The X_train size is torch.Size([378, 100, 75])

The y_train size is torch.Size([378, 1])

The X_test size is torch.Size([95, 100, 75])

The y_test size is torch.Size([95, 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([0.5133], 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: 0.8176 Val loss: 0.6678 Best model at epoch: 0

Epoch [2/100], Loss: 0.7478 Val loss: 0.6599 Best model at epoch: 0

Epoch [3/100], Loss: 0.7448 Val loss: 0.6436 Best model at epoch: 0

Epoch [4/100], Loss: 0.7223 Val loss: 0.6328 Best model at epoch: 0

Epoch [5/100], Loss: 0.7107 Val loss: 0.6342 Best model at epoch: 0

Epoch [6/100], Loss: 0.7087 Val loss: 0.6392 Best model at epoch: 0

Epoch [7/100], Loss: 0.7007 Val loss: 0.6347 Best model at epoch: 0

Epoch [8/100], Loss: 0.6830 Val loss: 0.6292 Best model at epoch: 0

Epoch [9/100], Loss: 0.6743 Val loss: 0.6278 Best model at epoch: 0

Epoch [10/100], Loss: 0.6825 Val loss: 0.6296 Best model at epoch: 0

Epoch [11/100], Loss: 0.6665 Val loss: 0.6249 Best model at epoch: 0

Epoch [12/100], Loss: 0.6655 Val loss: 0.6274 Best model at epoch: 0

Epoch [13/100], Loss: 0.6720 Val loss: 0.6276 Best model at epoch: 0

Epoch [14/100], Loss: 0.6651 Val loss: 0.6244 Best model at epoch: 0

Epoch [15/100], Loss: 0.6702 Val loss: 0.6276 Best model at epoch: 0

Epoch [16/100], Loss: 0.6618 Val loss: 0.6235 Best model at epoch: 0

Epoch [17/100], Loss: 0.6606 Val loss: 0.6261 Best model at epoch: 17

Epoch [18/100], Loss: 0.6579 Val loss: 0.6263 Best model at epoch: 17

Epoch [19/100], Loss: 0.6581 Val loss: 0.6223 Best model at epoch: 19

Epoch [20/100], Loss: 0.6580 Val loss: 0.6248 Best model at epoch: 19

Epoch [21/100], Loss: 0.6584 Val loss: 0.6214 Best model at epoch: 21

Epoch [22/100], Loss: 0.6540 Val loss: 0.6212 Best model at epoch: 22

Epoch [23/100], Loss: 0.6535 Val loss: 0.6238 Best model at epoch: 22

Epoch [24/100], Loss: 0.6526 Val loss: 0.6215 Best model at epoch: 22

Epoch [25/100], Loss: 0.6471 Val loss: 0.6232 Best model at epoch: 22

Epoch [26/100], Loss: 0.6524 Val loss: 0.6223 Best model at epoch: 22

Epoch [27/100], Loss: 0.6456 Val loss: 0.6211 Best model at epoch: 27

Epoch [28/100], Loss: 0.6446 Val loss: 0.6225 Best model at epoch: 27

Epoch [29/100], Loss: 0.6479 Val loss: 0.6245 Best model at epoch: 27

Epoch [30/100], Loss: 0.6469 Val loss: 0.6236 Best model at epoch: 27

Epoch [31/100], Loss: 0.6481 Val loss: 0.6203 Best model at epoch: 31

Epoch [32/100], Loss: 0.6459 Val loss: 0.6242 Best model at epoch: 31

Epoch [33/100], Loss: 0.6477 Val loss: 0.6258 Best model at epoch: 31

