Reg\_analysis\_R\_Laptop

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#device <- list('Laptop', 'Smart\_Phone', 'Desktop\_Computer','Tablet','Smart\_Speaker','Smart\_Watch')  
cur\_file = 'encoded\_Affordance\_November19\_alldata\_'  
file\_name <- paste('C:/Users/sree2/Dropbox/SYR\_GAship/afforadance\_Study/Datasets/Encoded\_files/',cur\_file,'Laptop','\_data.csv',sep="")  
#file\_name  
library(readr)  
cur\_dev\_data <- read\_csv(file\_name)

## Warning: Missing column names filled in: 'X1' [1]

## Parsed with column specification:  
## cols(  
## .default = col\_integer(),  
## ResponseId = col\_character(),  
## device\_use = col\_number(),  
## Q20 = col\_number(),  
## scenario = col\_character(),  
## raw\_scenario = col\_character(),  
## org\_scenaio = col\_character()  
## )

## See spec(...) for full column specifications.

#head(cur\_dev\_data)

library(stringr)  
#Relationship\_3  
#location\_3  
#Q4\_feat3  
headers <- colnames(cur\_dev\_data)  
form\_fin <- ""  
for(var in 1:length(headers))  
{  
 #headers[1]  
 if(str\_detect(headers[var],'\_')) {  
 if(str\_detect(headers[var],'sce') == FALSE) {  
 if(str\_detect(headers[var],'device') == FALSE) {  
 if(str\_detect(headers[var],'actual') == FALSE){  
 if(str\_detect(headers[var],'Q4\_feat3') == FALSE) {  
 if(str\_detect(headers[var],'location\_3') == FALSE) {  
 if(str\_detect(headers[var],'Relationship\_3') == FALSE) {  
 form\_fin <- paste(form\_fin,headers[var],sep="+")  
 }  
 }  
 }  
 }  
 }  
 }  
 }  
}  
   
  
form\_fin <- substring(form\_fin,2)  
form\_fin <- paste("actual\_use",form\_fin,sep="~")  
#form\_fin

glmout <- glm(form\_fin, data=cur\_dev\_data)  
feats <- summary(glmout)#$coefficients[,4]  
feats

