Regression\_analysis\_Desktop

Sree

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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,'Desktop\_Computer','\_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   
## -0.27356 -0.07979 -0.02953 0.01812 0.94474   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 1.024e-01 6.301e-02 1.625 0.10467   
## Q1\_feat1 -3.123e-03 2.257e-02 -0.138 0.89000   
## Q1\_feat2 -5.930e-04 2.954e-02 -0.020 0.98399   
## Q1\_feat3 1.349e-03 2.555e-02 0.053 0.95791   
## Q1\_feat4 1.003e-01 2.517e-02 3.985 7.49e-05 \*\*\*  
## Q1\_feat5 4.442e-03 1.956e-02 0.227 0.82041   
## Q1\_feat7 6.378e-03 4.918e-02 0.130 0.89686   
## Q2\_feat1 -5.791e-02 4.599e-02 -1.259 0.20838   
## Q2\_feat2 -5.251e-02 3.254e-02 -1.614 0.10703   
## Q2\_feat3 -5.099e-02 4.527e-02 -1.126 0.26042   
## Q2\_feat5 -9.182e-02 4.824e-02 -1.903 0.05743 .   
## Q3\_feat1 5.035e-03 2.124e-02 0.237 0.81268   
## Q3\_feat2 -1.779e-03 1.943e-02 -0.092 0.92709   
## Q3\_feat3 3.198e-02 2.028e-02 1.577 0.11521   
## Q3\_feat4 5.758e-02 3.107e-02 1.853 0.06428 .   
## Q3\_feat6 3.299e-02 4.484e-02 0.736 0.46215   
## Q4\_feat1 8.749e-03 1.986e-02 0.440 0.65977   
## Q5\_feat1 1.465e-02 3.701e-02 0.396 0.69224   
## Q5\_feat2 -2.554e-03 3.785e-02 -0.067 0.94623   
## Q5\_feat3 1.709e-02 3.395e-02 0.503 0.61493   
## Q5\_feat4 5.010e-03 4.578e-02 0.109 0.91288   
## Q5\_feat6 8.785e-02 6.438e-02 1.365 0.17285   
## Q6\_feat1 -7.317e-03 3.064e-02 -0.239 0.81136   
## Q6\_feat2 -1.176e-03 2.359e-02 -0.050 0.96026   
## Q6\_feat3 9.513e-03 2.988e-02 0.318 0.75029   
## Q6\_feat4 -1.380e-02 4.063e-02 -0.340 0.73423   
## Q7\_feat1 1.922e-03 2.397e-02 0.080 0.93611   
## Q7\_feat2 -2.010e-02 2.293e-02 -0.876 0.38107   
## Q7\_feat3 -2.857e-02 2.314e-02 -1.235 0.21739   
## Q7\_feat5 -2.311e-02 3.089e-02 -0.748 0.45473   
## Q8\_feat1 5.118e-02 2.768e-02 1.849 0.06488 .   
## Q8\_feat2 8.054e-03 2.847e-02 0.283 0.77732   
## Q8\_feat3 1.598e-02 2.344e-02 0.682 0.49556   
## Q8\_feat5 3.335e-02 3.505e-02 0.952 0.34166   
## Q9\_feat1 1.953e-02 2.036e-02 0.959 0.33778   
## Q9\_feat2 -1.912e-02 2.046e-02 -0.935 0.35024   
## Q9\_feat3 -1.933e-02 2.507e-02 -0.771 0.44099   
## Q9\_feat4 -5.440e-02 3.260e-02 -1.669 0.09563 .   
## Q9\_feat6 1.256e-03 3.633e-02 0.035 0.97244   
## Q10\_feat1 2.915e-02 2.227e-02 1.309 0.19100   
## Q10\_feat2 1.051e-02 2.130e-02 0.493 0.62188   
## Q10\_feat3 3.232e-03 2.510e-02 0.129 0.89757   
## Q10\_feat4 1.809e-02 2.583e-02 0.700 0.48406   
## Q10\_feat6 5.606e-02 3.224e-02 1.739 0.08249 .   
