**1st data set**

We have six different data sets and 10 users. When I get the 1st data set I meagre the 10 users and get that data in one file.

Summarize the result in that 1st data set.

**2nd step Training data set**

|  |  |
| --- | --- |
| Hidden layers | 20,10 |
| Validation | 70%, 15%, 15% |
| Parameters | 1000, 1e-6, 1e-7 |
| Training Accuracy | 81.35% |
| Test Accuracy | 75.93% |

**3rd step Optimization data sets**

|  |  |
| --- | --- |
| Hidden layers | 20,10 |
| Validation | 70%, 15%, 15% |
| Parameters | 1000, 1e-6, 1e-7 |
| Validation Accuracy PCA | 61.11% |
| Test Accuracy PCA | 61.11% |

**4th step**

Best Training and Testing Values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1st time | 2nd time | 3rd time | 4th time | 5th time |
| HiddenLayers,  Validation,  Parameters | 20,10  70%, 15%, 15%  1000, 1e-6, 1e-7 | 30,15  70%, 15%, 15%  1000, 1e-6, 1e-7 | 20,10  70%, 15%, 15%  500, 1e-7, 1e-8 | 20,10  60%, 20%, 20%  500, 1e-7, 1e-8 | 30,15  50%, 10%, 10%  500, 1e-6, 1e-7 |
| Training Accuracy | 67.07% | 64.90% | 80.91% | 71.60% | 72.64% |
| Testing Accuracy | 64.25% | 57.91% | 69.26% | 48.91% | 50.03% |

**5th step**

Optimization Validation and Test Accuracy

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1st time | 2nd time | 3rd time | 4th time | 5th time |
| HiddenLayers,  Validation,  Parameters | 20,10  70%, 15%, 15%  1000, 1e-6, 1e-7 | 30,15  70%, 15%, 15%  1000, 1e-6, 1e-7 | 30,15  70%, 15%, 15%  700, 1e-7, 1e-8 | 30,15  80%, 10%, 10%  700, 1e-7, 1e-8 | 40,20  60%, 20%, 20%  800, 1e-5, 1e-6 |
| Validation Accuracy | 62.41% | 57.41% | 62.96% | 68.89% | 60.56% |
| Testing Accuracy | 59.81% | 61.30% | 66.30% | 67.22% | 65.00% |