50/100], Loss: 0.231311   Val loss: 0.205893   Best model at epoch: 30

Epoch [51/100], Loss: 0.228730   Val loss: 0.206490   Best model at epoch: 30

Epoch [52/100], Loss: 0.231102   Val loss: 0.208023   Best model at epoch: 30

Epoch [53/100], Loss: 0.227461   Val loss: 0.206405   Best model at epoch: 30

Epoch [54/100], Loss: 0.234454   Val loss: 0.205855   Best model at epoch: 54

Epoch [55/100], Loss: 0.230750   Val loss: 0.205698   Best model at epoch: 55

Epoch [56/100], Loss: 0.233896   Val loss: 0.206615   Best model at epoch: 55

Epoch [57/100], Loss: 0.231445   Val loss: 0.205836   Best model at epoch: 55

Epoch [58/100], Loss: 0.230119   Val loss: 0.210056   Best model at epoch: 55

Epoch [59/100], Loss: 0.232979   Val loss: 0.206014   Best model at epoch: 55

Epoch [60/100], Loss: 0.233098   Val loss: 0.205725   Best model at epoch: 55

Epoch [61/100], Loss: 0.233281   Val loss: 0.205935   Best model at epoch: 55

Epoch [62/100], Loss: 0.230687   Val loss: 0.205998   Best model at epoch: 55

Epoch [63/100], Loss: 0.230732   Val loss: 0.205680   Best model at epoch: 63

Epoch [64/100], Loss: 0.230312   Val loss: 0.205933   Best model at epoch: 63

Epoch [65/100], Loss: 0.233492   Val loss: 0.205733   Best model at epoch: 63

Epoch [66/100], Loss: 0.232876   Val loss: 0.206432   Best model at epoch: 63

Epoch [67/100], Loss: 0.230976   Val loss: 0.206653   Best model at epoch: 63

Epoch [68/100], Loss: 0.232171   Val loss: 0.205962   Best model at epoch: 63

Epoch [69/100], Loss: 0.235587   Val loss: 0.206538   Best model at epoch: 63

Epoch [70/100], Loss: 0.233754   Val loss: 0.207036   Best model at epoch: 63

Epoch [71/100], Loss: 0.234882   Val loss: 0.205962   Best model at epoch: 63

Epoch [72/100], Loss: 0.230408   Val loss: 0.205852   Best model at epoch: 63

Epoch [73/100], Loss: 0.231549   Val loss: 0.207128   Best model at epoch: 63

Epoch [74/100], Loss: 0.229795   Val loss: 0.206656   Best model at epoch: 63

Epoch [75/100], Loss: 0.229670   Val loss: 0.206530   Best model at epoch: 63

Epoch [76/100], Loss: 0.230671   Val loss: 0.207652   Best model at epoch: 63

Epoch [77/100], Loss: 0.227349   Val loss: 0.210797   Best model at epoch: 63

Epoch [78/100], Loss: 0.230647   Val loss: 0.208235   Best model at epoch: 63

Epoch [79/100], Loss: 0.231670   Val loss: 0.206749   Best model at epoch: 63

Epoch [80/100], Loss: 0.230661   Val loss: 0.207311   Best model at epoch: 63

Epoch [81/100], Loss: 0.229170   Val loss: 0.208352   Best model at epoch: 63

Epoch [82/100], Loss: 0.230927   Val loss: 0.207017   Best model at epoch: 63

Epoch [83/100], Loss: 0.230753   Val loss: 0.209872   Best model at epoch: 63

Epoch [84/100], Loss: 0.226611   Val loss: 0.208788   Best model at epoch: 63

Epoch [85/100], Loss: 0.228425   Val loss: 0.209389   Best model at epoch: 63

Epoch [86/100], Loss: 0.229499   Val loss: 0.210512   Best model at epoch: 63

Epoch [87/100], Loss: 0.226104   Val loss: 0.207554   Best model at epoch: 63

Epoch [88/100], Loss: 0.226356   Val loss: 0.206354   Best model at epoch: 63

Epoch [89/100], Loss: 0.228225   Val loss: 0.209257   Best model at epoch: 63

Epoch [90/100], Loss: 0.227291   Val loss: 0.206033   Best model at epoch: 63

Epoch [91/100], Loss: 0.229335   Val loss: 0.210403   Best model at epoch: 63

Epoch [92/100], Loss: 0.228319   Val loss: 0.206523   Best model at epoch: 63

Epoch [93/100], Loss: 0.226371   Val loss: 0.207432   Best model at epoch: 63

Epoch [94/100], Loss: 0.225762   Val loss: 0.207912   Best model at epoch: 63

Epoch [95/100], Loss: 0.228133   Val loss: 0.210718   Best model at epoch: 63

Epoch [96/100], Loss: 0.227702   Val loss: 0.207391   Best model at epoch: 63

Epoch [97/100], Loss: 0.225983   Val loss: 0.206017   Best model at epoch: 63

Epoch [98/100], Loss: 0.225622   Val loss: 0.206054   Best model at epoch: 63

Epoch [99/100], Loss: 0.225156   Val loss: 0.206594   Best model at epoch: 63

Epoch [100/100], Loss: 0.226857   Val loss: 0.206103   Best model at epoch: 63

Training and Validation Loss

Total time in seconds : 5155.332287788391

The best model was found at epoch number 63

--- 01:25:55 seconds ---

The training loss is 0.22685691096761204

Performance with the best model is :

The test loss is 0.23722763120063714

Mean absolute deviation   : 0.012317

RMS deviation:: 0.022095

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