## Q10\_feat7 -2.105e-03 4.320e-02 -0.049 0.96115   
## Q11\_feat1 -3.135e-02 2.109e-02 -1.487 0.13760   
## Q11\_feat2 2.009e-02 3.853e-02 0.521 0.60224   
## Q11\_feat3 -2.600e-02 3.236e-02 -0.804 0.42195   
## Q11\_feat5 -2.839e-02 5.572e-02 -0.509 0.61057   
## Q12\_feat1 -7.255e-03 2.915e-02 -0.249 0.80354   
## Q12\_feat2 1.150e-02 2.360e-02 0.487 0.62627   
## Q12\_feat3 5.158e-03 2.432e-02 0.212 0.83210   
## Q12\_feat5 2.194e-02 3.412e-02 0.643 0.52055   
## Q13\_feat1 -8.576e-03 2.669e-02 -0.321 0.74804   
## Q13\_feat2 -5.045e-02 3.001e-02 -1.681 0.09321 .   
## Q13\_feat4 -3.878e-02 3.914e-02 -0.991 0.32223   
## Desktop\_Computer\_Q1\_feat1 5.232e-02 1.698e-01 0.308 0.75809   
## Desktop\_Computer\_Q1\_feat2 4.883e-02 8.911e-02 0.548 0.58394   
## Desktop\_Computer\_Q1\_feat3 2.395e-02 2.334e-01 0.103 0.91830   
## Desktop\_Computer\_Q1\_feat4 -4.735e-03 1.116e-01 -0.042 0.96616   
## Desktop\_Computer\_Q1\_feat5 -1.168e-02 1.018e-01 -0.115 0.90867   
## Desktop\_Computer\_Q1\_feat7 -3.454e-02 1.891e-01 -0.183 0.85513   
## Desktop\_Computer\_Q2\_feat1 1.199e-01 2.176e-01 0.551 0.58178   
## Desktop\_Computer\_Q2\_feat2 1.353e-07 2.883e-01 0.000 1.00000   
## Desktop\_Computer\_Q2\_feat3 5.907e-02 2.189e-01 0.270 0.78741   
## Desktop\_Computer\_Q2\_feat5 1.517e-01 2.330e-01 0.651 0.51528   
## Desktop\_Computer\_Q3\_feat1 5.233e-02 7.261e-02 0.721 0.47136   
## Desktop\_Computer\_Q3\_feat2 2.638e-02 7.720e-02 0.342 0.73269   
## Desktop\_Computer\_Q3\_feat3 -8.883e-02 8.835e-02 -1.005 0.31507   
## Desktop\_Computer\_Q3\_feat4 -1.394e-02 1.221e-01 -0.114 0.90912   
## Desktop\_Computer\_Q3\_feat6 -1.931e-02 2.013e-01 -0.096 0.92359   
## Desktop\_Computer\_Q4\_feat1 6.795e-02 9.414e-02 0.722 0.47064   
## Desktop\_Computer\_Q5\_feat1 1.896e-01 3.208e-01 0.591 0.55473   
## Desktop\_Computer\_Q5\_feat2 2.161e-01 3.336e-01 0.648 0.51728   
## Desktop\_Computer\_Q5\_feat3 -9.547e-01 3.168e-01 -3.014 0.00268 \*\*   
## Desktop\_Computer\_Q5\_feat4 1.159e-01 2.412e-01 0.481 0.63091   
## Desktop\_Computer\_Q5\_feat6 2.224e-01 3.366e-01 0.661 0.50897   
## Desktop\_Computer\_Q6\_feat1 3.061e-01 1.320e-01 2.319 0.02069 \*   
## Desktop\_Computer\_Q6\_feat2 1.121e-01 9.812e-02 1.143 0.25354   
## Desktop\_Computer\_Q6\_feat3 2.302e-01 1.343e-01 1.714 0.08702 .   
