

Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9643
Epoch [1/20], Train Loss: 0.8827, Train Accuracy: 63.21%, Validation Loss: 0.4700, Validation Accuracy: 83.41%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9748
Epoch [2/20], Train Loss: 0.6351, Train Accuracy: 75.24%, Validation Loss: 0.3899, Validation Accuracy: 86.85%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9705
Epoch [3/20], Train Loss: 0.5892, Train Accuracy: 76.90%, Validation Loss: 0.3972, Validation Accuracy: 85.90%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9667
Epoch [4/20], Train Loss: 0.5731, Train Accuracy: 76.46%, Validation Loss: 0.4836, Validation Accuracy: 84.95%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9816
Epoch [5/20], Train Loss: 0.5377, Train Accuracy: 78.92%, Validation Loss: 0.3767, Validation Accuracy: 86.02%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9793
Epoch [6/20], Train Loss: 0.5099, Train Accuracy: 79.28%, Validation Loss: 0.3686, Validation Accuracy: 88.86%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9834
Epoch [7/20], Train Loss: 0.5022, Train Accuracy: 78.21%, Validation Loss: 0.2783, Validation Accuracy: 91.23%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9809
Epoch [8/20], Train Loss: 0.5298, Train Accuracy: 78.74%, Validation Loss: 0.3178, Validation Accuracy: 88.27%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9787
Epoch [9/20], Train Loss: 0.5005, Train Accuracy: 79.37%, Validation Loss: 0.3918, Validation Accuracy: 88.27%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9826
Epoch [10/20], Train Loss: 0.4670, Train Accuracy: 80.17%, Validation Loss: 0.2901, Validation Accuracy: 89.45%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])
AUC: 0.9817
Epoch [11/20], Train Loss: 0.4739, Train Accuracy: 79.81%, Validation Loss: 0.3792, Validation Accuracy: 86.73%
Model output shape: torch.Size([13, 4])
Labels shape: torch.Size([13])

AUC: 0.9815
Epoch [12/20], Train Loss: 0.4609, Train Accuracy: 80.40%, Validation Loss:
0.3226, Validation Accuracy: 90.05%
Early stopping triggered!
Precision: 0.9010528875623008
Recall: 0.9004739336492891
F1 Score: 0.8993227128872163
Balanced Accuracy: 0.9005849937924136