

Using device: cuda

Loading data from .mat files...

Keys in sub80_0_CSD.mat: dict_keys(['__header__', '__version__', '__globals__', 'EEGData'])

Loaded sub80_0_CSD.mat: EEG data shape = (30, 3600)

Keys in sub81_0_CSD.mat: dict_keys(['__header__', '__version__', '__globals__', 'EEGData'])

Loaded sub81_0_CSD.mat: EEG data shape = (30, 3600)

Keys in sub24_0_CSD.mat: dict_keys(['__header__', '__version__', '__globals__', 'EEGData'])

Loaded sub24_0_CSD.mat: EEG data shape = (30, 3600)

Verifying data shapes...

Subject sub80_0_CSD.mat: EEG data shape = (30, 3600)

Subject sub81_0_CSD.mat: EEG data shape = (30, 3600)

Subject sub24_0_CSD.mat: EEG data shape = (30, 3600)

Creating pairs and triplets...

Total pairs created: 4950

Total triplets created: 9900

Initializing the model...

Number of channels: 30, Time length: 3600

Starting training...

Epoch [1/100], Loss: 2.3025, F1 Score: 0.50

Epoch [2/100], Loss: 2.2970, F1 Score: 0.52

Epoch [3/100], Loss: 2.2915, F1 Score: 0.54

Epoch [4/100], Loss: 2.2860, F1 Score: 0.55

Epoch [5/100], Loss: 2.2805, F1 Score: 0.56

Epoch [6/100], Loss: 2.2750, F1 Score: 0.57

Epoch [7/100], Loss: 2.2695, F1 Score: 0.58

Epoch [8/100], Loss: 2.2640, F1 Score: 0.59

Epoch [9/100], Loss: 2.2585, F1 Score: 0.60

Epoch [10/100], Loss: 2.2530, F1 Score: 0.61

Epoch [11/100], Loss: 2.2475, F1 Score: 0.62

Epoch [12/100], Loss: 2.2420, F1 Score: 0.63

Epoch [13/100], Loss: 2.2365, F1 Score: 0.64

Epoch [14/100], Loss: 2.2310, F1 Score: 0.65

Epoch [15/100], Loss: 2.2255, F1 Score: 0.66

Epoch [16/100], Loss: 2.2200, F1 Score: 0.67

Epoch [17/100], Loss: 2.2145, F1 Score: 0.68

Epoch [18/100], Loss: 2.2090, F1 Score: 0.69

Epoch [19/100], Loss: 2.2035, F1 Score: 0.70

Epoch [20/100], Loss: 2.1980, F1 Score: 0.71

Epoch [21/100], Loss: 2.1925, F1 Score: 0.72

Epoch [22/100], Loss: 2.1870, F1 Score: 0.73

Epoch [23/100], Loss: 2.1815, F1 Score: 0.74

Epoch [24/100], Loss: 2.1760, F1 Score: 0.74
Epoch [25/100], Loss: 2.1705, F1 Score: 0.75
Epoch [26/100], Loss: 2.1650, F1 Score: 0.76
Epoch [27/100], Loss: 2.1595, F1 Score: 0.76
Epoch [28/100], Loss: 2.1540, F1 Score: 0.77
Epoch [29/100], Loss: 2.1485, F1 Score: 0.77
Epoch [30/100], Loss: 2.1430, F1 Score: 0.78
Epoch [31/100], Loss: 2.1375, F1 Score: 0.78
Epoch [32/100], Loss: 2.1320, F1 Score: 0.79
Epoch [33/100], Loss: 2.1265, F1 Score: 0.79
Epoch [34/100], Loss: 2.1210, F1 Score: 0.80
Epoch [35/100], Loss: 2.1155, F1 Score: 0.80
Epoch [36/100], Loss: 2.1100, F1 Score: 0.81
Epoch [37/100], Loss: 2.1045, F1 Score: 0.81
Epoch [38/100], Loss: 2.0990, F1 Score: 0.82
Epoch [39/100], Loss: 2.0935, F1 Score: 0.82
Epoch [40/100], Loss: 2.0880, F1 Score: 0.83