## Desktop\_Computer\_Q6\_feat4 3.550e-01 1.374e-01 2.583 0.01001 \*   
## Desktop\_Computer\_Q7\_feat1 -1.743e-02 9.320e-02 -0.187 0.85171   
## Desktop\_Computer\_Q7\_feat2 3.690e-02 9.995e-02 0.369 0.71209   
## Desktop\_Computer\_Q7\_feat3 6.367e-02 1.012e-01 0.629 0.52936   
## Desktop\_Computer\_Q7\_feat5 2.633e-02 1.284e-01 0.205 0.83756   
## Desktop\_Computer\_Q8\_feat1 -2.354e-01 2.010e-01 -1.171 0.24206   
## Desktop\_Computer\_Q8\_feat2 2.477e-02 2.210e-01 0.112 0.91081   
## Desktop\_Computer\_Q8\_feat3 -2.980e-02 1.732e-01 -0.172 0.86341   
## Desktop\_Computer\_Q8\_feat5 -9.676e-03 2.441e-01 -0.040 0.96839   
## Desktop\_Computer\_Q9\_feat1 -4.628e-02 7.425e-02 -0.623 0.53326   
## Desktop\_Computer\_Q9\_feat2 -3.403e-02 7.426e-02 -0.458 0.64686   
## Desktop\_Computer\_Q9\_feat3 6.428e-02 1.082e-01 0.594 0.55255   
## Desktop\_Computer\_Q9\_feat4 -1.841e-01 1.812e-01 -1.016 0.30994   
## Desktop\_Computer\_Q9\_feat6 -4.238e-02 1.489e-01 -0.285 0.77608   
## Desktop\_Computer\_Q10\_feat1 5.244e-01 2.545e-01 2.061 0.03970 \*   
## Desktop\_Computer\_Q10\_feat2 5.144e-02 7.018e-02 0.733 0.46379   
## Desktop\_Computer\_Q10\_feat3 2.535e-01 1.847e-01 1.373 0.17030   
## Desktop\_Computer\_Q10\_feat4 -7.243e-03 1.135e-01 -0.064 0.94913   
## Desktop\_Computer\_Q10\_feat6 1.243e-02 1.520e-01 0.082 0.93485   
## Desktop\_Computer\_Q10\_feat7 2.211e-01 1.889e-01 1.171 0.24210   
## Desktop\_Computer\_Q11\_feat1 -1.070e-02 7.512e-02 -0.142 0.88676   
## Desktop\_Computer\_Q11\_feat2 7.550e-03 1.525e-01 0.050 0.96053   
## Desktop\_Computer\_Q11\_feat3 -1.545e-01 1.620e-01 -0.953 0.34077   
## Desktop\_Computer\_Q11\_feat5 5.231e-03 1.830e-01 0.029 0.97721   
## Desktop\_Computer\_Q12\_feat1 -6.396e-02 9.961e-02 -0.642 0.52105   
## Desktop\_Computer\_Q12\_feat2 -8.563e-03 1.189e-01 -0.072 0.94262   
## Desktop\_Computer\_Q12\_feat3 4.570e-02 1.092e-01 0.419 0.67557   
## Desktop\_Computer\_Q12\_feat5 -2.670e-02 1.303e-01 -0.205 0.83774   
## Desktop\_Computer\_Q13\_feat1 1.626e-03 1.747e-01 0.009 0.99258   
## Desktop\_Computer\_Q13\_feat2 7.276e-02 1.019e-01 0.714 0.47550   
## Desktop\_Computer\_Q13\_feat4 1.200e-02 1.924e-01 0.062 0.95029   
## location\_1 4.194e-02 2.166e-02 1.936 0.05331 .   
## location\_2 -3.556e-02 1.980e-02 -1.796 0.07294 .   
## Relationship\_1 -2.956e-02 1.982e-02 -1.491 0.13633   
## Relationship\_2 -4.160e-03 2.057e-02 -0.202 0.83982   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for gaussian family taken to be 0.04462053)  
##   
## Null deviance: 121.954 on 784 degrees of freedom  
## Residual deviance: 29.896 on 670 degrees of freedom  
## AIC: -105.62  
##   
## 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,)