The X_train size is torch.Size([298, 100, 75])

The y_train size is torch.Size([298, 1])

The X_test size is torch.Size([75, 100, 75])

The y_test size is torch.Size([75, 1])

The cuda device is cpu

The frame size is (56, 75)

The number of frames are 2 , the frame size is 50 and stride is 50

Current device: cpu

Model output is tensor([0.5015], grad_fn=<SigmoidBackward0>)

The no. of frames are 2

The hyperparameters are : model_dim is = 8 , num_heads = 4 , dim_feedforward = 8 , num_layers = 6 , dropout = 0.2 , stride = 50 , frame_size = 50 , dense_layer_neurons = 118 , epochs = 100, learning_rate = 1e-05

Epoch [1/100], Loss: 0.7833 Val loss: 0.7332 Best model at epoch: 0

Epoch [2/100], Loss: 0.7260 Val loss: 0.7273 Best model at epoch: 0

Epoch [3/100], Loss: 0.7107 Val loss: 0.7183 Best model at epoch: 0

Epoch [4/100], Loss: 0.7057 Val loss: 0.6994 Best model at epoch: 0

Epoch [5/100], Loss: 0.6937 Val loss: 0.7071 Best model at epoch: 0

Epoch [6/100], Loss: 0.6845 Val loss: 0.6923 Best model at epoch: 0

Epoch [7/100], Loss: 0.6859 Val loss: 0.7057 Best model at epoch: 0

Epoch [8/100], Loss: 0.6835 Val loss: 0.6845 Best model at epoch: 0

Epoch [9/100], Loss: 0.6680 Val loss: 0.6816 Best model at epoch: 0

Epoch [10/100], Loss: 0.6618 Val loss: 0.6777 Best model at epoch: 0

Epoch [11/100], Loss: 0.6639 Val loss: 0.6774 Best model at epoch: 0

Epoch [12/100], Loss: 0.6576 Val loss: 0.6760 Best model at epoch: 0

Epoch [13/100], Loss: 0.6531 Val loss: 0.6702 Best model at epoch: 0

Epoch [14/100], Loss: 0.6505 Val loss: 0.6701 Best model at epoch: 0

Epoch [15/100], Loss: 0.6489 Val loss: 0.6735 Best model at epoch: 0

Epoch [16/100], Loss: 0.6439 Val loss: 0.6733 Best model at epoch: 0

Epoch [17/100], Loss: 0.6444 Val loss: 0.6708 Best model at epoch: 17

Epoch [18/100], Loss: 0.6399 Val loss: 0.6699 Best model at epoch: 18

Epoch [19/100], Loss: 0.6411 Val loss: 0.6696 Best model at epoch: 19

Epoch [20/100], Loss: 0.6402 Val loss: 0.6653 Best model at epoch: 20

Epoch [21/100], Loss: 0.6369 Val loss: 0.6645 Best model at epoch: 21

Epoch [22/100], Loss: 0.6363 Val loss: 0.6699 Best model at epoch: 21

Epoch [23/100], Loss: 0.6349 Val loss: 0.6686 Best model at epoch: 21

Epoch [24/100], Loss: 0.6361 Val loss: 0.6668 Best model at epoch: 21

Epoch [25/100], Loss: 0.6317 Val loss: 0.6694 Best model at epoch: 21

Epoch [26/100], Loss: 0.6338 Val loss: 0.6655 Best model at epoch: 21

Epoch [27/100], Loss: 0.6285 Val loss: 0.6677 Best model at epoch: 21

Epoch [28/100], Loss: 0.6309 Val loss: 0.6692 Best model at epoch: 21

Epoch [29/100], Loss: 0.6271 Val loss: 0.6691 Best model at epoch: 21

Epoch [30/100], Loss: 0.6324 Val loss: 0.6646 Best model at epoch: 21

