Current exercise is m04

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([0.5138], 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: 0.572334   Val loss: 0.638516   Best model at epoch: 0

Epoch [2/100], Loss: 0.309069   Val loss: 0.260149   Best model at epoch: 0

Epoch [3/100], Loss: 0.279731   Val loss: 0.275480   Best model at epoch: 0

Epoch [4/100], Loss: 0.275147   Val loss: 0.259618   Best model at epoch: 0

Epoch [5/100], Loss: 0.275978   Val loss: 0.257683   Best model at epoch: 0

Epoch [6/100], Loss: 0.272799   Val loss: 0.257103   Best model at epoch: 0

Epoch [7/100], Loss: 0.272783   Val loss: 0.266763   Best model at epoch: 0

Epoch [8/100], Loss: 0.272768   Val loss: 0.261826   Best model at epoch: 0

Epoch [9/100], Loss: 0.271597   Val loss: 0.256559   Best model at epoch: 0

Epoch [10/100], Loss: 0.269896   Val loss: 0.258204   Best model at epoch: 0

Epoch [11/100], Loss: 0.270589   Val loss: 0.257400   Best model at epoch: 0

Epoch [12/100], Loss: 0.270816   Val loss: 0.257019   Best model at epoch: 0

Epoch [13/100], Loss: 0.272210   Val loss: 0.256842   Best model at epoch: 0

Epoch [14/100], Loss: 0.272251   Val loss: 0.257153   Best model at epoch: 0
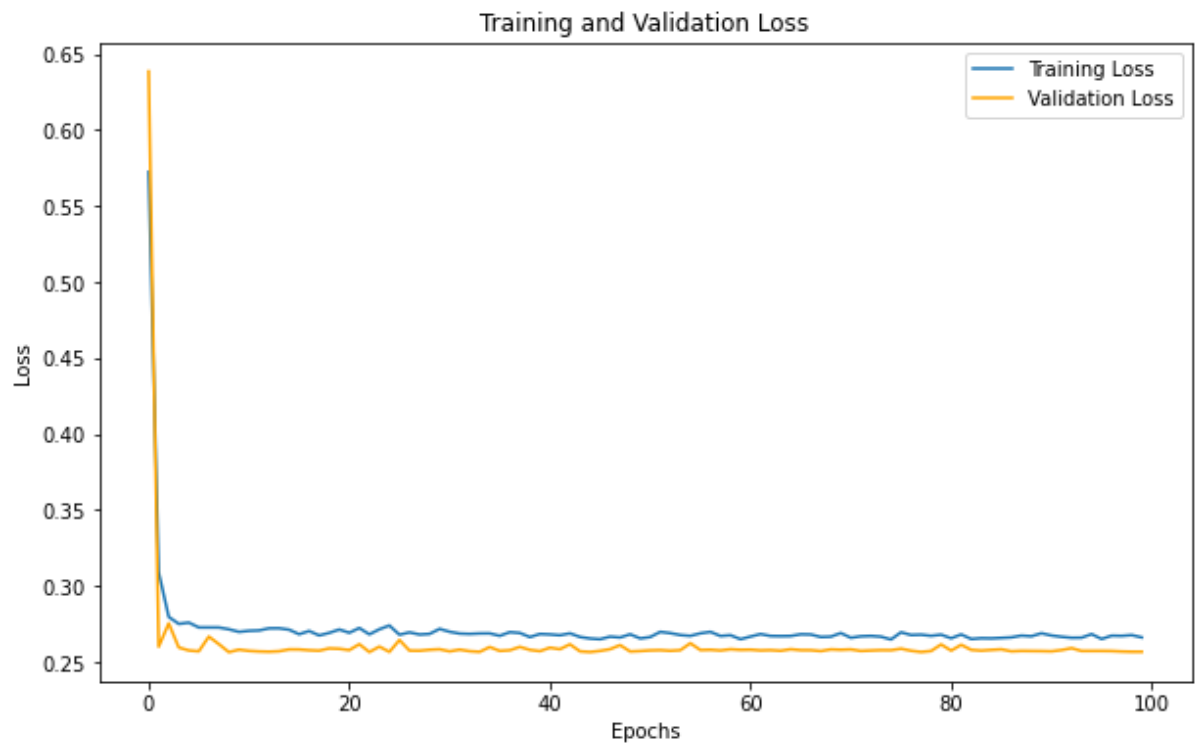
Epoch [15/100], Loss: 0.271324   Val loss: 0.258367   Best model at epoch: 0

