

Classification Tree

Using the package “Tree”

Predicting Religious

Data needs to be factor to classify, so I restructure the outcome variable. Set up separate data frame with the training data.

```
set.seed(500)
train <- sample(1:nrow(dat2), 1200)

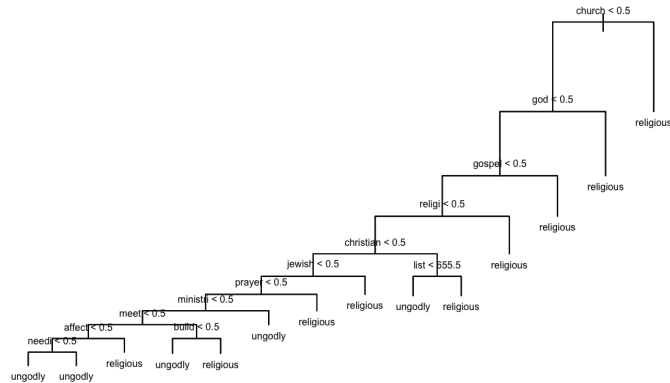
dat2$religiousorg <- ifelse(dat2$Orgpurposereligious==1, "religious", "ungodly")
dat2$religiousorg <- as.factor(dat2$religiousorg)
#dat2 <- subset(dat2, select=-Orgpurposereligious)

train.dat <- dat2[(dat2$list %in% train), ]
```

-Orgpurposereligious prevents use of the outcome variable in a different form for prediction. We can see the tree that is formed with labels.

```
tree.religion = tree(religiousorg~.-Orgpurposereligious, data=train.dat)

plot(tree.religion)
text(tree.religion, pretty=0, cex=.5)
```



How well does it classify? We can

see how the test data does with the training model.

```
tree.pred = predict(tree.religion, dat2[-train,], type="class")
with(dat2[-train,], table(tree.pred, religiousorg))
```

```
##           religiousorg
## tree.pred  religious ungodly
##  religious      135      54
##  ungodly       162     1895
```