

Architecture: ['Conv', 'ReLU', 'Pool', 'Conv', 'ReLU', 'Pool', 'Conv', 'ReLU', 'FC', 'Softmax']

MNIST Dataset:

Epochs 5, Learning Rate = 0.01

epoch 1

validation loss: 0.21057896817050778

Accuracy: 0.9316

Macro-f1-score: 0.9297294192880472

epoch 2

validation loss: 0.12739120918167146

Accuracy: 0.9564

Macro-f1-score: 0.9557037163979707

epoch 3

validation loss: 0.1109232695117026

Accuracy: 0.9658

Macro-f1-score: 0.9649900137659218

epoch 4

validation loss: 0.09209209846246898

Accuracy: 0.971

Macro-f1-score: 0.9703066187044638

epoch 5

validation loss: 0.08472053560291652

Accuracy: 0.973

Macro-f1-score: 0.9722578018997311

Test:

loss: 0.019679036227891147

Accuracy: 0.9932

Macro-f1-score: 0.993069682365662

Epochs 7, Learning Rate = 0.005

epoch 1

validation loss: 0.27790873687753037

Accuracy: 0.9074

Macro-f1-score: 0.9059470348453462

epoch 2

validation loss: 0.13597323097332584

Accuracy: 0.9548

Macro-f1-score: 0.9541334716084376

epoch 3

validation loss: 0.11499082677615381

Accuracy: 0.9614

Macro-f1-score: 0.9605499663490258

epoch 4

validation loss: 0.10047462544339826

Accuracy: 0.9668

Macro-f1-score: 0.9660289253279564

epoch 5

validation loss: 0.08944928992147538

Accuracy: 0.9704

Macro-f1-score: 0.9697182864787462

epoch 6

validation loss: 0.0811455408766112

Accuracy: 0.9738

Macro-f1-score: 0.973201341665977

epoch 7

validation loss: 0.07216552302227813

Accuracy: 0.9764

Macro-f1-score: 0.9757897513182288

Test:

loss: 0.02270234370444049

Accuracy: 0.9924

Macro-f1-score: 0.9923477183750862

Epochs 8, Learning Rate = 0.001

epoch 1

validation loss: 2.2301570860255895

Accuracy: 0.3452

Macro-f1-score: 0.25998172115948753

epoch 2

validation loss: 0.4745644455192614

Accuracy: 0.8554

Macro-f1-score: 0.8543853242323708

epoch 3

validation loss: 0.3358872616681175

Accuracy: 0.8962

Macro-f1-score: 0.8951979785774451

epoch 4

validation loss: 0.2651123371974455

Accuracy: 0.915

Macro-f1-score: 0.9142156723036902

epoch 5

validation loss: 0.20945160781808905

Accuracy: 0.9324

Macro-f1-score: 0.9317194685845849

epoch 6

validation loss: 0.17250829945110094

Accuracy: 0.9436

Macro-f1-score: 0.9429968407570556

epoch 7

validation loss: 0.15324219809649672

Accuracy: 0.9524

Macro-f1-score: 0.951857231059076

epoch 8

validation loss: 0.1421845062472273

Accuracy: 0.956

Macro-f1-score: 0.9554796118530099

Test:

loss: 0.060563608493677076

Accuracy: 0.9804

Macro-f1-score: 0.9799882405865915

CIFAR_10 Dataset:

Epochs 5, Learning Rate = 0.01

epoch 1

validation loss: 11512.92546497081

Accuracy: 0.0976

Macro-f1-score: 0.017784256559766766

epoch 2

validation loss: 11512.92546497081

Accuracy: 0.0976

Macro-f1-score: 0.017784256559766766

epoch 3

validation loss: 11512.92546497081

Accuracy: 0.0976

Macro-f1-score: 0.017784256559766766

epoch 4

validation loss: 11512.925464970791

Accuracy: 0.099

Macro-f1-score: 0.018016378525932665

epoch 5

validation loss: 11512.925464970236

Accuracy: 0.099

Macro-f1-score: 0.018016378525932665

Test:

loss: 11512.925464970249

Accuracy: 0.101

Macro-f1-score: 0.01834695731153497