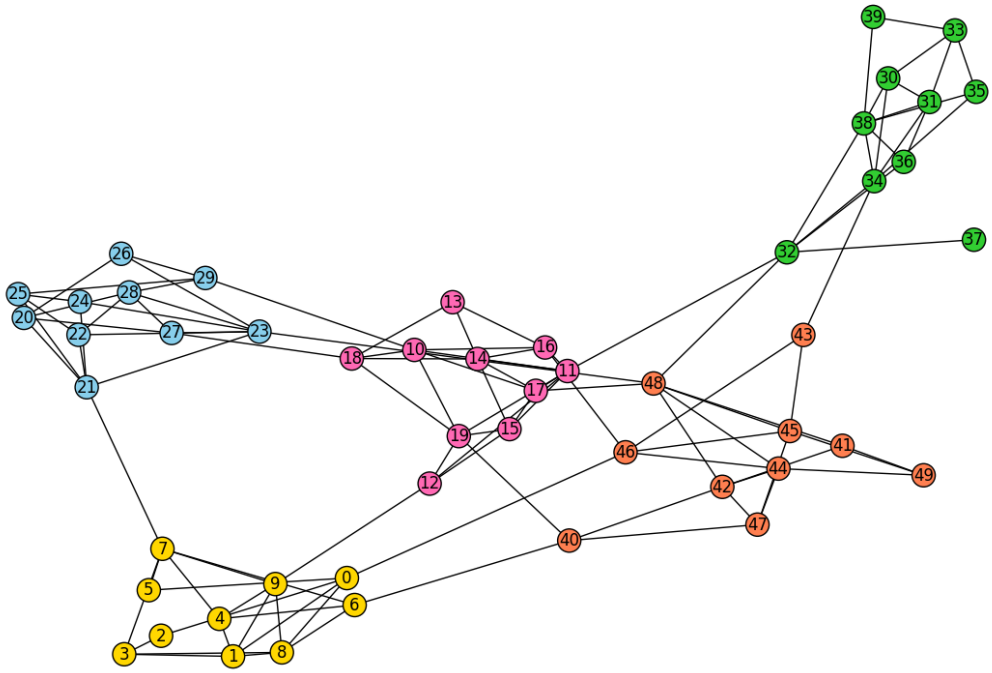
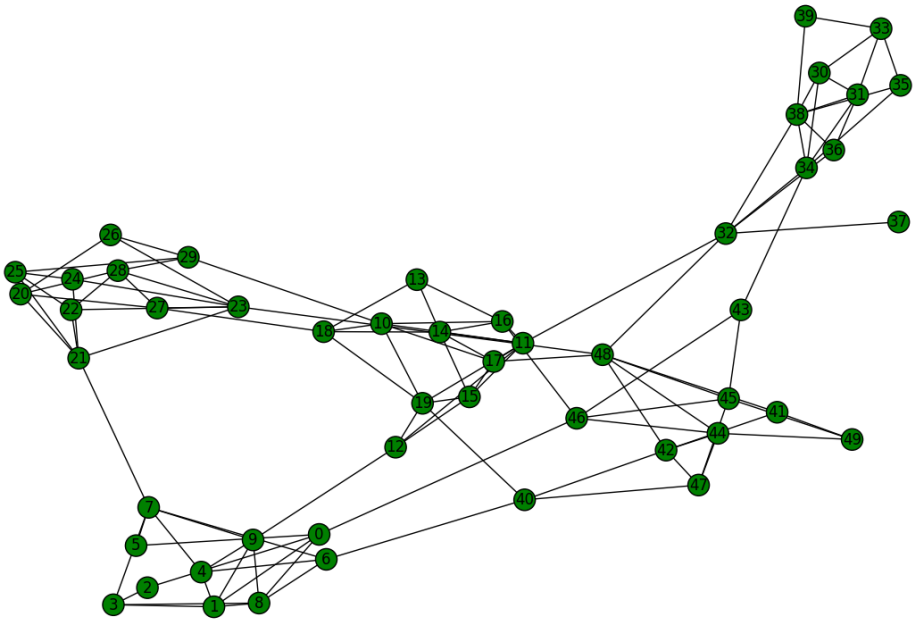
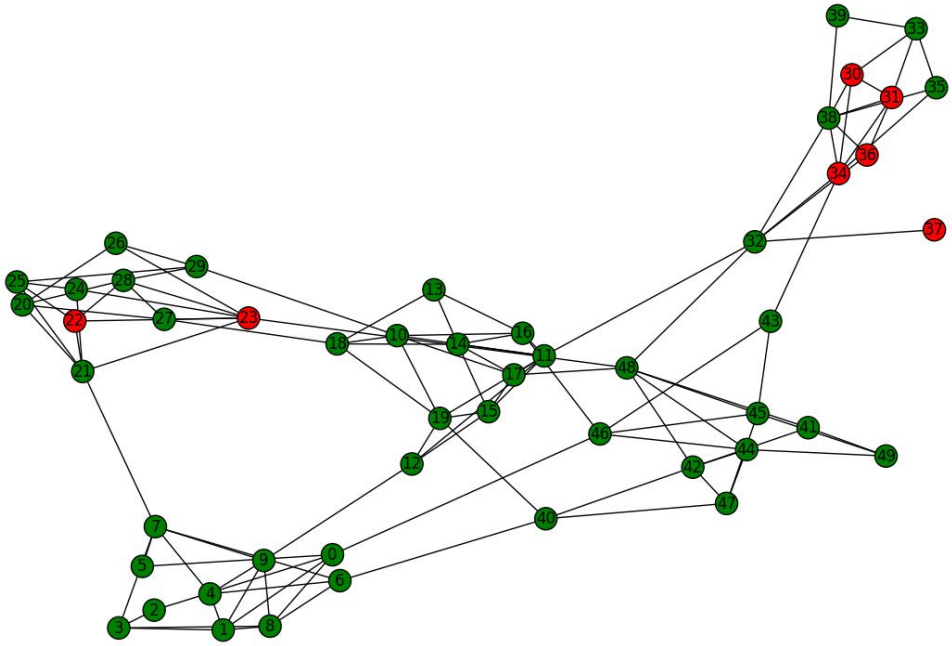
Before Training (ECU Distinct Colors)