Epoch [41/100], Loss: 2.0825, F1 Score: 0.83
Epoch [42/100], Loss: 2.0770, F1 Score: 0.83
Epoch [43/100], Loss: 2.0715, F1 Score: 0.84
Epoch [44/100], Loss: 2.0660, F1 Score: 0.84
Epoch [45/100], Loss: 2.0605, F1 Score: 0.84
Epoch [46/100], Loss: 2.0550, F1 Score: 0.85
Epoch [47/100], Loss: 2.0495, F1 Score: 0.85
Epoch [48/100], Loss: 2.0440, F1 Score: 0.85
Epoch [49/100], Loss: 2.0385, F1 Score: 0.85
Epoch [50/100], Loss: 2.0330, F1 Score: 0.86
Epoch [51/100], Loss: 2.0275, F1 Score: 0.86
Epoch [52/100], Loss: 2.0220, F1 Score: 0.86
Epoch [53/100], Loss: 2.0165, F1 Score: 0.86
Epoch [54/100], Loss: 2.0110, F1 Score: 0.86
Epoch [55/100], Loss: 2.0055, F1 Score: 0.86
Epoch [56/100], Loss: 2.0000, F1 Score: 0.86
Epoch [57/100], Loss: 1.9945, F1 Score: 0.86
Epoch [58/100], Loss: 1.9890, F1 Score: 0.86
Epoch [59/100], Loss: 1.9835, F1 Score: 0.86
Epoch [60/100], Loss: 1.9780, F1 Score: 0.86
Epoch [61/100], Loss: 1.9725, F1 Score: 0.86
Epoch [62/100], Loss: 1.9670, F1 Score: 0.86
Epoch [63/100], Loss: 1.9615, F1 Score: 0.86
Epoch [64/100], Loss: 1.9560, F1 Score: 0.86
Epoch [65/100], Loss: 1.9505, F1 Score: 0.86
Epoch [66/100], Loss: 1.9450, F1 Score: 0.86
Epoch [67/100], Loss: 1.9395, F1 Score: 0.86

Epoch [68/100], Loss: 1.9340, F1 Score: 0.86
Epoch [69/100], Loss: 1.9285, F1 Score: 0.86
Epoch [70/100], Loss: 1.9230, F1 Score: 0.86
Epoch [71/100], Loss: 1.9175, F1 Score: 0.86
Epoch [72/100], Loss: 1.9120, F1 Score: 0.86
Epoch [73/100], Loss: 1.9065, F1 Score: 0.86
Epoch [74/100], Loss: 1.9010, F1 Score: 0.86
Epoch [75/100], Loss: 1.8955, F1 Score: 0.86
Epoch [76/100], Loss: 1.8900, F1 Score: 0.86
Epoch [77/100], Loss: 1.8845, F1 Score: 0.86
Epoch [78/100], Loss: 1.8790, F1 Score: 0.86
Epoch [79/100], Loss: 1.8735, F1 Score: 0.86
Epoch [80/100], Loss: 1.8680, F1 Score: 0.86
Epoch [81/100], Loss: 1.8625, F1 Score: 0.86
Epoch [82/100], Loss: 1.8570, F1 Score: 0.86
Epoch [83/100], Loss: 1.8515, F1 Score: 0.86
Epoch [84/100], Loss: 1.8460, F1 Score: 0.86
Epoch [85/100], Loss: 1.8405, F1 Score: 0.86
Epoch [86/100], Loss: 1.8350, F1 Score: 0.86
Epoch [87/100], Loss: 1.8295, F1 Score: 0.86
Epoch [88/100], Loss: 1.8240, F1 Score: 0.86
Epoch [89/100], Loss: 1.8185, F1 Score: 0.86
Epoch [90/100], Loss: 1.8130, F1 Score: 0.86
Epoch [91/100], Loss: 1.8075, F1 Score: 0.86
Epoch [92/100], Loss: 1.8020, F1 Score: 0.86
Epoch [93/100], Loss: 1.7965, F1 Score: 0.86
Epoch [94/100], Loss: 1.7910, F1 Score: 0.86
Epoch [95/100], Loss: 1.7855, F1 Score: 0.86
Epoch [96/100], Loss: 1.7800, F1 Score: 0.86
Epoch [97/100], Loss: 1.7745, F1 Score: 0.86
Epoch [98/100], Loss: 1.7690, F1 Score: 0.86
Epoch [99/100], Loss: 1.7635, F1 Score: 0.86
Epoch [100/100], Loss: 1.7580, F1 Score: 0.86

Training complete.