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CS170 Project2 Part2

Short data set trace:

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PS C:\Users\joshr\Desktop\CS170\CS170_Project2>  c:; cd 'c:\Users\joshr\Desktop\
021.5.842923320\pythonFiles\lib\python\debugpy\launcher' '60316' '--' 'main.py'
Welcome to Edwin Leon and Josh McIntyre's Feature Selection Algorithm
Please enter the total number of features
10
Type the number of the algorithm you want to run
1. Forward Selection
2. Backward Elimination
1
Using no features and "random" evaluation, we get an accuracy of 0.0%
Beginning search.
Using feature(s) {1} accuracy is 56.99999999999999%
Using feature(s) {2} accuracy is 54.0%
Using feature(s) {3} accuracy is 68.0%
Using feature(s) {4} accuracy is 65.0%
Using feature(s) {5} accuracy is 75.0%
Using feature(s) {6} accuracy is 61.0%
Using feature(s) {7} accuracy is 62.0%
Using feature(s) {8} accuracy is 60.0%
Using feature(s) {9} accuracy is 66.0%
Using feature(s) {10} accuracy is 64.0%

Feature set {5} was best, accuracy is 75.0%

Using feature(s) {1, 5} accuracy is 76.0%
Using feature(s) {2, 5} accuracy is 80.0%
Using feature(s) {3, 5} accuracy is 92.0%
Using feature(s) {4, 5} accuracy is 75.0%
Using feature(s) {5, 6} accuracy is 79.0%
Using feature(s) {5, 7} accuracy is 80.0%
Using feature(s) {8, 5} accuracy is 77.0%
Using feature(s) {9, 5} accuracy is 73.0%
Using feature(s) {10, 5} accuracy is 82.0%

Feature set {3, 5} was best, accuracy is 92.0%

Using feature(s) {1, 3, 5} accuracy is 83.0%
Using feature(s) {2, 3, 5} accuracy is 79.0%
Using feature(s) {3, 4, 5} accuracy is 84.0%
Using feature(s) {3, 5, 6} accuracy is 82.0%
Using feature(s) {3, 5, 7} accuracy is 89.0%
Using feature(s) {8, 3, 5} accuracy is 79.0%
Using feature(s) {9, 3, 5} accuracy is 82.0%
Using feature(s) {10, 3, 5} accuracy is 85.0%

Feature set {3, 5, 7} was best, accuracy is 89.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 3, 5, 7} accuracy is 88.0%
Using feature(s) {2, 3, 5, 7} accuracy is 81.0%
Using feature(s) {3, 4, 5, 7} accuracy is 78.0%
Using feature(s) {3, 5, 6, 7} accuracy is 88.0%
Using feature(s) {8, 3, 5, 7} accuracy is 80.0%
Using feature(s) {9, 3, 5, 7} accuracy is 82.0%
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Using feature(s) {10, 3, 5, 7} accuracy is 84.0%

Feature set {3, 5, 6, 7} was best, accuracy is 88.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 3, 5, 6, 7} accuracy is 86.0%
Using feature(s) {2, 3, 5, 6, 7} accuracy is 83.0%
Using feature(s) {3, 4, 5, 6, 7} accuracy is 79.0%
Using feature(s) {3, 5, 6, 7, 8} accuracy is 76.0%
Using feature(s) {3, 5, 6, 7, 9} accuracy is 76.0%
Using feature(s) {3, 5, 6, 7, 10} accuracy is 76.0%

Feature set {1, 3, 5, 6, 7} was best, accuracy is 86.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 2, 3, 5, 6, 7} accuracy is 76.0%
Using feature(s) {1, 3, 4, 5, 6, 7} accuracy is 73.0%
Using feature(s) {1, 3, 5, 6, 7, 8} accuracy is 78.0%
Using feature(s) {1, 3, 5, 6, 7, 9} accuracy is 71.0%
Using feature(s) {1, 3, 5, 6, 7, 10} accuracy is 71.0%

Feature set {1, 3, 5, 6, 7, 8} was best, accuracy is 78.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 2, 3, 5, 6, 7, 8} accuracy is 68.0%
Using feature(s) {1, 3, 4, 5, 6, 7, 8} accuracy is 68.0%
Using feature(s) {1, 3, 5, 6, 7, 8, 9} accuracy is 72.0%
Using feature(s) {1, 3, 5, 6, 7, 8, 10} accuracy is 67.0%

