Size of Dataset = 3600

Train/Test split = 85:15

Loss function = Categorical Cross Entropy

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| **Exp. No.** | **Parameters Chosen** | **Results** |
| 1 | FC Layer Neurons: 50  Learning Rate: 0.00025  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 71.63%  Train Loss: 0.225 Test Accuracy: 66.5%  Test Loss: 0.269 |
| 2 | FC Layer Neurons: 50  Learning Rate: 0.00025  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 69.67%  Train Loss: 0.228  Test Accuracy: 66%  Test Loss: 0.267 |
| 3 | FC Layer Neurons: 50 Learning Rate: 0.00025 Epochs: 300 Batch Size: 300 Filter Size: (3 x 6 x 6) | Train Accuracy: 70.4%  Train Loss: 0.224  Test Accuracy: 69.33%  Test Loss: 0.236 |
| 4 | FC Layer Neurons: 50 Learning Rate: 0.00025 Epochs: 300 Batch Size: 750 Filter Size: (3 x 6 x 6) | Train Accuracy: 71.2%  Train Loss: 0.219  Test Accuracy: 69.67%  Test Loss: 0.242 |
| 5 | FC Layer Neurons: 50  Learning Rate: 0.0001  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 43.23% Train Loss: 0.455  Test Accuracy: 44%  Test Loss: 0.453 |
| 6 | FC Layer Neurons: 50  Learning Rate: 0.0001  Epochs: 300  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 63.1%  Train Loss: 0.297  Test Accuracy: 60.17%  Test Loss: 0.315 |
| 7 | FC Layer Neurons: 100  Learning Rate: 0.00025  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 62.43%  Train Loss: 0.334  Test Accuracy: 58.67%  Test Loss: 0.416 |
| 8 | FC Layer Neurons: 100  Learning Rate: 0.00025  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 74.93%  Train Loss: 0.204  Test Accuracy: 67.17%  Test Loss: 0.286 |
| 9 | FC Layer Neurons: 100  Learning Rate: 0.00025  Epochs: 300  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 69.23%  Train Loss: 0.253  Test Accuracy: 63%  Test Loss: 0.317 |
| 10 | FC Layer Neurons: 100  Learning Rate: 0.00025  Epochs: 300  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 69.03%  Train Loss: 0.24  Test Accuracy: 65.5%  Test Loss: 0.273 |
| 11 | FC Layer Neurons: 100  Learning Rate: 0.0001  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 59.83%  Train Loss: 0.5  Test Accuracy: 56.83%  Test Loss: 0.579 |
| 12 | FC Layer Neurons: 100  Learning Rate: 0.0001  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 70.1%  Train Loss: 0.277  Test Accuracy: 66.5%  Test Loss: 0.394 |
| 13 | FC Layer Neurons: 100  Learning Rate: 0.0001  Epochs: 300  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 51.3%  Train Loss: 0.397  Test Accuracy: 51.17%  Test Loss: 0.413 |
| 14 | FC Layer Neurons: 95  Learning Rate: 0.00025  Epochs: 250  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 75.6%  Train Loss: 0.195  Test Accuracy: 68.83%  Test Loss: 0.287 |
| 15 | FC Layer Neurons: 95  Learning Rate: 0.0003  Epochs: 250  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 75.2%  Train Loss: 0.193  Test Accuracy: 70.5%  Test Loss: 0.260 |
| 16 | FC Layer Neurons: 95  Learning Rate: 0.0002  Epochs: 250  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 74.03%  Train Loss: 0.208  Test Accuracy: 68.5%  Test Loss: 0.262 |
| 17 | FC Layer Neurons: 95  Learning Rate: 0.0003  Epochs: 225  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 61.1%  Train Loss: 0.331  Test Accuracy: 60.5%  Test Loss: 0.377 |
| 18 | FC Layer Neurons: 95  Learning Rate: 0.0003  Epochs: 225  Batch Size: 800  Filter Size: (3 x 6 x 6) | Train Accuracy: 74.4%  Train Loss: 0.205  Test Accuracy: 69.5%  Test Loss: 0.263 |