Epoch [16/100], Loss: 0.268342   Val loss: 0.258332   Best model at epoch: 0

Epoch [17/100], Loss: 0.270445   Val loss: 0.257824   Best model at epoch: 17

Epoch [18/100], Loss: 0.267544   Val loss: 0.257542   Best model at epoch: 18

Epoch [19/100], Loss: 0.269217   Val loss: 0.259034   Best model at epoch: 18

Epoch [20/100], Loss: 0.271433   Val loss: 0.258774   Best model at epoch: 18

Epoch [21/100], Loss: 0.269301   Val loss: 0.257898   Best model at epoch: 18

Epoch [22/100], Loss: 0.272426   Val loss: 0.261799   Best model at epoch: 18

Epoch [23/100], Loss: 0.268240   Val loss: 0.256627   Best model at epoch: 23

Epoch [24/100], Loss: 0.271581   Val loss: 0.260196   Best model at epoch: 23

Epoch [25/100], Loss: 0.274083   Val loss: 0.256747   Best model at epoch: 23

Epoch [26/100], Loss: 0.267995   Val loss: 0.264520   Best model at epoch: 23

Epoch [27/100], Loss: 0.269559   Val loss: 0.257570   Best model at epoch: 23

Epoch [28/100], Loss: 0.268147   Val loss: 0.257499   Best model at epoch: 23

Epoch [29/100], Loss: 0.268531   Val loss: 0.258127   Best model at epoch: 23

Epoch [30/100], Loss: 0.271835   Val loss: 0.258466   Best model at epoch: 23

Epoch [31/100], Loss: 0.269949   Val loss: 0.257076   Best model at epoch: 23

Epoch [32/100], Loss: 0.268783   Val loss: 0.258214   Best model at epoch: 23

Epoch [33/100], Loss: 0.268542   Val loss: 0.257178   Best model at epoch: 23

Epoch [34/100], Loss: 0.268845   Val loss: 0.256764   Best model at epoch: 23

Epoch [35/100], Loss: 0.268883   Val loss: 0.259908   Best model at epoch: 23

Epoch [36/100], Loss: 0.267293   Val loss: 0.257391   Best model at epoch: 23

Epoch [37/100], Loss: 0.269695   Val loss: 0.257795   Best model at epoch: 23

Epoch [38/100], Loss: 0.269175   Val loss: 0.260020   Best model at epoch: 23

Epoch [39/100], Loss: 0.266465   Val loss: 0.258053   Best model at epoch: 23

Epoch [40/100], Loss: 0.268484   Val loss: 0.257218   Best model at epoch: 23

Epoch [41/100], Loss: 0.268204   Val loss: 0.259490   Best model at epoch: 23

Epoch [42/100], Loss: 0.267674   Val loss: 0.258506   Best model at epoch: 23

Epoch [43/100], Loss: 0.268903   Val loss: 0.261731   Best model at epoch: 23

Epoch [44/100], Loss: 0.266524   Val loss: 0.257083   Best model at epoch: 23

Epoch [45/100], Loss: 0.265526   Val loss: 0.256638   Best model at epoch: 23

Epoch [46/100], Loss: 0.265069   Val loss: 0.257388   Best model at epoch: 23

Epoch [47/100], Loss: 0.266746   Val loss: 0.258520   Best model at epoch: 23

Epoch [48/100], Loss: 0.266215   Val loss: 0.261196   Best model at epoch: 23

Epoch [49/100], Loss: 0.268293   Val loss: 0.256991   Best model at epoch: 23

Epoch [50/100], Loss: 0.265580   Val loss: 0.257288   Best model at epoch: 23

Epoch [51/100], Loss: 0.266480   Val loss: 0.257712   Best model at epoch: 23

Epoch [52/100], Loss: 0.269879   Val loss: 0.257874   Best model at epoch: 23

Epoch [53/100], Loss: 0.269070   Val loss: 0.257454   Best model at epoch: 23

Epoch [54/100], Loss: 0.267805   Val loss: 0.257843   Best model at epoch: 23

Epoch [55/100], Loss: 0.267244   Val loss: 0.262432   Best model at epoch: 23

Epoch [56/100], Loss: 0.268930   Val loss: 0.257947   Best model at epoch: 23

Epoch [57/100], Loss: 0.269881   Val loss: 0.258120   Best model at epoch: 23

Epoch [58/100], Loss: 0.267187   Val loss: 0.257663   Best model at epoch: 23

Epoch [59/100], Loss: 0.267690   Val loss: 0.258475   Best model at epoch: 23

Epoch [60/100], Loss: 0.265066   Val loss: 0.258059   Best model at epoch: 23

