**COMPUTATIONAL TIMES FOR EXPERIMENTS**

**PCA (Principal Component Analysis)**

**TRAINING TIME COMPARISION: LDA (Linear Discriminant Analysis) vs Random Forest Classifier**

|  |  |  |
| --- | --- | --- |
| **Number of Dimensions Reduced** | **Training Times** | |
| **LDA** | **Random Forest** |
| 0 | 0.035169 | 0.415452 |
| 1 | 0.008568 | 0.437529 |
| 2 | 0.007921 | 0.433968 |
| 3 | 0.016678 | 0.448230 |
| 4 | 0.008636 | 0.374023 |
| 5 | 0.004816 | 0.365726 |
| 6 | 0.004876 | 0.386853 |
| 7 | 0.006706 | 0.365256 |
| 8 | 0.007424 | 0.360682 |
| 9 | 0.003989 | 0.302937 |
| 10 | 0.003930 | 0.315659 |
| 11 | 0.004024 | 0.264598 |
| 12 | 0.003496 | 0.263644 |
| 13 | 0.003301 | 0.259512 |
| 14 | 0.004490 | 0.280720 |
| 15 | 0.003266 | 0.263473 |
| 16 | 0.003088 | 0.218795 |
| 17 | 0.002853 | 0.219492 |
| 18 | 0.003840 | 0.273342 |

**\*Recorded Time is In Seconds**

**TESTING TIME COMPARISION: LDA (Linear Discriminant Analysis) vs Random Forest Classifier**

|  |  |  |
| --- | --- | --- |
| **Number of Dimensions Reduced** | **Testing Times** | |
| **LDA** | **Random Forest** |
| 0 | 0.002320 | 0.018215 |
| 1 | 0.002480 | 0.017870 |
| 2 | 0.002416 | 0.018300 |
| 3 | 0.002559 | 0.018131 |
| 4 | 0.002247 | 0.018645 |
| 5 | 0.002279 | 0.018585 |
| 6 | 0.002199 | 0.017312 |
| 7 | 0.002447 | 0.018664 |
| 8 | 0.002170 | 0.023859 |
| 9 | 0.002111 | 0.017936 |
| 10 | 0.002295 | 0.017359 |
| 11 | 0.002108 | 0.017332 |
| 12 | 0.002080 | 0.017575 |
| 13 | 0.002135 | 0.018687 |
| 14 | 0.002195 | 0.017509 |
| 15 | 0.002158 | 0.017364 |
| 16 | 0.002080 | 0.018272 |
| 17 | 0.002103 | 0.020804 |
| 18 | 0.001990 | 0.018883 |

**\*Recorded Time is In Seconds**

**BACKWARD SEARCH (FEATURE SELECTION)**

**TRAINING TIME COMPARISION: LDA (Linear Discriminant Analysis) vs Random Forest Classifier**

|  |  |  |
| --- | --- | --- |
| **Number of Dimensions Reduced** | **Training Times** | |
| **LDA** | **Random Forest** |
| 0 | 0.040048 | 0.325857 |
| 1 | 0.102032 | 5.560053 |
| 2 | 0.095791 | 5.316993 |
| 3 | 0.084278 | 4.949726 |
| 4 | 0.076142 | 4.217873 |
| 5 | 0.090968 | 3.973634 |
| 6 | 0.059555 | 3.668303 |
| 7 | 0.052509 | 3.461805 |
| 8 | 0.046966 | 3.272382 |
| 9 | 0.033834 | 2.944242 |
| 10 | 0.020399 | 2.680272 |
| 11 | 0.018661 | 2.143183 |
| 12 | 0.014146 | 1.962884 |
| 13 | 0.011716 | 1.629832 |
| 14 | 0.009834 | 1.418688 |
| 15 | 0.010349 | 1.210888 |
| 16 | 0.005873 | 0.790206 |
| 17 | 0.003930 | 0.543244 |
| 18 | 0.003215 | 0.327978 |

**\*Recorded Time is In Seconds**

**TESTING TIME COMPARISION: LDA (Linear Discriminant Analysis) vs Random Forest Classifier**

|  |  |  |
| --- | --- | --- |
| **Number of Dimensions Reduced** | **Testing Times** | |
| **LDA** | **Random Forest** |
| 0 | 0.000313 | 0.017297 |
| 1 | 0.005233 | 0.300261 |
| 2 | 0.005411 | 0.299740 |
| 3 | 0.004858 | 0.270427 |
| 4 | 0.004409 | 0.259295 |
| 5 | 0.004507 | 0.247476 |
| 6 | 0.003637 | 0.220630 |
| 7 | 0.003406 | 0.210858 |
| 8 | 0.003291 | 0.190281 |
| 9 | 0.002441 | 0.180952 |
| 10 | 0.001694 | 0.157956 |
| 11 | 0.001939 | 0.150240 |
| 12 | 0.001189 | 0.135091 |
| 13 | 0.001132 | 0.113033 |
| 14 | 0.000907 | 0.103812 |
| 15 | 0.000933 | 0.087198 |
| 16 | 0.000589 | 0.067875 |
| 17 | 0.000413 | 0.051314 |
| 18 | 0.000318 | 0.030184 |

**\*Recorded Time is In Seconds**

**Project Members**

|  |  |  |
| --- | --- | --- |
| Akashdeep Singh | singa190@mcmaster.ca | 400353314 |
| Ankur Bassi | bassia8@mcmaster.ca | 400347849 |
| Sulaiman Ghouse Mohiuddin | mohius3@mcmaster.ca | 400418055 |
| Vikram Chawla | chawlv3@mcmaster.ca | 400354764 |