```
Epoch [1/30], Loss: 0.4900, Accuracy: 0.8226, Precision: 0.8254, Recall:
0.8241, F1: 0.8246, AUC: 0.8819
Validation - Loss: 0.4492, Accuracy: 0.8664, Precision: 0.8672, Recall:
0.8729, F1: 0.8664, AUC: 0.9146
Epoch [2/30], Loss: 0.2973, Accuracy: 0.8924, Precision: 0.8935, Recall:
0.8933, F1: 0.8933, AUC: 0.9283
Validation - Loss: 0.4643, Accuracy: 0.8581, Precision: 0.8664, Recall:
0.8594, F1: 0.8583, AUC: 0.9061
Epoch [3/30], Loss: 0.2390, Accuracy: 0.9170, Precision: 0.9182, Recall:
0.9180, F1: 0.9180, AUC: 0.9449
Validation - Loss: 0.9375, Accuracy: 0.7975, Precision: 0.8415, Recall:
0.8008, F1: 0.7974, AUC: 0.8668
Epoch [4/30], Loss: 0.1910, Accuracy: 0.9337, Precision: 0.9353, Recall:
0.9346, F1: 0.9349, AUC: 0.9560
Validation - Loss: 0.4488, Accuracy: 0.8599, Precision: 0.8732, Recall:
0.8580, F1: 0.8501, AUC: 0.9053
Epoch [5/30], Loss: 0.1554, Accuracy: 0.9429, Precision: 0.9443, Recall:
0.9434, F1: 0.9438, AUC: 0.9620
Validation - Loss: 0.4064, Accuracy: 0.8725, Precision: 0.8862, Recall:
0.8666, F1: 0.8684, AUC: 0.9115
Epoch [6/30], Loss: 0.1359, Accuracy: 0.9541, Precision: 0.9554, Recall:
0.9547, F1: 0.9550, AUC: 0.9695
Validation - Loss: 0.2989, Accuracy: 0.9200, Precision: 0.9199, Recall:
0.9219, F1: 0.9202, AUC: 0.9475
Epoch [7/30], Loss: 0.1140, Accuracy: 0.9619, Precision: 0.9628, Recall:
0.9624, F1: 0.9626, AUC: 0.9747
Validation - Loss: 0.3516, Accuracy: 0.9154, Precision: 0.9174, Recall:
0.9234, F1: 0.9172, AUC: 0.9479
Epoch [8/30], Loss: 0.1164, Accuracy: 0.9616, Precision: 0.9623, Recall:
0.9620, F1: 0.9621, AUC: 0.9745
Validation - Loss: 0.4023, Accuracy: 0.9038, Precision: 0.9088, Recall:
0.9085, F1: 0.9038, AUC: 0.9386
Epoch [9/30], Loss: 0.1065, Accuracy: 0.9635, Precision: 0.9637, Recall:
0.9636, F1: 0.9637, AUC: 0.9756
Validation - Loss: 0.2873, Accuracy: 0.9384, Precision: 0.9377, Recall:
0.9427, F1: 0.9383, AUC: 0.9613
Epoch [10/30], Loss: 0.0916, Accuracy: 0.9701, Precision: 0.9705, Recall:
0.9705, F1: 0.9705, AUC: 0.9802
Validation - Loss: 0.2650, Accuracy: 0.9371, Precision: 0.9356, Recall:
0.9406, F1: 0.9376, AUC: 0.9599
Epoch [11/30], Loss: 0.0874, Accuracy: 0.9703, Precision: 0.9711, Recall:
0.9710, F1: 0.9711, AUC: 0.9804
Validation - Loss: 0.2821, Accuracy: 0.9354, Precision: 0.9370, Recall:
0.9363, F1: 0.9356, AUC: 0.9572
Epoch [12/30], Loss: 0.0823, Accuracy: 0.9726, Precision: 0.9730, Recall:
0.9725, F1: 0.9728, AUC: 0.9816
Validation - Loss: 0.2794, Accuracy: 0.9553, Precision: 0.9539, Recall:
0.9599, F1: 0.9560, AUC: 0.9726
Epoch [13/30], Loss: 0.0780, Accuracy: 0.9748, Precision: 0.9749, Recall:
0.9747, F1: 0.9748, AUC: 0.9831
Validation - Loss: 0.2919, Accuracy: 0.9515, Precision: 0.9498, Recall:
0.9553, F1: 0.9516, AUC: 0.9697
Epoch [14/30], Loss: 0.0681, Accuracy: 0.9772, Precision: 0.9775, Recall:
0.9775, F1: 0.9775, AUC: 0.9849
Validation - Loss: 0.2208, Accuracy: 0.9513, Precision: 0.9496, Recall:
0.9566, F1: 0.9517, AUC: 0.9704
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Epoch [15/30], Loss: 0.0659, Accuracy: 0.9789, Precision: 0.9792, Recall: 0.9793, F1: 0.9793, AUC: 0.9861
Validation - Loss: 0.3071, Accuracy: 0.9402, Precision: 0.9406, Recall: 0.9409, F1: 0.9397, AUC: 0.9605