##   
## Call:  
## glm(formula = form\_fin, data = cur\_dev\_data)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -0.44224 -0.09854 -0.03769 0.01685 1.00017   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 0.1766457 0.0587344 3.008 0.00270 \*\*   
## Q1\_feat1 -0.0163400 0.0203223 -0.804 0.42157   
## Q1\_feat2 0.0003175 0.0272180 0.012 0.99070   
## Q1\_feat3 -0.0207987 0.0240566 -0.865 0.38749   
## Q1\_feat4 0.1327338 0.0231922 5.723 1.4e-08 \*\*\*  
## Q1\_feat5 -0.0093530 0.0183965 -0.508 0.61128   
## Q1\_feat7 0.0133309 0.0429328 0.311 0.75624   
## Q2\_feat1 -0.1099856 0.0429910 -2.558 0.01067 \*   
## Q2\_feat2 -0.0120786 0.0303795 -0.398 0.69102   
## Q2\_feat3 -0.1225948 0.0423454 -2.895 0.00388 \*\*   
## Q2\_feat5 -0.1471725 0.0454554 -3.238 0.00125 \*\*   
## Q3\_feat1 0.0071632 0.0190212 0.377 0.70656   
## Q3\_feat2 -0.0114908 0.0176729 -0.650 0.51573   
## Q3\_feat3 0.0292950 0.0184938 1.584 0.11351   
## Q3\_feat4 0.0415943 0.0284447 1.462 0.14399   
## Q3\_feat6 0.0570210 0.0417806 1.365 0.17265   
## Q4\_feat1 -0.0226444 0.0175844 -1.288 0.19814   
## Q5\_feat1 0.0220506 0.0354835 0.621 0.53446   
## Q5\_feat2 -0.0069847 0.0365118 -0.191 0.84833   
## Q5\_feat3 0.0101301 0.0331185 0.306 0.75977   
## Q5\_feat4 0.0302818 0.0430349 0.704 0.48182   
## Q5\_feat6 -0.0210043 0.0613855 -0.342 0.73230   
## Q6\_feat1 0.0219845 0.0286088 0.768 0.44241   
## Q6\_feat2 0.0418704 0.0227016 1.844 0.06544 .   
## Q6\_feat3 0.0701100 0.0279494 2.508 0.01229 \*   
## Q6\_feat4 0.0549441 0.0388962 1.413 0.15810   
## Q7\_feat1 0.0131644 0.0216090 0.609 0.54253   
## Q7\_feat2 0.0140713 0.0210781 0.668 0.50456   
## Q7\_feat3 -0.0383295 0.0210444 -1.821 0.06886 .   
## Q7\_feat5 -0.0100677 0.0285696 -0.352 0.72462   
## Q8\_feat1 0.0514519 0.0258348 1.992 0.04670 \*   
## Q8\_feat2 0.0198427 0.0271080 0.732 0.46436   
## Q8\_feat3 -0.0204363 0.0211408 -0.967 0.33395   
## Q8\_feat5 0.0092213 0.0331508 0.278 0.78095   
## Q9\_feat1 0.0208191 0.0188942 1.102 0.27079   
## Q9\_feat2 -0.0242330 0.0191295 -1.267 0.20554   
## Q9\_feat3 0.0207091 0.0228700 0.906 0.36542   
## Q9\_feat4 -0.0314372 0.0301033 -1.044 0.29661   
## Q9\_feat6 0.0196314 0.0339364 0.578 0.56308   
## Q10\_feat1 -0.0080782 0.0204912 -0.394 0.69350   
## Q10\_feat2 0.0024251 0.0191430 0.127 0.89922   
## Q10\_feat3 -0.0193824 0.0232289 -0.834 0.40426   
## Q10\_feat4 0.0188460 0.0234882 0.802 0.42255   
## Q10\_feat6 0.0704936 0.0293392 2.403 0.01646 \*   
## Q10\_feat7 0.0041813 0.0417342 0.100 0.92021   
## Q11\_feat1 -0.0078332 0.0188552 -0.415 0.67791   
## Q11\_feat2 0.0238958 0.0356785 0.670 0.50318   
## Q11\_feat3 -0.0040537 0.0292667 -0.139 0.88987   
## Q11\_feat5 -0.0034972 0.0514755 -0.068 0.94585   
## Q12\_feat1 -0.0187966 0.0268484 -0.700 0.48403   
## Q12\_feat2 0.0110124 0.0217430 0.506 0.61264   
## Q12\_feat3 -0.0211325 0.0218392 -0.968 0.33347   
## Q12\_feat5 -0.0293640 0.0309623 -0.948 0.34317   
## Q13\_feat1 -0.0425083 0.0245687 -1.730 0.08392 .   
## Q13\_feat2 -0.0823260 0.0282109 -2.918 0.00360 \*\*   
## Q13\_feat4 -0.0866605 0.0366575 -2.364 0.01828 \*   
## Laptop\_Q1\_feat1 0.0093921 0.0700444 0.134 0.89336   
## Laptop\_Q1\_feat2 -0.0233774 0.0398130 -0.587 0.55722   
## Laptop\_Q1\_feat3 -0.0055784 0.0589011 -0.095 0.92457   
## Laptop\_Q1\_feat4 -0.0254921 0.0485099 -0.526 0.59936   
## Laptop\_Q1\_feat5 0.0093346 0.0582457 0.160 0.87271   
## Laptop\_Q1\_feat7 -0.0580552 0.0997656 -0.582 0.56076   
## Laptop\_Q2\_feat1 0.0963994 0.0837982 1.150 0.25028   
## Laptop\_Q2\_feat2 -0.0724660 0.0953010 -0.760 0.44721   
## Laptop\_Q2\_feat3 