On training SAG-pool with usual benchmarks such as MUTAG, NCI1, and, PROTEIN we achieve Table2 results on each dataset. Also, we Determine the effect of centrality features which had been added to graphs, pooling ratio, and, drop ratio that were added recently to the graph. As we can see in Table 3 the most effective feature is closeness and the worst added feature is eigenvector. Furthermore, The best results were achieved on the pooling ratio and drop ratio of 0.5.

|  |  |
| --- | --- |
| Dataset | Test Accuracy % |
| MUTAG | 97.3 |
| NCI1 | 80.63 |
| PROTEIN\_full | 69.22 |

|  |  |
| --- | --- |
| Removed feature | Test accuracy |
| All features | 78.38 |
| Betweenness | 89.19 |
| Closeness | 83.78 |
| Eigenvector | 94.59 |
| Harmonic | 89.19 |
| Katz | 86.49 |
| Load centrality | 89.19 |
| Page rank | 86.49 |

|  |  |
| --- | --- |
| Dataset | Test Accuracy % |
| ModelNet10 | 97.44 |
| ModelNet 40 | 79.59 |

ModelNet10

|  |  |
| --- | --- |
| Removed feature | Test accuracy |
| All features | 97.44 |
| Adamw | 94.87 |
| Betweenness | 85.17 |
| Closeness | 100 |
| Eigenvector | 94.87 |
| Harmonic | 92.31 |
| Katz | 92.31 |
| Load centrality | 100 |
| Page rank | 86.49 |

ModelNet40

|  |  |
| --- | --- |
| Removed feature | Test accuracy |
| All features | 79.59 |
| Adamw | 87.71 |
| Betweenness | 77.51 |
| Closeness | 80.61 |
| Eigenvector | 77.55 |
| Harmonic | 78.51 |
| Katz | 72.23 |
| Load centrality | 80.24 |
| Page rank | 71.54 |