**PERFORMANCE ANALYSIS REPORT**

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| **DATASET**  **1** |  | **Accuracy** | | | | | | | | | | |
| **Method** | **Best Parameters** | **Sam ple1** | **Sam ple2** | **Sam ple3** | **Sam ple4** | **Sam ple5** | **Sam ple6** | **Sam ple7** | **Sam ple8** | **Sam ple9** | **Sam**  **ple1**  **0** | **Aver**  **Sam** |
| **Decision**  **Tree** | minsplit = 2, minbucket = 1, min(cp) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99.5 | 99.95 |
| **SVM** | kernel="radial" | 98 | 98 | 99.5 | 96 | 97 | 98 | 98.5 | 99 | 97 | 96 | 97.7 |
| **NaiveBay es** | type="class" | 97 | 96.5 | 98 | 96 | 97 | 98 | 97 | 96.5 | 95.5 | 93 | 96.45 |
| **kNN** | k=9 | 85.5 | 87.5 | 84 | 87.5 | 83 | 87 | 87 | 84.5 | 87 | 82.5 | 85.55 |
| **Logistic**  **Regressio**  **n** | threshold=.65 | 95 | 95 | 97.5 | 94.5 | 93 | 97 | 95.5 | 93 | 94 | 91.5 | 94.6 |
| **Bagging** | mfinal=40,  mzxdepth=5 | 100 | 100 | 100 | 98.5 | 100 | 100 | 100 | 100 | 100 | 99.5 | 99.8 |
| **Random**  **Forest** | ntree=200 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 98.5 | 99.75 |
| **Boosting** | mfinal=5,  maxdepth=3 | 100 | 100 | 100 | 98.5 | 100 | 100 | 100 | 100 | 100 | 100 | 99.85 |
| **NeuralNet**  **work** | size=4, maxit=200 | 89 | 86.5 | 84 | 87.5 | 87.5 | 90 | 86.5 | 86.5 | 88 | 84 | 86.95 |

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| **DATASET 2** | **Accuracy** | | | | | | | | | | |
| **Best Parameters** | **Sam**  **ple1** | **Sam**  **ple2** | **Sam**  **ple3** | **Sam**  **ple4** | **Sam**  **ple5** | **Sam**  **ple6** | **Sam**  **ple7** | **Sam**  **ple8** | **Sam**  **ple9** | **Samp**  **le10** | **Average of**  **10 Samples** |
| minsplit = 2,  minbucket = 1, min(cp) | 62.5 | 55 | 57.5 | 55 | 67.5 | 55 | 70 | 72.5 | 57.5 | 72.5 | 62.5 |
| kernel="radial" | 62.5 | 57.5 | 75 | 80 | 80 | 62.5 | 77.5 | 65 | 67.5 | 75 | 70.25 |
| type="class" | 57.5 | 57.5 | 72.5 | 70 | 82.5 | 65 | 80 | 72.5 | 67.5 | 77.5 | 70.25 |
| k=11 | 65 | 60 | 67.5 | 75 | 65 | 60 | 77.5 | 77.5 | 72.5 | 72.5 | 69.25 |
| threshold=.65 | 60 | 52.5 | 72.5 | 77.5 | 75 | 50 | 77.5 | 62.5 | 67.5 | 82.5 | 67.75 |
| mfinal=40,  mzxdepth=5 | 65 | 57.5 | 80 | 80 | 77.5 | 65 | 85 | 70 | 67.5 | 82.5 | 73 |
| ntree=200 | 65 | 60 | 80 | 82.5 | 75 | 67.5 | 85 | 67.5 | 65 | 80 | 72.75 |
| mfinal=5,  maxdepth=3 | 62.5 | 55 | 72.5 | 80 | 77.5 | 77.5 | 80 | 70 | 65 | 85 | 72.5 |
| size=4, maxit=200 | 60 | 50 | 75 | 77.5 | 80 | 52.5 | 72.5 | 60 | 67.5 | 72.5 | 66.75 |

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| **DATASET 3** | **Accuracy** | | | | | | | | | | |
| **Best Parameters** | **Sam ple1** | **Sam ple2** | **Sam ple3** | **Sam ple4** | **Sam ple5** | **Sam ple6** | **Sam ple7** | **Sam ple8** | **Sam ple9** | **Samp le10** | **Average of**  **10 Samples** |
| minsplit = 2,  minbucket = 1, min(cp) | 85 | 65 | 80 | 65 | 75 | 85 | 75 | 50 | 70 | 70 | 72 |
| kernel="radial" | 80 70 75 80 65 80 90 65 95 80 | | | | | | | | | | 78 |
| type="class" | 55 | 60 | 65 | 65 | 65 | 75 | 75 | 60 | 60 | 40 | 62 |
| k=11 | 80 | 65 | 75 | 80 | 65 | 75 | 90 | 65 | 95 | 75 | 76.5 |
| threshold=.65 | 75 | 80 | 85 | 90 | 65 | 85 | 80 | 80 | 95 | 70 | 80.5 |
| mfinal=40,  mzxdepth=5 | 65 | 65 | 75 | 85 | 60 | 80 | 80 | 55 | 95 | 70 | 73 |
| ntree=200 | 85 | 75 | 75 | 85 | 65 | 90 | 80 | 60 | 80 | 75 | 77 |
| mfinal=5,  maxdepth=3 | 65 | 65 | 80 | 75 | 50 | 80 | 80 | 55 | 85 | 65 | 70 |
| size=4, maxit=200 | 80 | 70 | 75 | 80 | 65 | 80 | 95 | 65 | 90 | 80 | 78 |

