Regularization and Variable Selection for Parametric Models (2)

February 1, 2012

```
> source("glmOSCAR_101028.r")
> library(catdata)

> data(heart)
> X<-heart[,-1]
> y<-heart[,1]
> X.std<-scale(X)
> p<-ncol(X)
> n<-length(y)
> family <- binomial()
> n.fold<-10
> ylab.text<-""
> xlab.text<-""
> Width = 6
> Height = 6
> oma.vec<-c(1,1,1,3)
> size.axis=1.4
> size.lab=1.4
> size.main=1.4
> size.right=1.2
> size.width=2.0
> colour=1
```

OSCAR

```
> ######### c fixed
> c.seq<-0.2
> t.seq<-seq(0.01,0.99,length=99)
> oscarR<-glm.oscar(y,X,family,t.seq=t.seq,c=c.seq,epsilon=1e-8)

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> Path<-oscarR$Beta.std[,-1]

> par(oma=oma.vec,cex.axis=size.axis,cex.lab=size.axis,cex.main=size.main)
> matplot(rowSums(abs(Path))/max(rowSums(abs(Path))),Path*sqrt(n),type="l",
+ ylab=ylab.text,xlab=xlab.text,main="oscarR (c=0.2)",lwd=size.width, col=colour)
> axis(4, at = Path[99, ]*sqrt(n), labels = colnames(X), adj = 0, las = 1,
+ cex.axis=size.right)
```

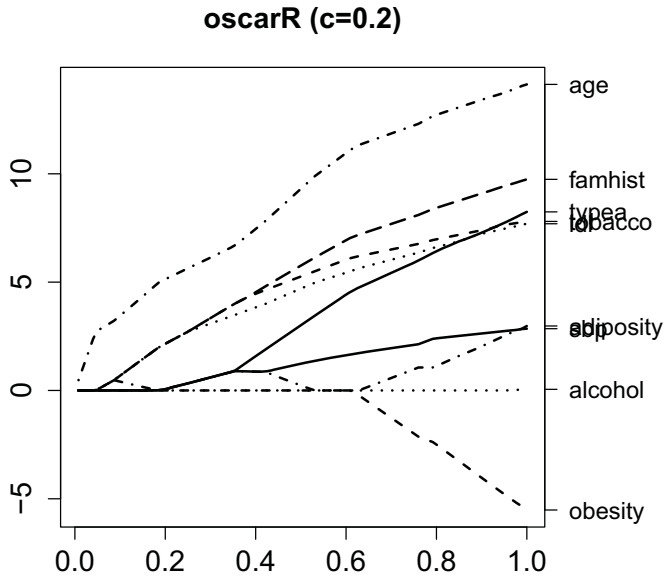


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> c.seq<-0.5
> t.seq<-seq(0.01,0.99,length=99)
> oscarR<-glm.oscar(y,X,family,t.seq=t.seq,c=c.seq,epsilon=1e-8)

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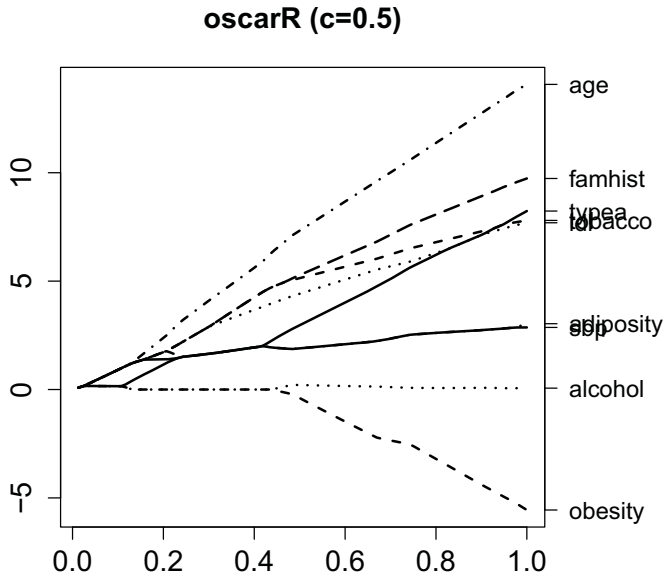
```
> Path<-oscarR$Beta.std[,-1]

> par(oma=oma.vec,cex.axis=size.axis,cex.lab=size.axis,cex.main=size.main)
> matplot(rowSums(abs(Path))/max(rowSums(abs(Path))),Path*sqrt(n),type="l",
+ ylab=ylab.text,xlab=xlab.text,main="oscarR (c=0.5)",lwd=size.width, col=colour)
> axis(4, at = Path[99, ]*sqrt(n), labels = colnames(X), adj = 0, las = 1,
+ cex.axis=size.right)
```


oscarR (c=0.5)
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adiposity
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obesity
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0.2
0.4
0.6
0.8
1.0