ECO 395 Project: Taylor Neal

1) Abstract

The goal of this analysis is to determine what regular season NBA team statistics are most useful in determining which teams win in playoff match-ups. With these NBA team statistics identified, we seek to build a probabilistic model utilizing our machine learning toolbox. Leveraging a probabilistic model for playoff game outcomes will allow us to simulate a large number of potential brackets and estimate percentage chances for each NBA franchise winning the championship in a given year.

2) Introduction

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3) Methods

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4) Results

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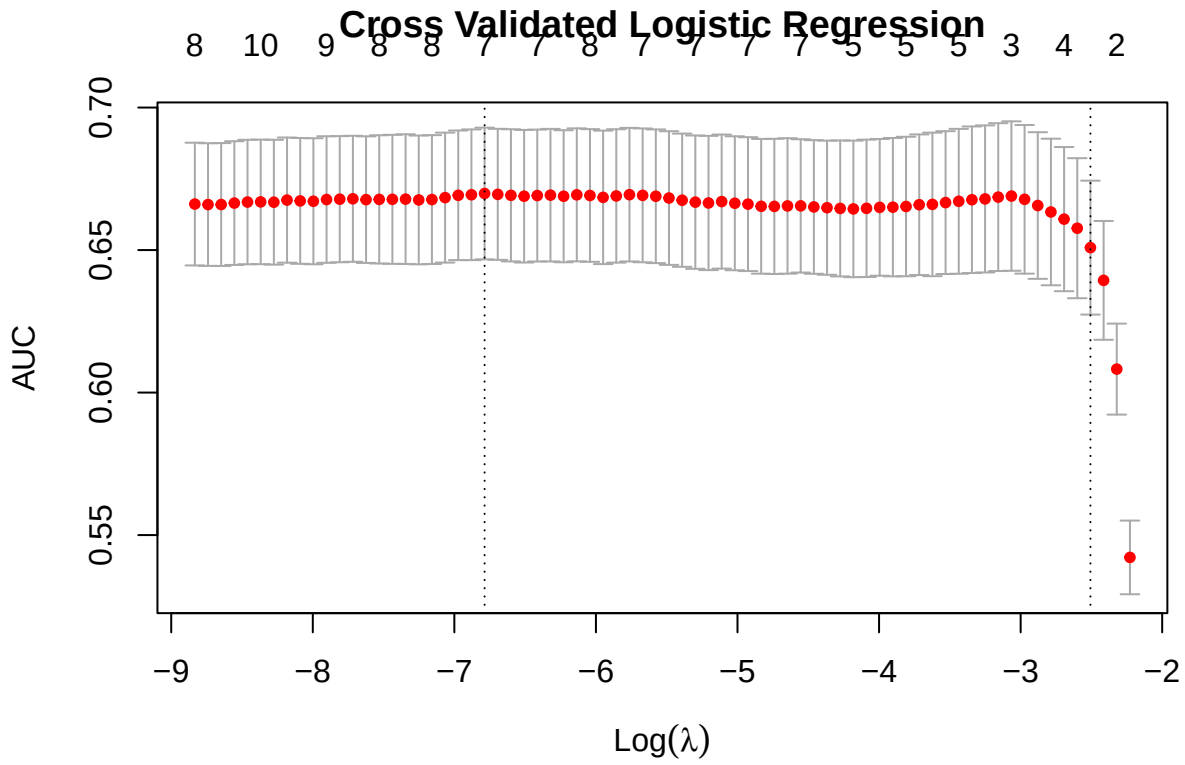

Figure 1: Cross validated logistic regression - optimizing for area under the curve.

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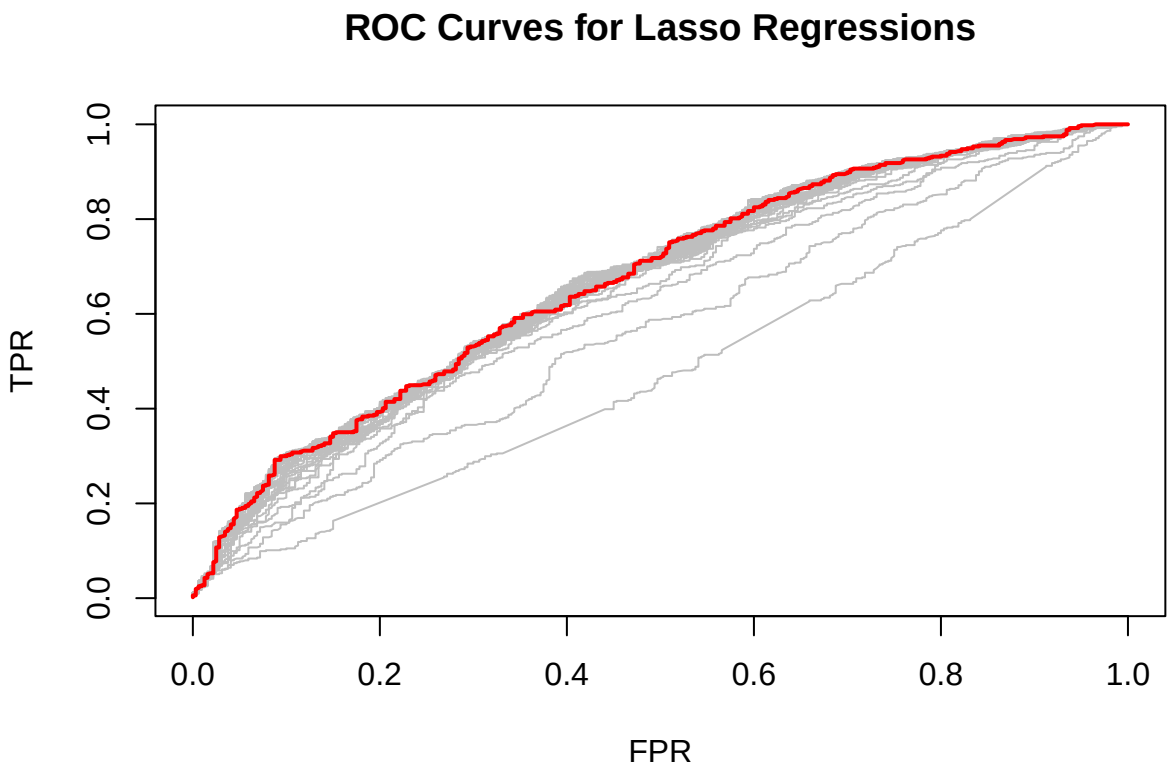

Figure 2: ROC curve for our optimized solution is highlighted in red.

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Table 1: Coefficients for our Lasso regression where it maximizes area under the ROC curve and the most penalized regression within one standard error of the optimum solution.

	Max AUC	1se
(Intercept)	0.532	0.476
SRS.x	0.378	0.000
ORtg.x	-0.247	0.000
DRtg.x	0.000	0.000
TS..x	0.370	0.000
MOV.x	0.000	0.091
SRS.y	0.000	0.000
ORtg.y	-0.022	0.000
DRtg.y	0.000	0.000
TS..y	-0.291	-0.020
MOV.y	-0.275	-0.089
age_diff	0.072	0.000

5) Conclusion

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