ML_Report_3

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1 Performance Reports

1.1 Model1

Description: Dense(28*28, 50) ReLU() Dense(50, 27) Softmax()
batch_size = 128
epochs = 500
learning_rate = 0.001
limit = 128 * 760

1.2 Model2

Description: Dense(28*28, 50) Dropout(.01) ReLU() Dense(50, 27) Softmax()
batch_size = 128
epochs = 100
learning_rate = 0.002
limit = 128 * 760

Model	train_accuracy	train_f1_macro	val_accuracy	val_f1_macro
model1	41.45	33.76	41.1	33.51

Figure 1: model1 train validation performance

Model	test_accuracy	test_f1_macro
model1	41.6	33.78

Figure 2: model1 test performance

1.3 Model3

Description: Dense(28*28, 1000) ReLU() Dense(1000, 27) Softmax()
batch_size = 128
epochs = 30
learning_rate = 0.005
limit = 128 * 1400

Model	train_accuracy	train_f1_macro	val_accuracy	val_f1_macro
model2	3.88	0.98	3.92	0.95

Figure 3: model2 train validation performance

Model	test_accuracy	test_f1_macro
model2	3.94	1.13

Figure 4: model2 test performance

Model	train_accuracy	train_f1_macro	val_accuracy	val_f1_macro
model3	47.51	43.78	47.66	43.81

Figure 5: model3 train validation performance

Model	test_accuracy	test_f1_macro
model3	47.42	43.62

Figure 6: model3 test performance