Epoch [61/100], Loss: 0.266814   Val loss: 0.258188   Best model at epoch: 23

Epoch [62/100], Loss: 0.268441   Val loss: 0.257708   Best model at epoch: 23

Epoch [63/100], Loss: 0.267191   Val loss: 0.257888   Best model at epoch: 23

Epoch [64/100], Loss: 0.267086   Val loss: 0.257483   Best model at epoch: 23

Epoch [65/100], Loss: 0.267178   Val loss: 0.258478   Best model at epoch: 23

Epoch [66/100], Loss: 0.268299   Val loss: 0.257872   Best model at epoch: 23

Epoch [67/100], Loss: 0.268162   Val loss: 0.257843   Best model at epoch: 23

Epoch [68/100], Loss: 0.266522   Val loss: 0.257256   Best model at epoch: 23

Epoch [69/100], Loss: 0.266732   Val loss: 0.258373   Best model at epoch: 23

Epoch [70/100], Loss: 0.269091   Val loss: 0.258113   Best model at epoch: 23

Epoch [71/100], Loss: 0.266018   Val loss: 0.258366   Best model at epoch: 23

Epoch [72/100], Loss: 0.266977   Val loss: 0.257349   Best model at epoch: 23

Epoch [73/100], Loss: 0.267209   Val loss: 0.257631   Best model at epoch: 23

Epoch [74/100], Loss: 0.266743   Val loss: 0.257886   Best model at epoch: 23

Epoch [75/100], Loss: 0.264871   Val loss: 0.257836   Best model at epoch: 23

Epoch [76/100], Loss: 0.269600   Val loss: 0.258838   Best model at epoch: 23

Epoch [77/100], Loss: 0.267836   Val loss: 0.257486   Best model at epoch: 23

Epoch [78/100], Loss: 0.268036   Val loss: 0.256662   Best model at epoch: 23

Epoch [79/100], Loss: 0.267291   Val loss: 0.257315   Best model at epoch: 23

Epoch [80/100], Loss: 0.268051   Val loss: 0.261616   Best model at epoch: 23

Epoch [81/100], Loss: 0.265678   Val loss: 0.257568   Best model at epoch: 23

Epoch [82/100], Loss: 0.268194   Val loss: 0.261388   Best model at epoch: 23

Epoch [83/100], Loss: 0.265206   Val loss: 0.258052   Best model at epoch: 23

Epoch [84/100], Loss: 0.265702   Val loss: 0.257575   Best model at epoch: 23

Epoch [85/100], Loss: 0.265606   Val loss: 0.258030   Best model at epoch: 23

Epoch [86/100], Loss: 0.265919   Val loss: 0.258426   Best model at epoch: 23

Epoch [87/100], Loss: 0.266265   Val loss: 0.257109   Best model at epoch: 23

Epoch [88/100], Loss: 0.267429   Val loss: 0.257378   Best model at epoch: 23

Epoch [89/100], Loss: 0.267003   Val loss: 0.257299   Best model at epoch: 23

Epoch [90/100], Loss: 0.268955   Val loss: 0.257248   Best model at epoch: 23

Epoch [91/100], Loss: 0.267496   Val loss: 0.257104   Best model at epoch: 23

Epoch [92/100], Loss: 0.266642   Val loss: 0.257914   Best model at epoch: 23

Epoch [93/100], Loss: 0.266013   Val loss: 0.259190   Best model at epoch: 23

Epoch [94/100], Loss: 0.266075   Val loss: 0.257347   Best model at epoch: 23

Epoch [95/100], Loss: 0.268397   Val loss: 0.257357   Best model at epoch: 23

Epoch [96/100], Loss: 0.265206   Val loss: 0.257358   Best model at epoch: 23

Epoch [97/100], Loss: 0.267393   Val loss: 0.257286   Best model at epoch: 23

Epoch [98/100], Loss: 0.267250   Val loss: 0.256982   Best model at epoch: 23

Epoch [99/100], Loss: 0.267755   Val loss: 0.256804   Best model at epoch: 23

Epoch [100/100], Loss: 0.266256   Val loss: 0.256804   Best model at epoch: 23

Training and Validation Loss

Total time in seconds : 5145.832747459412

The best model was found at epoch number 23

--- 01:25:45 seconds ---

The training loss is 0.26625571406639376

Performance with the best model is :

The test loss is 0.2574812330837761

Mean absolute deviation   : 0.008131

RMS deviation:: 0.011529

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