Epoch [34/100], Loss: 0.6431 Val loss: 0.6236 Best model at epoch: 31

Epoch [35/100], Loss: 0.6455 Val loss: 0.6254 Best model at epoch: 31

Epoch [36/100], Loss: 0.6427 Val loss: 0.6198 Best model at epoch: 36

Epoch [37/100], Loss: 0.6408 Val loss: 0.6195 Best model at epoch: 37

Epoch [38/100], Loss: 0.6390 Val loss: 0.6210 Best model at epoch: 37

Epoch [39/100], Loss: 0.6388 Val loss: 0.6225 Best model at epoch: 37

Epoch [40/100], Loss: 0.6409 Val loss: 0.6207 Best model at epoch: 37

Epoch [41/100], Loss: 0.6413 Val loss: 0.6228 Best model at epoch: 37

Epoch [42/100], Loss: 0.6391 Val loss: 0.6240 Best model at epoch: 37

Epoch [43/100], Loss: 0.6351 Val loss: 0.6203 Best model at epoch: 37

Epoch [44/100], Loss: 0.6376 Val loss: 0.6216 Best model at epoch: 37

Epoch [45/100], Loss: 0.6374 Val loss: 0.6228 Best model at epoch: 37

Epoch [46/100], Loss: 0.6369 Val loss: 0.6205 Best model at epoch: 37

Epoch [47/100], Loss: 0.6400 Val loss: 0.6216 Best model at epoch: 37

Epoch [48/100], Loss: 0.6360 Val loss: 0.6213 Best model at epoch: 37

Epoch [49/100], Loss: 0.6358 Val loss: 0.6218 Best model at epoch: 37

Epoch [50/100], Loss: 0.6386 Val loss: 0.6180 Best model at epoch: 50

Epoch [51/100], Loss: 0.6332 Val loss: 0.6212 Best model at epoch: 50

Epoch [52/100], Loss: 0.6337 Val loss: 0.6221 Best model at epoch: 50

Epoch [53/100], Loss: 0.6340 Val loss: 0.6220 Best model at epoch: 50

Epoch [54/100], Loss: 0.6330 Val loss: 0.6211 Best model at epoch: 50

Epoch [55/100], Loss: 0.6300 Val loss: 0.6232 Best model at epoch: 50

Epoch [56/100], Loss: 0.6302 Val loss: 0.6195 Best model at epoch: 50

Epoch [57/100], Loss: 0.6277 Val loss: 0.6172 Best model at epoch: 57

Epoch [58/100], Loss: 0.6306 Val loss: 0.6239 Best model at epoch: 57

Epoch [59/100], Loss: 0.6277 Val loss: 0.6224 Best model at epoch: 57

Epoch [60/100], Loss: 0.6318 Val loss: 0.6209 Best model at epoch: 57

Epoch [61/100], Loss: 0.6282 Val loss: 0.6192 Best model at epoch: 57

Epoch [62/100], Loss: 0.6295 Val loss: 0.6180 Best model at epoch: 57

Epoch [63/100], Loss: 0.6269 Val loss: 0.6204 Best model at epoch: 57

Epoch [64/100], Loss: 0.6279 Val loss: 0.6197 Best model at epoch: 57

Epoch [65/100], Loss: 0.6256 Val loss: 0.6201 Best model at epoch: 57

Epoch [66/100], Loss: 0.6291 Val loss: 0.6159 Best model at epoch: 66

Epoch [67/100], Loss: 0.6268 Val loss: 0.6155 Best model at epoch: 67

Epoch [68/100], Loss: 0.6244 Val loss: 0.6164 Best model at epoch: 67

Epoch [69/100], Loss: 0.6254 Val loss: 0.6170 Best model at epoch: 67

