result\_vis

Qian Liu

4/19/2020

## Model performance on validation dataset

It visualized the training process during 1000 epoches.

rm(list = ls())  
setwd("~/Desktop/projects/iMP/COVID-CT/model\_result")  
  
mp\_train<-read.table("mp\_DenseNet.txt",sep = ",")  
colnames(mp\_train)<-c("epoch","recall","precision","F1","accuracy","AUC")  
mp\_train$epoch<-unlist(strsplit(as.character(mp\_train$epoch), " ", fixed = FALSE))[seq(5,500,5)]  
mp\_train$recall<-unlist(strsplit(as.character(mp\_train$recall), " ", fixed = FALSE))[seq(4,400,4)]  
mp\_train$precision<-unlist(strsplit(as.character(mp\_train$precision), " ", fixed = FALSE))[seq(4,400,4)]  
mp\_train$F1<-unlist(strsplit(as.character(mp\_train$F1), " ", fixed = FALSE))[seq(3,300,3)]  
mp\_train$accuracy<-unlist(strsplit(as.character(mp\_train$accuracy), " ", fixed = FALSE))[seq(4,400,4)]  
mp\_train$AUC<-unlist(strsplit(as.character(mp\_train$AUC), " ", fixed = FALSE))[seq(4,400,4)]  
  
train<-read.table("DenseNet.txt",sep = ",")  
colnames(train)<-c("epoch","recall","precision","F1","accuracy","AUC")  
train$epoch<-unlist(strsplit(as.character(train$epoch), " ", fixed = FALSE))[seq(5,500,5)]  
train$recall<-unlist(strsplit(as.character(train$recall), " ", fixed = FALSE))[seq(4,400,4)]  
train$precision<-unlist(strsplit(as.character(train$precision), " ", fixed = FALSE))[seq(4,400,4)]  
train$F1<-unlist(strsplit(as.character(train$F1), " ", fixed = FALSE))[seq(3,300,3)]  
train$accuracy<-unlist(strsplit(as.character(train$accuracy), " ", fixed = FALSE))[seq(4,400,4)]  
train$AUC<-unlist(strsplit(as.character(train$AUC), " ", fixed = FALSE))[seq(4,400,4)]  
  
  
plot(mp\_train$epoch,mp\_train$recall,type="l",col = "dark red",ylim = c(0.5,0.9),  
 ylab = "Value", xlab = "Epoch", main = "Classification performance on validation dataset")  
lines(mp\_train$epoch,mp\_train$precision,col = "dark blue")  
lines(mp\_train$epoch,mp\_train$F1,col = "dark green")  
lines(mp\_train$epoch,mp\_train$accuracy,col = "yellow")  
lines(mp\_train$epoch,mp\_train$AUC,col = "dark orange")  
legend("bottomright", c("recall","precision","F1","accuracy","AUC"),  
 fill = c("dark red","dark blue","dark green","yellow","dark orange"),cex = 0.6)  
  
  
lines(train$epoch,train$recall,type="l",col = "dark red",lty = 2)  
lines(train$epoch,train$precision,col = "dark blue",lty = 2)  
lines(train$epoch,train$F1,col = "dark green",lty = 2)  
lines(train$epoch,train$accuracy,col = "yellow",lty = 2)  
lines(train$epoch,train$AUC,col = "dark orange",lty = 2)  
legend("bottomleft", c("With anomaly detection","Without anomaly detection"),cex = 0.65,lty = 1:2)