Epoch [31/100], Loss: 0.6340 Val loss: 0.6673 Best model at epoch: 21

Epoch [32/100], Loss: 0.6302 Val loss: 0.6666 Best model at epoch: 21

Epoch [33/100], Loss: 0.6277 Val loss: 0.6618 Best model at epoch: 33

Epoch [34/100], Loss: 0.6293 Val loss: 0.6599 Best model at epoch: 34

Epoch [35/100], Loss: 0.6241 Val loss: 0.6614 Best model at epoch: 34

Epoch [36/100], Loss: 0.6231 Val loss: 0.6588 Best model at epoch: 36

Epoch [37/100], Loss: 0.6224 Val loss: 0.6605 Best model at epoch: 36

Epoch [38/100], Loss: 0.6246 Val loss: 0.6666 Best model at epoch: 36

Epoch [39/100], Loss: 0.6206 Val loss: 0.6602 Best model at epoch: 36

Epoch [40/100], Loss: 0.6223 Val loss: 0.6655 Best model at epoch: 36

Epoch [41/100], Loss: 0.6250 Val loss: 0.6663 Best model at epoch: 36

Epoch [42/100], Loss: 0.6248 Val loss: 0.6642 Best model at epoch: 36

Epoch [43/100], Loss: 0.6194 Val loss: 0.6609 Best model at epoch: 36

Epoch [44/100], Loss: 0.6217 Val loss: 0.6590 Best model at epoch: 36

Epoch [45/100], Loss: 0.6178 Val loss: 0.6610 Best model at epoch: 36

Epoch [46/100], Loss: 0.6215 Val loss: 0.6595 Best model at epoch: 36

Epoch [47/100], Loss: 0.6189 Val loss: 0.6609 Best model at epoch: 36

Epoch [48/100], Loss: 0.6223 Val loss: 0.6609 Best model at epoch: 36

Epoch [49/100], Loss: 0.6171 Val loss: 0.6612 Best model at epoch: 36

Epoch [50/100], Loss: 0.6208 Val loss: 0.6614 Best model at epoch: 36

Epoch [51/100], Loss: 0.6202 Val loss: 0.6599 Best model at epoch: 36

Epoch [52/100], Loss: 0.6170 Val loss: 0.6618 Best model at epoch: 36

Epoch [53/100], Loss: 0.6188 Val loss: 0.6597 Best model at epoch: 36

Epoch [54/100], Loss: 0.6192 Val loss: 0.6579 Best model at epoch: 54

Epoch [55/100], Loss: 0.6193 Val loss: 0.6575 Best model at epoch: 55

Epoch [56/100], Loss: 0.6182 Val loss: 0.6577 Best model at epoch: 55

Epoch [57/100], Loss: 0.6151 Val loss: 0.6552 Best model at epoch: 57

Epoch [58/100], Loss: 0.6203 Val loss: 0.6608 Best model at epoch: 57

Epoch [59/100], Loss: 0.6184 Val loss: 0.6556 Best model at epoch: 57

Epoch [60/100], Loss: 0.6160 Val loss: 0.6592 Best model at epoch: 57

Epoch [61/100], Loss: 0.6140 Val loss: 0.6622 Best model at epoch: 57

Epoch [62/100], Loss: 0.6124 Val loss: 0.6595 Best model at epoch: 57

Epoch [63/100], Loss: 0.6170 Val loss: 0.6597 Best model at epoch: 57

Epoch [64/100], Loss: 0.6155 Val loss: 0.6577 Best model at epoch: 57

Epoch [65/100], Loss: 0.6181 Val loss: 0.6552 Best model at epoch: 57

Epoch [66/100], Loss: 0.6193 Val loss: 0.6557 Best model at epoch: 57

Epoch [67/100], Loss: 0.6081 Val loss: 0.6595 Best model at epoch: 57

Epoch [68/100], Loss: 0.6143 Val loss: 0.6574 Best model at epoch: 57

Epoch [69/100], Loss: 0.6111 Val loss: 0.6570 Best model at epoch: 57

