

HW13

```
source("HW13.R") tuning_df <- data.frame(size=8:12, decay=c(0,0.1,0.5,1,2))

fitControl <- trainControl(## 2-fold CV method = "repeatedcv", number = 2, repeats = 2)

t_out <- caret::train(x=x, y=y, method="nnet", trControl = fitControl,
tuneGrid=tuning_df, maxit=1000, MaxNWts=10000)

true_y <- y pred_y <- predict(t_out, x)

n_samples <- nrow(x) error <- sum(true_y != pred_y)/n_samples

pred_error <- error cat("train1 prediction error", pred_error, "\n")

true_y2 <- y2 pred_y2 <- predict(t_out, x2)

n_samples2 <- nrow(x2) error2 <- sum(true_y2 != pred_y2)/n_samples2

pred_error2 <- error2 cat("test prediction error", pred_error2, "\n")
```

Output

```
cat("train1 prediction error", pred_error, "") train1 prediction error 0.002
```

```
cat("test prediction error", pred_error2, "") test prediction error 0.158
```