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question @52

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Problem 8d

For problem 8d, when I use the `tune()` function, R is giving me different error values (and thus different optimal `costs`) each time I run it. I already invoked `set.seed()` earlier so I don't understand why I am getting different values every time.

8. This problem involves the `OJ` data set which is part of the `ISLR` package.

372 9. Support Vector Machines

(a) Create a training set containing a random sample of 800 observations, and a test set containing the remaining observations.

(b) Fit a support vector classifier to the training data using `cost=0.01`, with `Purchase` as the response and the other variables as predictors. Use the `summary()` function to produce summary statistics, and describe the results obtained.

(c) What are the training and test error rates?

(d) Use the `tune()` function to select an optimal `cost`. Consider values in the range 0.01 to 10.

(e) Compute the training and test error rates using this new value for `cost`.

(f) Repeat parts (b) through (e) using a support vector machine with a radial kernel. Use the default value for `gamma`.

(g) Repeat parts (b) through (e) using a support vector machine with a polynomial kernel. Set `degree=2`.

(h) Overall, which approach seems to give the best results on this data?

hw7

Edit good question | 0

Updated 4 years ago by Charles Hwang

Blog:
StatsInTheWild.com

Art:
StatsInTheWild.com/art

Twitter:
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good comment | 0

Charles Hwang 4 years ago

Actions

This answer says the `e1071` package uses C++ code but also mentions floating point issues, whereas my `cost` values have been quite far apart.

I also found two other people who appear to have similar problems, one possibly answered wrong (maybe?) and the other unanswered.

helpful! | 0

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