|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | M=1 | | | M=2 | | | M=5 | | | M=10 | | |
|  | CR | TS | NL | CR | TS | NL | CR | TS | NL | CR | TS | NL |
| C=0.40 | 54.6333 | 45 | 29 | 54.6667 | 43 | 28 | 54.5333 | 39 | 26 | 54.9333 | 35 | 24 |
| C=0.25 | 54.6 | 45 | 29 | 54.7333 | 43 | 28 | 54.7333 | 39 | 26 | 54.9333 | 35 | 24 |
| C=0.05 | 55.4333 | 3 | 2 | 54.4333 | 3 | 2 | 54.4333 | 3 | 2 | 54.4333 | 3 | 2 |

Exercise 1 Decision Trees Review

Exercise 2 IBk

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | KNN=1 | KNN=2 | KNN=3 | KNN=4 | KNN=5 | KNN=6 | KNN=7 |
| Training Set | 88.7667 | 76.2667 | 73.3333 | 70.3333 | 70.0667 | 67.9667 | 67.7 |
| 10-Fold | 57.5667 | 55.4333 | 56.3 | 55.4 | 55.5333 | 54.3 | 56.1667 |

Exercise 3 Comparing DT and KNN with Glass Dataset

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| J48 | M=1 | | | M=2 | | | M=5 | | | M=10 | | |
|  | CR | TS | NL | CR | TS | NL | CR | TS | NL | CR | TS | NL |
| C=0.40 | 69.6262 | 61 | 31 | 67.2897 | 59 | 30 | 64.486 | 33 | 17 | 64.486 | 19 | 10 |
| C=0.25 | 69.6262 | 53 | 27 | 66.8224 | 59 | 30 | 64.0187 | 31 | 16 | 64.486 | 17 | 9 |
| C=0.05 | 67.2897 | 45 | 23 | 65.4206 | 37 | 19 | 64.486 | 21 | 11 | 64.486 | 17 | 9 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| IBk | | | | | | | |
| KNN | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| CR | 70.5607 | 67.757 | 71.9626 | 68.6916 | 67.757 | 66.8224 | 64.0187 |

Based on the graph to the left we can see IBk algorithm (for KNN = {1,2,3,4}) experiences better results. So the IBk algorithm is better for the glass dataset.