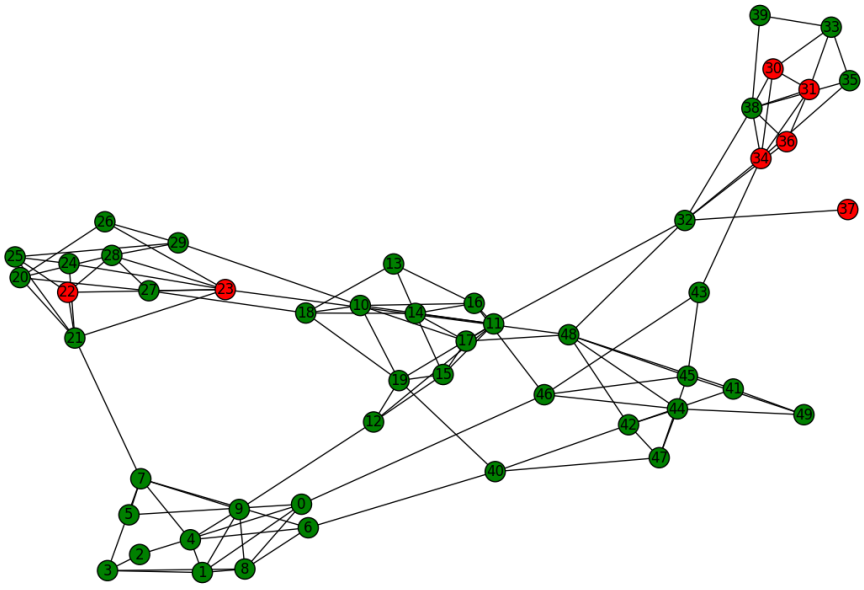
During Training (Epoch 0)