Epoch [70/100], Loss: 0.6256 Val loss: 0.6193 Best model at epoch: 67

Epoch [71/100], Loss: 0.6254 Val loss: 0.6176 Best model at epoch: 67

Epoch [72/100], Loss: 0.6244 Val loss: 0.6173 Best model at epoch: 67

Epoch [73/100], Loss: 0.6255 Val loss: 0.6194 Best model at epoch: 67

Epoch [74/100], Loss: 0.6276 Val loss: 0.6189 Best model at epoch: 67

Epoch [75/100], Loss: 0.6260 Val loss: 0.6205 Best model at epoch: 67

Epoch [76/100], Loss: 0.6230 Val loss: 0.6214 Best model at epoch: 67

Epoch [77/100], Loss: 0.6232 Val loss: 0.6240 Best model at epoch: 67

Epoch [78/100], Loss: 0.6273 Val loss: 0.6195 Best model at epoch: 67

Epoch [79/100], Loss: 0.6235 Val loss: 0.6186 Best model at epoch: 67

Epoch [80/100], Loss: 0.6246 Val loss: 0.6196 Best model at epoch: 67

Epoch [81/100], Loss: 0.6244 Val loss: 0.6233 Best model at epoch: 67

Epoch [82/100], Loss: 0.6240 Val loss: 0.6198 Best model at epoch: 67

Epoch [83/100], Loss: 0.6226 Val loss: 0.6182 Best model at epoch: 67

Epoch [84/100], Loss: 0.6235 Val loss: 0.6159 Best model at epoch: 67

Epoch [85/100], Loss: 0.6212 Val loss: 0.6166 Best model at epoch: 67

Epoch [86/100], Loss: 0.6221 Val loss: 0.6175 Best model at epoch: 67

Epoch [87/100], Loss: 0.6215 Val loss: 0.6173 Best model at epoch: 67

Epoch [88/100], Loss: 0.6225 Val loss: 0.6168 Best model at epoch: 67

Epoch [89/100], Loss: 0.6216 Val loss: 0.6150 Best model at epoch: 89

Epoch [90/100], Loss: 0.6187 Val loss: 0.6165 Best model at epoch: 89

Epoch [91/100], Loss: 0.6186 Val loss: 0.6158 Best model at epoch: 89

Epoch [92/100], Loss: 0.6220 Val loss: 0.6167 Best model at epoch: 89

Epoch [93/100], Loss: 0.6205 Val loss: 0.6173 Best model at epoch: 89

Epoch [94/100], Loss: 0.6221 Val loss: 0.6167 Best model at epoch: 89

Epoch [95/100], Loss: 0.6185 Val loss: 0.6156 Best model at epoch: 89

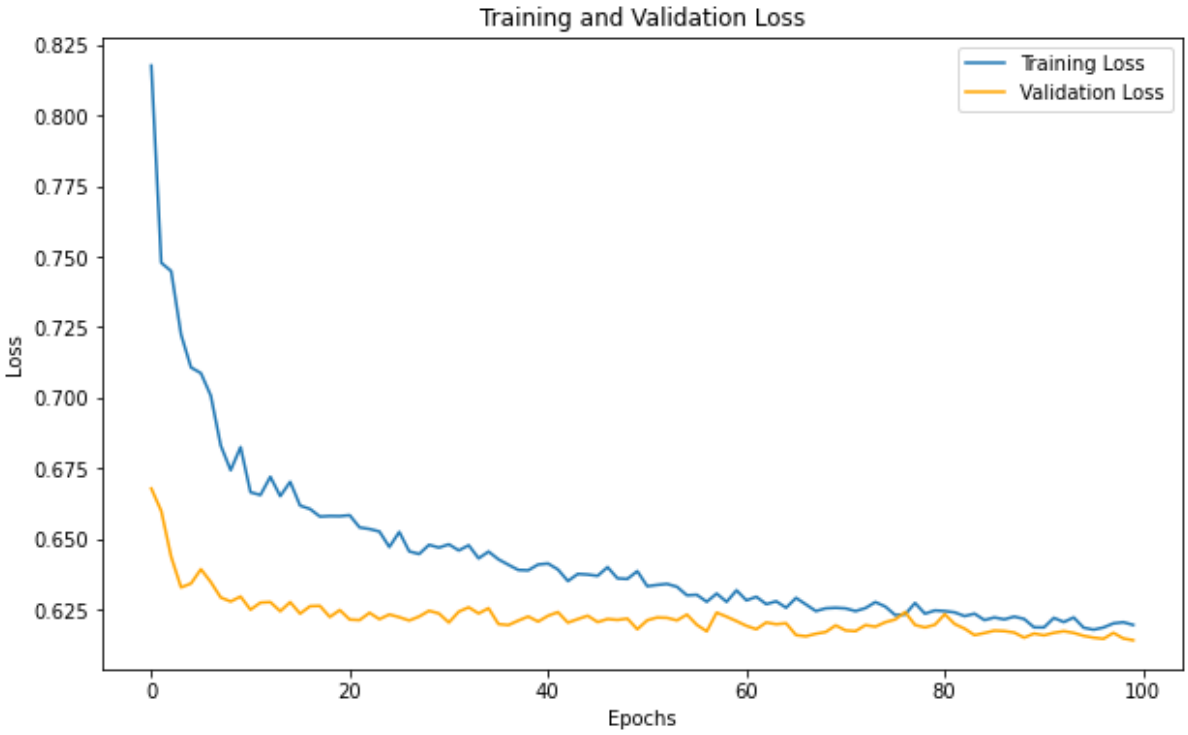
Epoch [96/100], Loss: 0.6178 Val loss: 0.6150 Best model at epoch: 96

Epoch [97/100], Loss: 0.6186 Val loss: 0.6146 Best model at epoch: 97

Epoch [98/100], Loss: 0.6201 Val loss: 0.6167 Best model at epoch: 97

Epoch [99/100], Loss: 0.6205 Val loss: 0.6147 Best model at epoch: 97

Epoch [100/100], Loss: 0.6195 Val loss: 0.6141 Best model at epoch: 100



Total time in seconds : 5337.7964951992035

The best model was found at epoch nunmber 100

--- 01:28:57 seconds ---

The training loss is 0.6194988034665585

Performance with the best model is :

The test loss is 0.6258060565120296

For exercise : 1

Mean absolute deviation : 0.216002

RMS deviation:: 0.091714

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