# MLP\_org3\_Iter 10000

## (3 Layer MLP with relu and Softmax activation functions. **No regularization )**

Evaluate model....

Examples labeled as 0 classified by model as 0: 10 times

Examples labeled as 1 classified by model as 1: 16 times

Examples labeled as 1 classified by model as 2: 1 times

Examples labeled as 2 classified by model as 1: 1 times

Examples labeled as 2 classified by model as 2: 14 times

Examples labeled as 2 classified by model as 3: 2 times

Examples labeled as 3 classified by model as 3: 14 times

==========================Scores========================================

Accuracy: 0.931

Precision: 0.9374

Recall: 0.9412

F1 Score: 0.9393

========================================================================

Original network params: [-0.16, -0.37, -0.32, -0.49, -0.94, -1.68, 0.48, 0.97, -0.37, -0.62, 0.93, 0.87, -0.41, -0.31, -0.45, -0.50, -0.00, 0.83, 0.16, -0.54, -0.40, 0.46, -0.24, -0.55, -0.22, -0.92, -0.53, -0.39, 0.21, 0.13, 0.37, -0.02, 0.88, 0.79, -0.23, 0.26, 0.05, 1.09, 0.32, 0.77, 0.18, 0.71, -0.22, -0.21, -0.24, -0.11, 0.32, -0.13, 0.18, -0.35, 0.49, 1.20, 0.86, -0.45, 0.21, -0.62, 0.63, 1.29, 1.08, 0.37, 0.27, 0.39, 0.57, 0.17, 0.08, -0.14, 0.03, -0.29, 0.31, -0.21, 0.28, 1.20, -0.71, 0.08, 0.86, -0.40, 0.26, 0.30, 0.23, -0.13, -0.44, -0.69, 0.85, 1.63, 0.22, 0.65, 0.09, -0.29, 0.12, 0.73, -0.52, 0.88, -0.59, -0.93, 1.08, 0.57, -2.05, -0.42, 0.30, 1.58, 0.83, 0.10, 0.03, -0.87, 0.86, -0.91, 1.63, -0.77, -1.28, -1.02, 0.65, 0.64, 0.38, 1.33, -1.37, 0.24, 0.47, 0.83, -1.54]

Saved network params: [-0.16, -0.37, -0.32, -0.49, -0.94, -1.68, 0.48, 0.97, -0.37, -0.62, 0.93, 0.87, -0.41, -0.31, -0.45, -0.50, -0.00, 0.83, 0.16, -0.54, -0.40, 0.46, -0.24, -0.55, -0.22, -0.92, -0.53, -0.39, 0.21, 0.13, 0.37, -0.02, 0.88, 0.79, -0.23, 0.26, 0.05, 1.09, 0.32, 0.77, 0.18, 0.71, -0.22, -0.21, -0.24, -0.11, 0.32, -0.13, 0.18, -0.35, 0.49, 1.20, 0.86, -0.45, 0.21, -0.62, 0.63, 1.29, 1.08, 0.37, 0.27, 0.39, 0.57, 0.17, 0.08, -0.14, 0.03, -0.29, 0.31, -0.21, 0.28, 1.20, -0.71, 0.08, 0.86, -0.40, 0.26, 0.30, 0.23, -0.13, -0.44, -0.69, 0.85, 1.63, 0.22, 0.65, 0.09, -0.29, 0.12, 0.73, -0.52, 0.88, -0.59, -0.93, 1.08, 0.57, -2.05, -0.42, 0.30, 1.58, 0.83, 0.10, 0.03, -0.87, 0.86, -0.91, 1.63, -0.77, -1.28, -1.02, 0.65, 0.64, 0.38, 1.33, -1.37, 0.24, 0.47, 0.83, -1.54]

# MLP\_org3 Iter 9000

Evaluate model....

Examples labeled as 0 classified by model as 0: 9 times

Examples labeled as 0 classified by model as 1: 1 times

Examples labeled as 1 classified by model as 1: 18 times

Examples labeled as 1 classified by model as 2: 1 times

Examples labeled as 2 classified by model as 1: 1 times

Examples labeled as 2 classified by model as 2: 14 times

Examples labeled as 2 classified by model as 3: 2 times

Examples labeled as 3 classified by model as 3: 12 times

==========================Scores========================================

Accuracy: 0.9138

Precision: 0.9226

Recall: 0.9177

F1 Score: 0.9202

========================================================================

Original network params: [0.04, -0.43, -0.45, -0.86, -1.07, -1.29, 0.53, 0.74, -0.47, -0.53, 1.35, 0.37, -0.60, -0.02, 1.72, -0.16, 0.05, 0.03, 0.24, -0.60, -0.46, 1.10, -1.11, -0.09, -0.26, -1.01, -0.52, -0.46, 0.44, -0.20, 0.16, -0.44, 0.46, 0.56, 0.06, -0.11, 0.01, 0.07, 0.06, 0.62, 0.24, 0.72, -0.12, -0.27, -0.39, 0.08, 0.40, -0.07, 0.26, -0.30, 0.49, 1.34, 0.34, -0.67, -0.58, -0.09, 0.65, 1.34, 1.03, 0.06, 0.29, 0.42, 0.73, 0.30, 0.05, -0.07, 0.07, -0.10, 0.42, -0.30, 0.24, 1.05, -0.49, 0.89, 1.76, -0.05, 0.34, 0.48, 0.25, -0.15, -0.45, -0.47, 0.78, 1.19, 0.32, -0.01, 0.17, -0.78, 0.30, 0.82, -0.57, 1.08, -0.72, -0.38, 0.79, 0.56, -1.87, -0.63, 1.30, 0.26, 0.85, -0.42, 0.35, -1.04, 1.53, -0.98, 1.74, -0.87, -1.62, -0.38, 0.71, 0.88, 0.38, 0.84, -1.35, -0.08, 0.33, 1.31, -1.56]