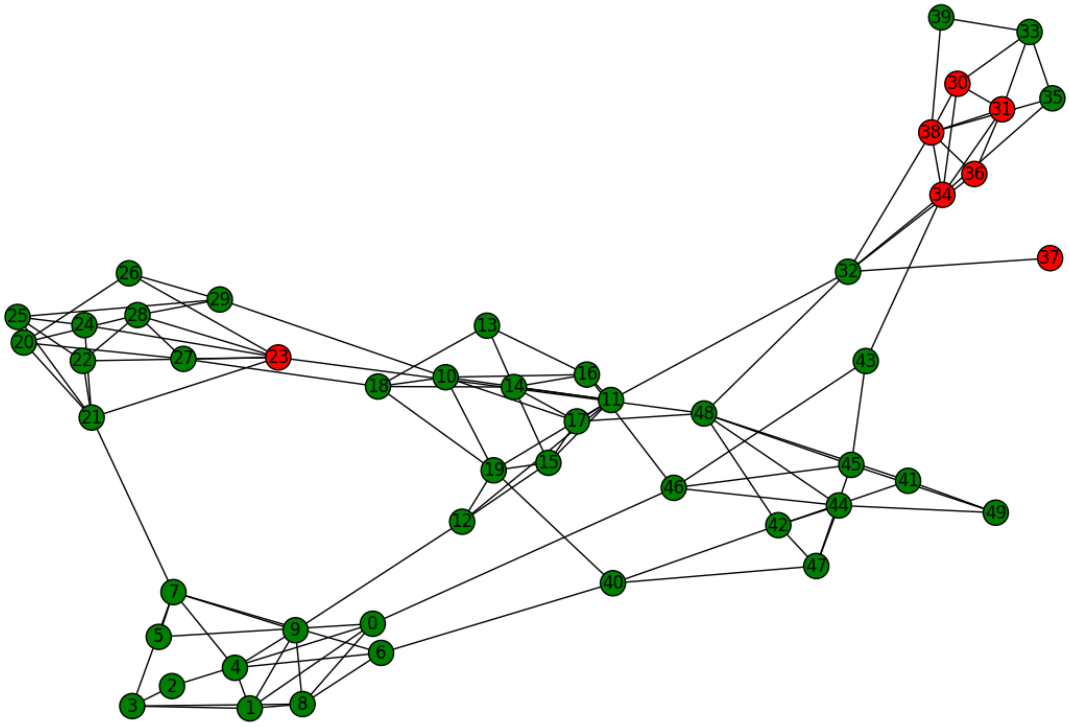
During Training (Epoch 50)



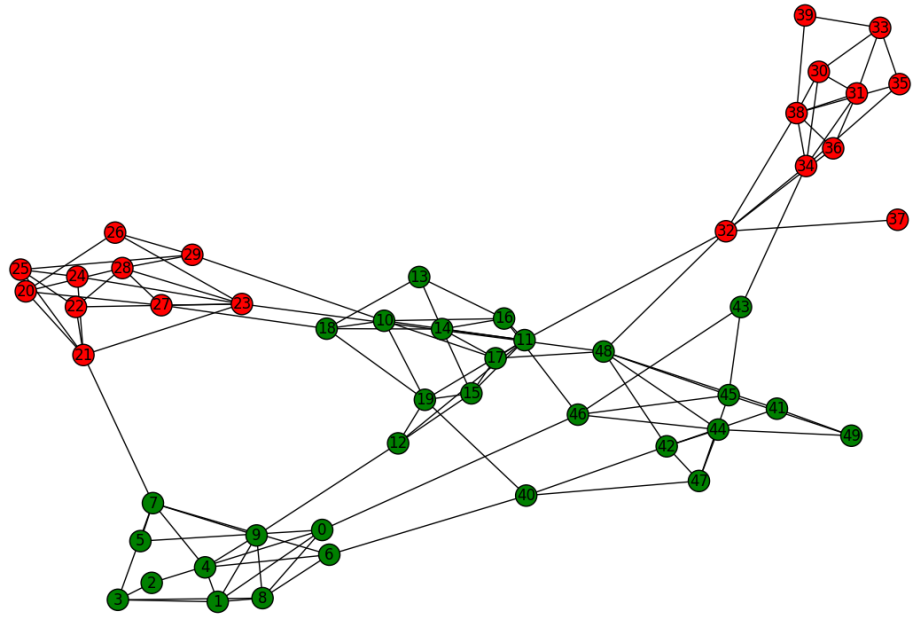
During Training (Epoch 100)

