Final

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```
library(neuralnet)
```

```
#Neural network Training Data
data <- read.csv(file="myX.csv",header=T, stringsAsFactors = T)
#Neural network Prediction with given data
t.data <- read.csv(file="myXtest.csv",header=T, stringsAsFactors = T)
```

```
YY <- read.csv(file="myY.csv",header=T)
data$Y=YY$travel_time
```

```
normalize <- function(x){
  return((x-min(x))/(max(x)-min(x)))
}
data_norm <- as.data.frame(lapply(data,normalize))
```

```
data_norm[,6:105] <- data[,6:105]
length(data_norm[,1])
```

```
## [1] 99832
```

```
data_norm[is.na(data_norm)] <- 0
```

```
Predic <- numeric(0)
samples <- sample(1:length(data_norm[,1]),10000,replace = F)

D_test <-  data_norm[samples[1:2000],]
D_train <- data_norm[samples[2001:10000],]

#Test of training model
data_model <- neuralnet(Y~., data=D_train,hidden=4)
model_result <- compute(data_model,D_test[1:105])
P.Y <- model_result$net.result
cor(P.Y,D_test$Y)
```

```
##           [,1]
## [1,] 0.8320562
```

```
#prediction by the given test data
t.model_result <- compute(data_model,t.data[1:105])
Predic <- t.model_result$net.result
```

##Save the prediciton

```
write.csv(Predic, file="FinalPrediction.csv",row.names = F)
```