$ python3 tensorflow\_Assignment\_1.py

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Iterations | Batch size | Training Batch size | Training accuracy | Testing accuracy | Pooling | Activation function | FC | CON Net |
| 5000 | 256 | 64 | 62 | 59 | 2,2 | relu | 256,128 | 5,64; 5,64 |
| 7000 | 256 | 128 | 69 | 63.4 | 2,2 | relu | 256,128 | 5,64; 5,64 |
| 1000 | 256 | 128 | 48 | 43 | 2,2 | relu | 256,128 | 5,32; 5,64 |
| 1000 | 256 | 128 | 56 | 50.4 | 3,2 | relu | 256,128 | 5; 96,96,192,192 |
| 32000 | 256 | 128 | 95 | 83 | 3,2 | relu | 256,128 | 5; 96,96,192,192 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

* By increasing depth of network so as the number of neurons, we get better accuracy.
* Best result: With network configuration of conv layers (96, 96, 192, 192) with kernel of (5,5) and two fully connected layer (256, 128). After 32,000 iteration result; training: 95% testing: 80%.

The highlighted model is found better. The summary of 32000 iterations is given below:



After 10,000 iteration processing was stopped to evaluate result of test dataset. The model shown increasing accuracy, therefore continued and finally training accuracy has crossed 85% for 10 validations each validation after 100 training iterations. The training accuracy of last 31000-32000 iterations was: 91.40, 94.50, 89.80, 87.50, 90.60, 92.20, 92.20, 89.80, 89.10 and 90.60.