Feature set {1, 3, 5, 6, 7, 8, 9} was best, accuracy is 72.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 2, 3, 5, 6, 7, 8, 9} accuracy is 70.0%
Using feature(s) {1, 3, 4, 5, 6, 7, 8, 9} accuracy is 64.0%
Using feature(s) {1, 3, 5, 6, 7, 8, 9, 10} accuracy is 67.0%

Feature set {1, 2, 3, 5, 6, 7, 8, 9} was best, accuracy is 70.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Using feature(s) {1, 2, 3, 4, 5, 6, 7, 8, 9} accuracy is 70.0%
Using feature(s) {1, 2, 3, 5, 6, 7, 8, 9, 10} accuracy is 68.0%

Feature set {1, 2, 3, 4, 5, 6, 7, 8, 9} was best, accuracy is 70.0%

Using feature(s) {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} accuracy is 65.0%
(Warning, Accuracy has decreased! Continuing search in case of local maxima)

Finished search!! The best feature subset is {3, 5}, which has an accuracy of 92.0%
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Long data set trace:

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Welcome to Edwin Leon and Josh McIntyre's Feature Selection Algorithm
Please enter the total number of features
40
Type the number of the algorithm you want to run
1. Forward Selection
2. Backward Elimination
1
Using no features and "random" evaluation, we get an accuracy of 0.0%
Beginning search.
Using feature(s) {1} accuracy is 73.8%
Using feature(s) {2} accuracy is 71.0%
Using feature(s) {3} accuracy is 67.30000000000001%
Using feature(s) {4} accuracy is 67.80000000000001%
Using feature(s) {5} accuracy is 69.19999999999999%
Using feature(s) {6} accuracy is 69.5%
Using feature(s) {7} accuracy is 70.6%
Using feature(s) {8} accuracy is 71.2%
Using feature(s) {9} accuracy is 68.0%
Using feature(s) {10} accuracy is 69.1%
Using feature(s) {11} accuracy is 70.5%
Using feature(s) {12} accuracy is 68.0%
Using feature(s) {13} accuracy is 65.8%
Using feature(s) {14} accuracy is 70.89999999999999%
Using feature(s) {15} accuracy is 69.5%
Using feature(s) {16} accuracy is 67.5%
Using feature(s) {17} accuracy is 67.30000000000001%
Using feature(s) {18} accuracy is 70.39999999999999%
Using feature(s) {19} accuracy is 69.6%
Using feature(s) {20} accuracy is 67.7%
Using feature(s) {21} accuracy is 68.30000000000001%
Using feature(s) {22} accuracy is 68.5%
Using feature(s) {23} accuracy is 70.19999999999999%
Using feature(s) {24} accuracy is 67.2%
Using feature(s) {25} accuracy is 69.3%
Using feature(s) {26} accuracy is 67.7%
Using feature(s) {27} accuracy is 84.7%
Using feature(s) {28} accuracy is 66.4%
Using feature(s) {29} accuracy is 69.89999999999999%
Using feature(s) {30} accuracy is 70.89999999999999%
Using feature(s) {31} accuracy is 69.89999999999999%
Using feature(s) {32} accuracy is 69.5%
Using feature(s) {33} accuracy is 70.1%
Using feature(s) {34} accuracy is 68.2%
Using feature(s) {35} accuracy is 69.89999999999999%
Using feature(s) {36} accuracy is 69.8%
Using feature(s) {37} accuracy is 70.5%
Using feature(s) {38} accuracy is 70.39999999999999%
Using feature(s) {39} accuracy is 71.0%
Using feature(s) {40} accuracy is 70.3%