| 19 | FC Layer Neurons: 95  Learning Rate: 0.00025  Epochs: 225  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 77.7%  Train Loss: 0.182  Test Accuracy: 72.67%  Test Loss: 0.261 |
| 20 | FC Layer Neurons: 95  Learning Rate: 0.00025  Epochs: 225  Batch Size: 800  Filter Size: (3 x 6 x 6) | Train Accuracy: 71.1%  Train Loss: 0.229 Test Accuracy: 69%  Test Loss: 0.244 |
| 21 | FC Layer Neurons: 95 Learning Rate: 0.00025 Epochs: 200 Batch Size: 750 Filter Size: (3 x 6 x 6) | Train Accuracy: 79.83%  Train Loss: 0.171  Test Accuracy: 75.33%  Test Loss: 0.236 |
| 22 | FC Layer Neurons: 90  Learning Rate: 0.0002  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 63.5%  Train Loss: 0.281  Test Accuracy: 59.5%  Test Loss: 0.330 |
| 23 | FC Layer Neurons: 90  Learning Rate: 0.0003  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 59.77%  Train Loss: 0.412  Test Accuracy: 57.67%  Test Loss: 0.485 |
| 24 | FC Layer Neurons: 90  Learning Rate: 0.0002  Epochs: 225  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 56.57%  Train Loss: 0.344  Test Accuracy: 51%  Test Loss: 0.414 |
| 25 | FC Layer Neurons: 90 Learning Rate: 0.0003 Epochs: 225 Batch Size: 750 Filter Size: (3 x 6 x 6) | Train Accuracy: 70.7%  Train Loss: 0.227  Test Accuracy: 63.17%  Test Loss: 0.265 |
| 26 | FC Layer Neurons: 150  Learning Rate: 0.00025  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 53.93%  Train Loss: 0.603  Test Accuracy: 50.83%  Test Loss: 0.686 |
| 27 | FC Layer Neurons: 150  Learning Rate: 0.00025  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 77.73% Train Loss: 0.186  Test Accuracy: 69.5%  Test Loss: 0.307 |
| 28 | FC Layer Neurons: 150  Learning Rate: 0.00025  Epochs: 300  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 67.6%  Train Loss: 0.322  Test Accuracy: 63.5%  Test Loss: 0.434 |
| 29 | FC Layer Neurons: 150  Learning Rate: 0.00025  Epochs: 300  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 63.87%  Train Loss: 0.275  Test Accuracy: 60.83%  Test Loss: 0.288 |
| 30 | FC Layer Neurons: 150  Learning Rate: 0.0001  Epochs: 200  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 65.7%  Train Loss: 0.672  Test Accuracy: 61.83%  Test Loss: 0.832 |
| 31 | FC Layer Neurons: 150  Learning Rate: 0.0001  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 72.6%  Train Loss: 0.358  Test Accuracy: 68.3%  Test Loss: 0.478 |
| 32 | FC Layer Neurons: 150  Learning Rate: 0.0001  Epochs: 300  Batch Size: 300  Filter Size: (3 x 6 x 6) | Train Accuracy: 58.77%  Train Loss: 0.453  Test Accuracy: 55.17%  Test Loss: 0.570 |
| 33 | FC Layer Neurons: 120  Learning Rate: 0.0002  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 74.96%  Train Loss: 0.198  Test Accuracy: 66%  Test Loss: 0.274 |
| 34 | FC Layer Neurons: 120  Learning Rate: 0.0003  Epochs: 200  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 76.83% Train Loss: 0.201  Test Accuracy: 71.5%  Test Loss: 0.275 |
| 35 | FC Layer Neurons: 120  Learning Rate: 0.0002  Epochs: 225  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 69.93%  Train Loss: 0.244  Test Accuracy: 67%  Test Loss: 0.272 |
| 36 | FC Layer Neurons: 120  Learning Rate: 0.0003  Epochs: 225  Batch Size: 750  Filter Size: (3 x 6 x 6) | Train Accuracy: 81.23%  Train Loss: 0.153  Test Accuracy: 75%  Test Loss: 0.245 |