Epoch [70/100], Loss: 0.6104 Val loss: 0.6556 Best model at epoch: 57

Epoch [71/100], Loss: 0.6140 Val loss: 0.6551 Best model at epoch: 71

Epoch [72/100], Loss: 0.6127 Val loss: 0.6539 Best model at epoch: 72

Epoch [73/100], Loss: 0.6108 Val loss: 0.6560 Best model at epoch: 72

Epoch [74/100], Loss: 0.6112 Val loss: 0.6560 Best model at epoch: 72

Epoch [75/100], Loss: 0.6106 Val loss: 0.6586 Best model at epoch: 72

Epoch [76/100], Loss: 0.6131 Val loss: 0.6570 Best model at epoch: 72

Epoch [77/100], Loss: 0.6107 Val loss: 0.6528 Best model at epoch: 77

Epoch [78/100], Loss: 0.6109 Val loss: 0.6550 Best model at epoch: 77

Epoch [79/100], Loss: 0.6109 Val loss: 0.6552 Best model at epoch: 77

Epoch [80/100], Loss: 0.6113 Val loss: 0.6566 Best model at epoch: 77

Epoch [81/100], Loss: 0.6079 Val loss: 0.6547 Best model at epoch: 77

Epoch [82/100], Loss: 0.6112 Val loss: 0.6537 Best model at epoch: 77

Epoch [83/100], Loss: 0.6048 Val loss: 0.6558 Best model at epoch: 77

Epoch [84/100], Loss: 0.6094 Val loss: 0.6582 Best model at epoch: 77

Epoch [85/100], Loss: 0.6105 Val loss: 0.6557 Best model at epoch: 77

Epoch [86/100], Loss: 0.6068 Val loss: 0.6567 Best model at epoch: 77

Epoch [87/100], Loss: 0.6057 Val loss: 0.6566 Best model at epoch: 77

Epoch [88/100], Loss: 0.6080 Val loss: 0.6573 Best model at epoch: 77

Epoch [89/100], Loss: 0.6076 Val loss: 0.6550 Best model at epoch: 77

Epoch [90/100], Loss: 0.6086 Val loss: 0.6551 Best model at epoch: 77

Epoch [91/100], Loss: 0.6042 Val loss: 0.6558 Best model at epoch: 77

Epoch [92/100], Loss: 0.6060 Val loss: 0.6547 Best model at epoch: 77

Epoch [93/100], Loss: 0.6080 Val loss: 0.6536 Best model at epoch: 77

Epoch [94/100], Loss: 0.6047 Val loss: 0.6539 Best model at epoch: 77

Epoch [95/100], Loss: 0.6038 Val loss: 0.6534 Best model at epoch: 77

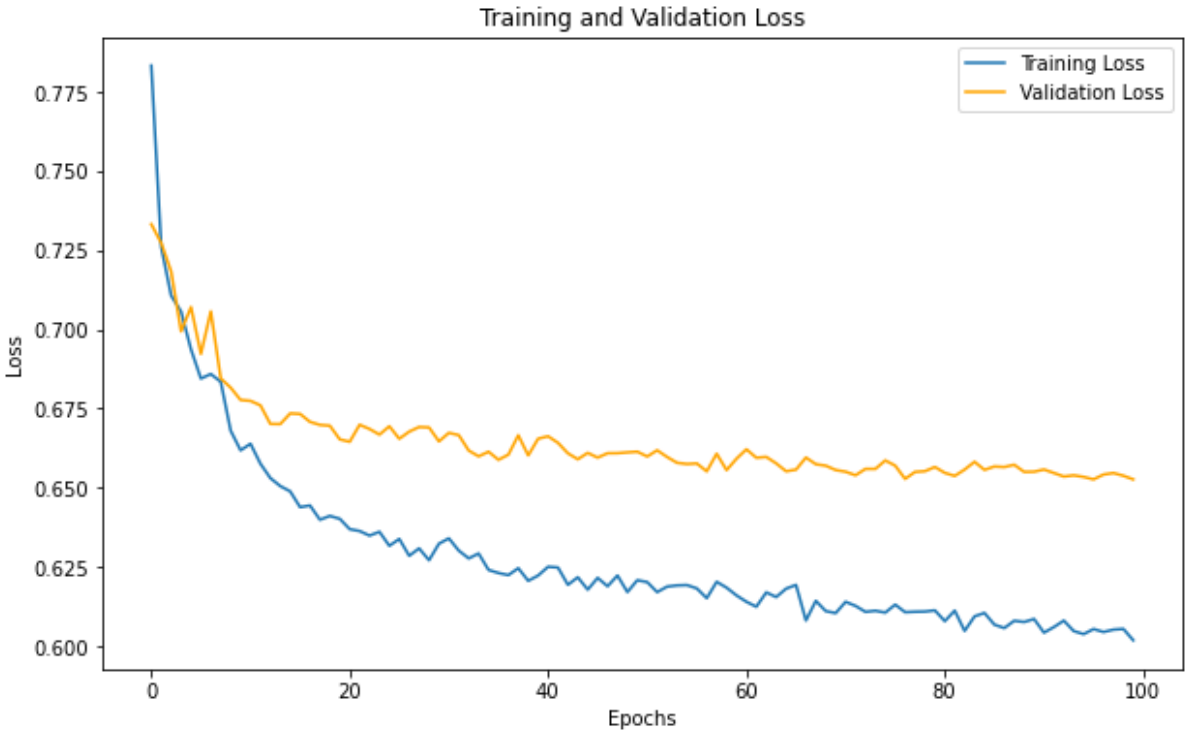
Epoch [96/100], Loss: 0.6054 Val loss: 0.6527 Best model at epoch: 96

Epoch [97/100], Loss: 0.6045 Val loss: 0.6542 Best model at epoch: 96

Epoch [98/100], Loss: 0.6052 Val loss: 0.6547 Best model at epoch: 96

Epoch [99/100], Loss: 0.6054 Val loss: 0.6538 Best model at epoch: 96

Epoch [100/100], Loss: 0.6019 Val loss: 0.6526 Best model at epoch: 100



Total time in seconds : 4181.824978351593

The best model was found at epoch number 100

--- 01:09:41 seconds ---

The training loss is 0.6018525801265417

Performance with the best model is :

The test loss is 0.6316414622465769

For exercise : 5

Mean absolute deviation : 0.212730

RMS deviation:: 0.114850

The hyperparameters are : model_dim is = 8 , num_heads = 4 , dim_feedforward = 8 , num_layers = 6 , dropout = 0.2 , stride = 50 , frame_size = 50 , dense_layer_neurons = 118 , epochs = 100, learning_rate = 1e-05