Feature set {27} was best, accuracy is 84.7%

Using feature(s) {1, 27} accuracy is 95.5%
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Using feature(s) {2, 27} accuracy is 84.2%
Using feature(s) {3, 27} accuracy is 82.5%
Using feature(s) {27, 4} accuracy is 82.6%
Using feature(s) {27, 5} accuracy is 82.0%
Using feature(s) {27, 6} accuracy is 84.2%
Using feature(s) {27, 7} accuracy is 82.3%
Using feature(s) {8, 27} accuracy is 84.8%
Using feature(s) {9, 27} accuracy is 84.1%
Using feature(s) {10, 27} accuracy is 82.39999999999999%
Using feature(s) {11, 27} accuracy is 81.69999999999999%
Using feature(s) {27, 12} accuracy is 82.89999999999999%
Using feature(s) {27, 13} accuracy is 82.19999999999999%
Using feature(s) {27, 14} accuracy is 83.2%
Using feature(s) {27, 15} accuracy is 84.6%
Using feature(s) {16, 27} accuracy is 82.89999999999999%
Using feature(s) {17, 27} accuracy is 83.7%
Using feature(s) {18, 27} accuracy is 83.3%
Using feature(s) {19, 27} accuracy is 83.1%
Using feature(s) {27, 20} accuracy is 81.89999999999999%
Using feature(s) {27, 21} accuracy is 83.0%
Using feature(s) {27, 22} accuracy is 84.1%
Using feature(s) {27, 23} accuracy is 83.8%
Using feature(s) {24, 27} accuracy is 81.3%
Using feature(s) {25, 27} accuracy is 81.39999999999999%
Using feature(s) {26, 27} accuracy is 83.1%
Using feature(s) {27, 28} accuracy is 81.8%
Using feature(s) {27, 29} accuracy is 83.3%
Using feature(s) {27, 30} accuracy is 82.1%
Using feature(s) {27, 31} accuracy is 82.6%
Using feature(s) {32, 27} accuracy is 82.8%
Using feature(s) {33, 27} accuracy is 82.19999999999999%
Using feature(s) {34, 27} accuracy is 82.1%
Using feature(s) {35, 27} accuracy is 81.6%
Using feature(s) {27, 36} accuracy is 82.5%
Using feature(s) {27, 37} accuracy is 85.0%
Using feature(s) {27, 38} accuracy is 81.89999999999999%
Using feature(s) {27, 39} accuracy is 84.89999999999999%
Using feature(s) {40, 27} accuracy is 82.6%

Feature set {1, 27} was best, accuracy is 95.5%

Using feature(s) {1, 2, 27} accuracy is 94.0%
Using feature(s) {3, 1, 27} accuracy is 92.80000000000001%
Using feature(s) {1, 27, 4} accuracy is 93.30000000000001%
Using feature(s) {1, 27, 5} accuracy is 92.10000000000001%
Using feature(s) {1, 27, 6} accuracy is 91.9%
Using feature(s) {1, 27, 7} accuracy is 92.80000000000001%
Using feature(s) {8, 1, 27} accuracy is 94.0%
Using feature(s) {9, 27, 1} accuracy is 93.60000000000001%
Using feature(s) {1, 10, 27} accuracy is 92.10000000000001%
Using feature(s) {11, 1, 27} accuracy is 92.0%
Using feature(s) {1, 27, 12} accuracy is 92.5%
Using feature(s) {1, 27, 13} accuracy is 93.0%
Using feature(s) {1, 27, 14} accuracy is 93.89999999999999%
Using feature(s) {1, 27, 15} accuracy is 95.0%
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Using feature(s) {16, 1, 27} accuracy is 93.5%
Using feature(s) {17, 27, 1} accuracy is 92.0%
Using feature(s) {1, 18, 27} accuracy is 93.10000000000001%
Using feature(s) {19, 1, 27} accuracy is 92.30000000000001%
Using feature(s) {1, 27, 20} accuracy is 93.8%
Using feature(s) {1, 27, 21} accuracy is 92.9%
Using feature(s) {1, 27, 22} accuracy is 93.4%
Using feature(s) {1, 27, 23} accuracy is 93.2%
Using feature(s) {24, 1, 27} accuracy is 92.60000000000001%
Using feature(s) {25, 27, 1} accuracy is 92.7%
Using feature(s) {1, 26, 27} accuracy is 93.0%
Using feature(s) {1, 27, 28} accuracy is 92.80000000000001%
Using feature(s) {1, 27, 29} accuracy is 92.10000000000001%
Using feature(s) {1, 27, 30} accuracy is 93.2%
Using feature(s) {1, 27, 31} accuracy is 93.30000000000001%
Using feature(s) {32, 1, 27} accuracy is 92.60000000000001%
Using feature(s) {33, 27, 1} accuracy is 92.10000000000001%
Using feature(s) {1, 34, 27} accuracy is 91.7%
Using feature(s) {1, 27, 35} accuracy is 92.10000000000001%
Using feature(s) {1, 27, 36} accuracy is 93.4%
Using feature(s) {1, 27, 37} accuracy is 94.8%
Using feature(s) {1, 27, 38} accuracy is 93.60000000000001%
Using feature(s) {1, 27, 39} accuracy is 93.8%
Using feature(s) {40, 1, 27} accuracy is 93.0%

Feature set {1, 27, 15} was best, accuracy is 95.0%

(Warning, Accuracy has decreased! Continuing search in case of local maxima)
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