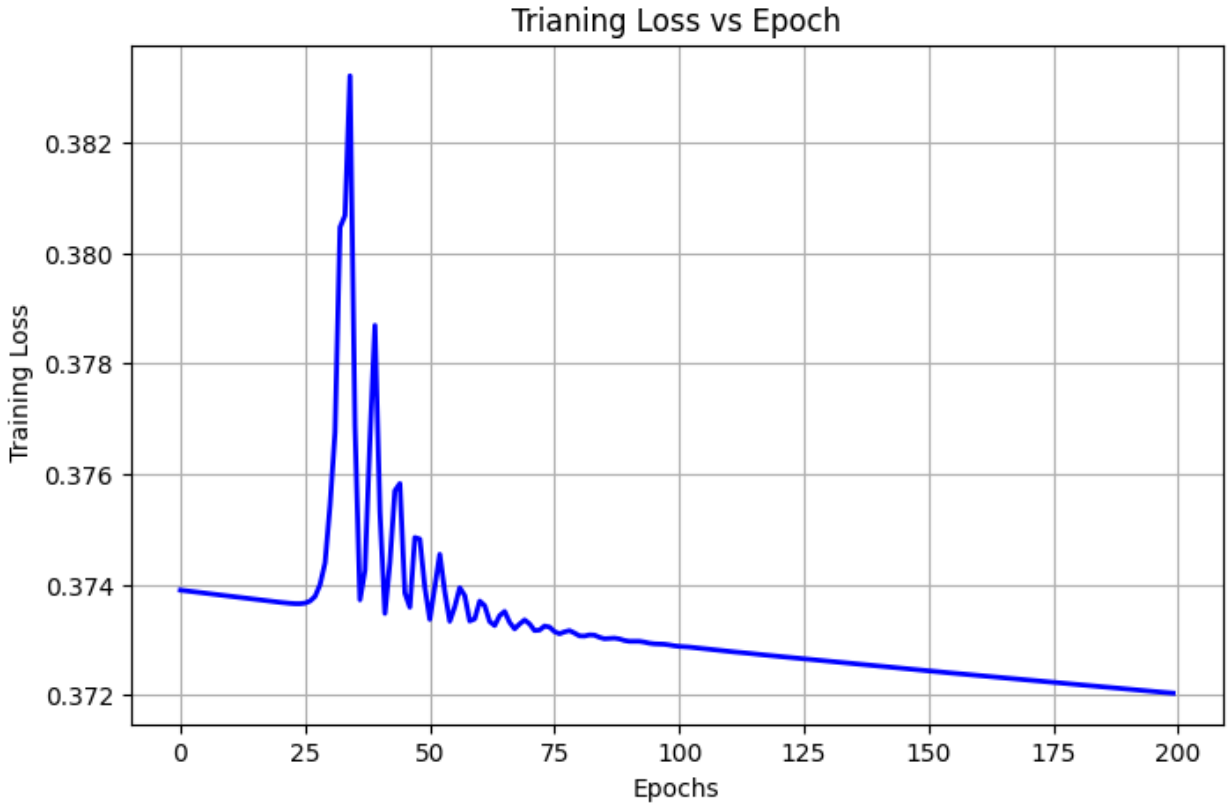


During Training (Epoch 150)



After Training (ECU-Level Predicted Health)




Trianing Loss vs Epoch
Training Loss
0.382
0.380
0.378
0.376
0.374
0.372
0
25
50
75
100
125
150
175
200
Epochs

```
Epoch-wise Loss:

Epoch 0: Loss = 3.773800
Epoch 10: Loss = 0.944501
Epoch 20: Loss = 0.455182
Epoch 30: Loss = 0.514556
Epoch 40: Loss = 0.449488
Epoch 50: Loss = 0.429326
Epoch 60: Loss = 0.411770
Epoch 70: Loss = 0.391401
Epoch 80: Loss = 0.387409
Epoch 90: Loss = 0.386339
Epoch 100: Loss = 0.385032
Epoch 110: Loss = 0.383972
Epoch 120: Loss = 0.383036
Epoch 130: Loss = 0.382254
Epoch 140: Loss = 0.381578
Epoch 150: Loss = 0.381013
Epoch 160: Loss = 0.380545
Epoch 170: Loss = 0.380161
Epoch 180: Loss = 0.379846
Epoch 190: Loss = 0.379584
```

```
ECU Health Status (After Training):

ECU 1: True = Faulty, Predicted = Healthy
ECU 2: True = Faulty, Predicted = Healthy
ECU 3: True = Faulty, Predicted = Faulty
ECU 4: True = Faulty, Predicted = Faulty
ECU 5: True = Faulty, Predicted = Healthy
```