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graph_analysis.txt

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1 Comparing the graphs for both the small and medium
2 data sets, we see that an increase from a branching
3 factor of 5 to 10 significantly increases
4 the cost of a brute-force search.
5
6 We also note that because for both data sets,
7 the optimal solution lies within a relatively
8 low number of features selected. In this case
9 the optimal solution uses only 2 features. Because
10 of this, Backwards Elimination pays an increasingly
11 large cost from having eliminate features starting
12 from using ALL of them.
13
14 I have omitted the graph for large data sets,
15 since the time to complete for all three search algorithms takes
16 an arbitrarily large amount of time.
17
18 Here is the runtime for the first two algorithms.
19
20 =====BEGIN LARGE TEST=====
21
22 Forward Selection
23
24 real    50m43.533s
25 user    50m31.085s
26 sys     0m4.100s
27
28 Backwards Elimination
29
30 real    120m23.604s
31 user    120m1.202s
32 sys     0m8.521s
33
34 =====END LARGE TEST=====
35
```