Epoch [16/30], Loss: 0.0624, Accuracy: 0.9785, Precision: 0.9787, Recall: 0.9788, F1: 0.9788, AUC: 0.9858
Validation - Loss: 0.2840, Accuracy: 0.9462, Precision: 0.9446, Recall: 0.9518, F1: 0.9469, AUC: 0.9671
Epoch [17/30], Loss: 0.0632, Accuracy: 0.9774, Precision: 0.9778, Recall: 0.9778, F1: 0.9778, AUC: 0.9851
Validation - Loss: 0.2896, Accuracy: 0.9594, Precision: 0.9575, Recall: 0.9634, F1: 0.9596, AUC: 0.9751
Epoch [18/30], Loss: 0.0592, Accuracy: 0.9809, Precision: 0.9809, Recall: 0.9809, F1: 0.9809, AUC: 0.9872
Validation - Loss: 0.2994, Accuracy: 0.9485, Precision: 0.9478, Recall: 0.9545, F1: 0.9496, AUC: 0.9689
Epoch [19/30], Loss: 0.0617, Accuracy: 0.9807, Precision: 0.9809, Recall: 0.9808, F1: 0.9808, AUC: 0.9871
Validation - Loss: 0.2981, Accuracy: 0.9490, Precision: 0.9470, Recall: 0.9528, F1: 0.9486, AUC: 0.9681
Epoch [20/30], Loss: 0.0445, Accuracy: 0.9859, Precision: 0.9859, Recall: 0.9862, F1: 0.9860, AUC: 0.9907
Validation - Loss: 0.2781, Accuracy: 0.9553, Precision: 0.9541, Recall: 0.9590, F1: 0.9561, AUC: 0.9721
Epoch [21/30], Loss: 0.0510, Accuracy: 0.9833, Precision: 0.9837, Recall: 0.9833, F1: 0.9835, AUC: 0.9888
Validation - Loss: 0.3093, Accuracy: 0.9535, Precision: 0.9516, Recall: 0.9586, F1: 0.9538, AUC: 0.9718
Epoch [22/30], Loss: 0.0508, Accuracy: 0.9836, Precision: 0.9836, Recall: 0.9836, F1: 0.9836, AUC: 0.9890
Validation - Loss: 0.2817, Accuracy: 0.9434, Precision: 0.9428, Recall: 0.9491, F1: 0.9441, AUC: 0.9654
Epoch [23/30], Loss: 0.0464, Accuracy: 0.9856, Precision: 0.9855, Recall: 0.9857, F1: 0.9856, AUC: 0.9904
Validation - Loss: 0.3252, Accuracy: 0.9440, Precision: 0.9436, Recall: 0.9490, F1: 0.9448, AUC: 0.9653
Epoch [24/30], Loss: 0.0420, Accuracy: 0.9860, Precision: 0.9861, Recall: 0.9859, F1: 0.9860, AUC: 0.9906
Validation - Loss: 0.3160, Accuracy: 0.9558, Precision: 0.9552, Recall: 0.9591, F1: 0.9564, AUC: 0.9723
Epoch [25/30], Loss: 0.0462, Accuracy: 0.9856, Precision: 0.9856, Recall: 0.9857, F1: 0.9856, AUC: 0.9904
Validation - Loss: 0.3104, Accuracy: 0.9475, Precision: 0.9464, Recall: 0.9524, F1: 0.9482, AUC: 0.9676
Epoch [26/30], Loss: 0.0361, Accuracy: 0.9879, Precision: 0.9880, Recall: 0.9878, F1: 0.9879, AUC: 0.9918
Validation - Loss: 0.2594, Accuracy: 0.9523, Precision: 0.9506, Recall: 0.9562, F1: 0.9527, AUC: 0.9703
Epoch [27/30], Loss: 0.0386, Accuracy: 0.9879, Precision: 0.9880, Recall: 0.9878, F1: 0.9879, AUC: 0.9919
Validation - Loss: 0.3074, Accuracy: 0.9626, Precision: 0.9609, Recall: 0.9658, F1: 0.9627, AUC: 0.9768
Epoch [28/30], Loss: 0.0347, Accuracy: 0.9890, Precision: 0.9889, Recall: 0.9891, F1: 0.9890, AUC: 0.9927
Validation - Loss: 0.3646, Accuracy: 0.9530, Precision: 0.9511, Recall: 0.9559, F1: 0.9528, AUC: 0.9703

Epoch [29/30], Loss: 0.0305, Accuracy: 0.9894, Precision: 0.9895, Recall: 0.9896, F1: 0.9896, AUC: 0.9930
Validation - Loss: 0.3256, Accuracy: 0.9614, Precision: 0.9598, Recall: 0.9653, F1: 0.9618, AUC: 0.9763
Epoch [30/30], Loss: 0.0368, Accuracy: 0.9888, Precision: 0.9888, Recall: 0.9885, F1: 0.9886, AUC: 0.9923
Validation - Loss: 0.2970, Accuracy: 0.9599, Precision: 0.9588, Recall: 0.9635, F1: 0.9603, AUC: 0.9752