Saved network params: [0.04, -0.43, -0.45, -0.86, -1.07, -1.29, 0.53, 0.74, -0.47, -0.53, 1.35, 0.37, -0.60, -0.02, 1.72, -0.16, 0.05, 0.03, 0.24, -0.60, -0.46, 1.10, -1.11, -0.09, -0.26, -1.01, -0.52, -0.46, 0.44, -0.20, 0.16, -0.44, 0.46, 0.56, 0.06, -0.11, 0.01, 0.07, 0.06, 0.62, 0.24, 0.72, -0.12, -0.27, -0.39, 0.08, 0.40, -0.07, 0.26, -0.30, 0.49, 1.34, 0.34, -0.67, -0.58, -0.09, 0.65, 1.34, 1.03, 0.06, 0.29, 0.42, 0.73, 0.30, 0.05, -0.07, 0.07, -0.10, 0.42, -0.30, 0.24, 1.05, -0.49, 0.89, 1.76, -0.05, 0.34, 0.48, 0.25, -0.15, -0.45, -0.47, 0.78, 1.19, 0.32, -0.01, 0.17, -0.78, 0.30, 0.82, -0.57, 1.08, -0.72, -0.38, 0.79, 0.56, -1.87, -0.63, 1.30, 0.26, 0.85, -0.42, 0.35, -1.04, 1.53, -0.98, 1.74, -0.87, -1.62, -0.38, 0.71, 0.88, 0.38, 0.84, -1.35, -0.08, 0.33, 1.31, -1.56]

Process finished with exit code 0

# MLP\_org3 Iter 9500

Evaluate model....

Examples labeled as 0 classified by model as 0: 8 times

Examples labeled as 1 classified by model as 1: 17 times

Examples labeled as 2 classified by model as 1: 1 times

Examples labeled as 2 classified by model as 2: 15 times

Examples labeled as 2 classified by model as 3: 2 times

Examples labeled as 3 classified by model as 2: 1 times

Examples labeled as 3 classified by model as 3: 14 times

==========================Scores========================================

Accuracy: 0.931

Precision: 0.9392

Recall: 0.9417

F1 Score: 0.9404

========================================================================

Original network params: [0.09, -0.27, -0.77, -0.92, -1.21, -1.23, 0.32, 0.85, -0.60, -0.83, 1.41, 0.19, -0.75, 0.35, 1.66, -0.15, 0.05, 0.03, 0.28, -0.61, -0.64, 1.05, -1.16, 0.06, 0.03, -1.06, -0.44, -0.28, 0.47, -0.46, -0.08, -0.42, 0.49, 0.44, 0.15, -0.13, -0.11, 0.04, 0.45, 0.62, 0.28, 0.65, -0.04, -0.20, -0.40, 0.08, 0.43, -0.00, 0.25, -0.30, 0.50, 1.40, 0.29, -0.65, -0.64, -0.09, 0.75, 1.36, 1.08, -0.01, 0.37, 0.36, 0.68, 0.59, -0.01, -0.07, 0.18, -0.36, 0.43, -0.35, 0.39, 0.96, -0.44, 0.92, 1.77, -0.06, 0.40, 0.58, 0.00, -0.14, -0.54, -0.80, 0.97, 1.25, 0.39, -0.00, 0.14, -0.58, 0.43, 0.84, -0.54, 1.04, -0.83, -0.36, 0.76, 0.57, -1.85, -0.81, 1.28, 0.25, 0.86, -0.58, 0.56, -0.89, 1.68, -0.94, 1.75, -0.93, -1.73, -0.39, 0.66, 1.01, 0.40, 0.83, -1.48, -0.03, 0.23, 1.30, -1.50]

Saved network params: [0.09, -0.27, -0.77, -0.92, -1.21, -1.23, 0.32, 0.85, -0.60, -0.83, 1.41, 0.19, -0.75, 0.35, 1.66, -0.15, 0.05, 0.03, 0.28, -0.61, -0.64, 1.05, -1.16, 0.06, 0.03, -1.06, -0.44, -0.28, 0.47, -0.46, -0.08, -0.42, 0.49, 0.44, 0.15, -0.13, -0.11, 0.04, 0.45, 0.62, 0.28, 0.65, -0.04, -0.20, -0.40, 0.08, 0.43, -0.00, 0.25, -0.30, 0.50, 1.40, 0.29, -0.65, -0.64, -0.09, 0.75, 1.36, 1.08, -0.01, 0.37, 0.36, 0.68, 0.59, -0.01, -0.07, 0.18, -0.36, 0.43, -0.35, 0.39, 0.96, -0.44, 0.92, 1.77, -0.06, 0.40, 0.58, 0.00, -0.14, -0.54, -0.80, 0.97, 1.25, 0.39, -0.00, 0.14, -0.58, 0.43, 0.84, -0.54, 1.04, -0.83, -0.36, 0.76, 0.57, -1.85, -0.81, 1.28, 0.25, 0.86, -0.58, 0.56, -0.89, 1.68, -0.94, 1.75, -0.93, -1.73, -0.39, 0.66, 1.01, 0.40, 0.83, -1.48, -0.03, 0.23, 1.30, -1.50]