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| **DATASET 4** | **Accuracy** | | | | | | | | | | |
| **Best Parameters** | **Sam ple1** | **Sam ple2** | **Sam ple3** | **Sam ple4** | **Sam ple5** | **Sam ple6** | **Sam ple7** | **Sam ple8** | **Sam ple9** | **Sam**  **ple1**  **0** | **Average of**  **10 Samples** |
| minsplit = 2,  minbucket = 1, min(cp) | 92.9  8246 | 96.4  9123 | 92.9  8246 | 94.7  3684 | 91.2  2807 | 96.4  9123 | 92.9  8246 | 94.7  3684 | 94.7  3684 | 94.73  684 | 94.210527 |
| kernel="radial" | 80 | 94.7  3684 | 96.4  9123 | 96.4  9123 | 94.7  3684 | 100 | 98.2  4561 | 96.4  9123 | 94.7  3684 | 96.49  123 | 94.842105 |
| type="class" | 96.4  9123 | 91.2  2807 | 96.4  9123 | 89.4  7368 | 87.7  193 | 94.7  3684 | 94.7  3684 | 92.9  8246 | 92.9  8246 | 94.73  684 | 93.157895 |
| k=5 | 80.7  0175 | 75.4  386 | 78.9  4737 | 84.2  1053 | 71.9  298 | 77.1  93 | 77.1  93 | 82.4  569 | 73.6  842 | 82.45  61 | 78.421125 |
| threshold=.65 | 98.2  4561 | 91.2  2807 | 85.9  6491 | 96.4  9123 | 92.9  8246 | 98.2  4561 | 96.4  9123 | 92.9  8246 | 98.2  4561 | 94.73  684 | 94.561403 |
| mfinal=40, mzxdepth=5 | 92.9  8246 | 89.4  7368 | 92.9  8246 | 89.4  7368 | 92.9  8246 | 98.2  4561 | 96.4  9123 | 100 | 96.4  9123 | 94.73  684 | 94.385965 |
| ntree=200 | 98.2  4561 | 92.9  8246 | 98.2  4561 | 94.7  3684 | 92.9  8246 | 98.2  4561 | 98.2  4561 | 100 | 100 | 98.24  561 | 97.192981 |
| mfinal=5,  maxdepth=3 | 92.9  8246 | 96.4  9123 | 98.2  4561 | 98.2  4561 | 96.4  9123 | 98.2  4561 | 96.4  9123 | 94.7  3684 | 98.2  4561 | 96.49  123 | 96.666666 |
| size=4, maxit=200 | 64.9  1228 | 71.9  2982 | 61.4  0351 | 61.4  0351 | 71.9  2982 | 64.9  1228 | 56.1  4035 | 61.4  0351 | 56.1  4035 | 63.15  789 | 63.333332 |

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| **DATASET 5** | **Accuracy** | | | | | | | | | | |
| **Best Parameters** | **Sam ple1** | **Sam ple2** | **Sam ple3** | **Sam ple4** | **Sam ple5** | **Sam ple6** | **Sam ple7** | **Sam ple8** | **Sam ple9** | **Sam**  **ple1**  **0** | **Average of**  **10 Samples** |
| minsplit = 2,  minbucket = 1, min(cp) | 94.4  4444 | 91.6  6667 | 91.6  6667 | 97.2  2222 | 91.6  6667 | 91.6  6667 | 97.2  2222 | 91.6  6667 | 83.3  3333 | 88.88  889 | 91.944445 |
| kernel="radial" | 91.6  6666 | 100 | 86.1  1111 | 88.8  8889 | 88.8  8889 | 88.8  8889 | 97.2  2222 | 86.1  1111 | 97.2  2222 | 88.88  889 | 91.388888 |
| type="class" | 86.1  1111 | 94.4  4444 | 83.3  3333 | 94.4  4444 | 88.8  8889 | 88.8  8889 | 94.4  4444 | 83.3  3333 | 91.6  6667 | 88.88  889 | 89.444443 |
| k=3 | 86.1  1111 | 91.6  6667 | 80.5  5556 | 83.3  3333 | 80.5  5556 | 83.3  3333 | 91.6  6667 | 75 | 91.6  6667 | 83.33  333 | 84.722223 |
| threshold=.65 | 88.8  8889 | 91.6  6667 | 86.1  1111 | 88.8  8889 | 86.1  1111 | 83.3  3333 | 91.6  6667 | 77.7  7778 | 86.1  1111 | 88.88  889 | 86.944445 |
| mfinal=40,  mzxdepth=5 | 88.8  8889 | 97.2  2222 | 88.8  8889 | 97.2  2222 | 91.6  6667 | 91.6  6667 | 97.2  2222 | 88.8  8889 | 86.1  1111 | 86.11  111 | 91.388889 |
| ntree=200 | 91.6  6667 | 97.2  2222 | 91.6  6667 | 94.4  4444 | 88.8  8889 | 91.6  6667 | 88.8  8889 | 77.7  7778 | 88.8  8889 | 91.66  667 | 90.277779 |
| mfinal=5,  maxdepth=3 | 97.2  2222 | 86.1  1111 | 94.4  4444 | 94.4  4444 | 94.4  4444 | 97.2  2222 | 88.8  8889 | 91.6  6667 | 88.8  8889 | 91.66  667 | 92.499999 |
| size=4, maxit=200 | 94.4  4444 | 97.2  2222 | 77.7  7778 | 94.4  4444 | 86.1  1111 | 91.6  6667 | 97.2  2222 | 83.3  3333 | 91.6  6667 | 86.11  111 | 89.999999 |