0.1120187 0.0858254 1.305 0.19214   
## Laptop\_Q2\_feat5 0.1187362 0.0905932 1.311 0.19029   
## Laptop\_Q3\_feat1 -0.0228828 0.0426089 -0.537 0.59136   
## Laptop\_Q3\_feat2 -0.0591439 0.0384595 -1.538 0.12442   
## Laptop\_Q3\_feat3 -0.0336198 0.0480351 -0.700 0.48416   
## Laptop\_Q3\_feat4 0.0066606 0.0925563 0.072 0.94265   
## Laptop\_Q3\_feat6 -0.0727525 0.1072808 -0.678 0.49784   
## Laptop\_Q4\_feat1 0.0534425 0.0367554 1.454 0.14627   
## Laptop\_Q5\_feat1 0.2982476 0.1211551 2.462 0.01400 \*   
## Laptop\_Q5\_feat2 0.2430974 0.1173785 2.071 0.03862 \*   
## Laptop\_Q5\_feat3 -0.0474925 0.1196434 -0.397 0.69149   
## Laptop\_Q5\_feat4 -0.0285024 0.1229651 -0.232 0.81675   
## Laptop\_Q5\_feat6 0.3760682 0.1582359 2.377 0.01767 \*   
## Laptop\_Q6\_feat1 0.0018704 0.0726463 0.026 0.97946   
## Laptop\_Q6\_feat2 0.0223547 0.0543704 0.411 0.68105   
## Laptop\_Q6\_feat3 -0.0673668 0.0701235 -0.961 0.33695   
## Laptop\_Q6\_feat4 0.0032127 0.0835334 0.038 0.96933   
## Laptop\_Q7\_feat1 -0.0092092 0.0551149 -0.167 0.86733   
## Laptop\_Q7\_feat2 -0.0107208 0.0522086 -0.205 0.83735   
## Laptop\_Q7\_feat3 0.0756570 0.0533247 1.419 0.15628   
## Laptop\_Q7\_feat5 0.0193588 0.0655581 0.295 0.76784   
## Laptop\_Q8\_feat1 0.1015044 0.1128260 0.900 0.36853   
## Laptop\_Q8\_feat2 0.0663988 0.1055071 0.629 0.52928   
## Laptop\_Q8\_feat3 0.0355698 0.0742264 0.479 0.63190   
## Laptop\_Q8\_feat5 0.0645565 0.1236616 0.522 0.60176   
## Laptop\_Q9\_feat1 0.0294711 0.0385525 0.764 0.44479   
## Laptop\_Q9\_feat2 0.0423551 0.0407174 1.040 0.29850   
## Laptop\_Q9\_feat3 -0.0163247 0.0529869 -0.308 0.75808   
## Laptop\_Q9\_feat4 -0.1002795 0.1045263 -0.959 0.33761   
## Laptop\_Q9\_feat6 0.0211937 0.0909692 0.233 0.81583   
## Laptop\_Q10\_feat1 -0.1245602 0.1006009 -1.238 0.21596   
## Laptop\_Q10\_feat2 0.0120389 0.0416401 0.289 0.77255   
## Laptop\_Q10\_feat3 0.0736887 0.0752720 0.979 0.32784   
## Laptop\_Q10\_feat4 -0.1105030 0.0937899 -1.178 0.23901   
## Laptop\_Q10\_feat6 -0.0029496 0.0992862 -0.030 0.97631   
## Laptop\_Q10\_feat7 0.0101637 0.1159494 0.088 0.93017   
## Laptop\_Q11\_feat1 0.0080300 0.0427389 0.188 0.85101   
## Laptop\_Q11\_feat2 0.1314032 0.0683100 1.924 0.05470 .   
## Laptop\_Q11\_feat3 -0.1738986 0.1080858 -1.609 0.10797   
## Laptop\_Q11\_feat5 0.1569389 0.0962772 1.630 0.10342   
## Laptop\_Q12\_feat1 0.1405254 0.0631018 2.227 0.02618 \*   
## Laptop\_Q12\_feat2 -0.0056922 0.0556492 -0.102 0.91855   
## Laptop\_Q12\_feat3 0.0272864 0.0562566 0.485 0.62776   
## Laptop\_Q12\_feat5 0.1190902 0.0741146 1.607 0.10842   
## Laptop\_Q13\_feat1 0.0675186 0.0717621 0.941 0.34701   
## Laptop\_Q13\_feat2 0.1342941 0.0605311 2.219 0.02675 \*   
## Laptop\_Q13\_feat4 0.1537604 0.0977039 1.574 0.11588   
## location\_1 0.0572741 0.0191959 2.984 0.00292 \*\*   
## location\_2 0.0124209 0.0184058 0.675 0.49994   
## Relationship\_1 -0.0075940 0.0180611 -0.420 0.67424   
## Relationship\_2 -0.0061152 0.0187461 -0.326 0.74433   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for gaussian family taken to be 0.05286926)  
##   
## Null deviance: 225.983 on 1070 degrees of freedom  
## Residual deviance: 50.543 on 956 degrees of freedom  
## AIC: 1.0428  
##   
## Number of Fisher Scoring iterations: 2

#fin\_feats <- feats[feats<=0.05]  
#fin\_feats  
#file\_path = "C:/Users/sree2/Dropbox/SYR\_GAship/afforadance\_Study/ML models/logistic\_Regression\_p\_values/"  
#file\_fin = paste(file\_path,cur\_file,cur\_device,"\_pvalues.csv",sep="")  
#column\_names = c('Features','p\_values')  
#write.csv(fin\_feats,file\_fin,)