

chili

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```
library(quantmod)

## Loading required package: xts
## Loading required package: zoo
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric
## Loading required package: TTR
## Version 0.4-0 included new data defaults. See ?getSymbols.

library(pander)
library(kcde)

## Loading required package: nlme
library(HIDDA.forecasting)

chili_data <- HIDDA.forecasting::CHILI
data <- data.frame(unweighted_ili=chili_data)
data$date <- rownames(as.data.frame(chili_data))
data$season <- c(rep(1,35),rep(2:17,each=52),rep(18,20))
data_train <- data[1:(nrow(data)-213),]
data_test <- data[(nrow(data)-213):nrow(data),]
data_train$val <- data_train$unweighted_ili
data_test$val <- data_test$unweighted_ili

### 1 week ahead
#debug(leave_one_season_out_cv)
bw_optim <- leave_one_season_out_cv(data_train,200,h = 1,num_lags=4)

sigma_optim <- bw_optim[[2]][which.max(bw_optim[[1]]),1]
eta_optim <- bw_optim[[2]][which.max(bw_optim[[1]]),2]

truth <- rep(NA,nrow(data_test))
pred_dists <- matrix(NA,ncol=10000,nrow=nrow(data_test))

for (test_idx in 1:nrow(data_test)){
```

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pred_dists[test_idx,] <- predict_seasonal_kcde(c(data_train$unweighted_ili,data_test$unweighted_ili[1
truth[test_idx] <- data_test$unweighted_ili[test_idx]
}
#truth <- data_test$unweighted_ili[1]
scores <- HIDDEN.forecasting::scores_sample(truth,pred_dists)

pander(colMeans(scores))

```

dss	logs
13.29	7.476

```

## long term stuff
bw_optim <- leave_one_season_out_cv(data_train,50,h = 20,num_lags=4)

sigma_optim <- bw_optim[[2]][which.max(bw_optim[[1]]),1]
eta_optim <- bw_optim[[2]][which.max(bw_optim[[1]]),2]

truth <- rep(NA,30*4)
pred_dists <- matrix(NA,ncol=10000,nrow=30*4)

truth_idx <- 1

for (test_idx in 1:30){
  pred_dists[truth_idx,] <- predict_seasonal_kcde(data_train$unweighted_ili,k = 200,h = test_idx,num_la
truth[truth_idx] <- data_test$unweighted_ili[test_idx]
  truth_idx <- truth_idx+1
}

for (test_idx in 1:30){
  pred_dists[truth_idx,] <- predict_seasonal_kcde(c(data_train$unweighted_ili,data_test$unweighted_ili[
truth[truth_idx] <- data_test$unweighted_ili[test_idx + 53]
  truth_idx <- truth_idx+1
}

for (test_idx in 1:30){
  pred_dists[truth_idx,] <- predict_seasonal_kcde(c(data_train$unweighted_ili,data_test$unweighted_ili[
truth[truth_idx] <- data_test$unweighted_ili[test_idx + 105]
  truth_idx <- truth_idx+1
}

for (test_idx in 1:30){
  pred_dists[truth_idx,] <- predict_seasonal_kcde(c(data_train$unweighted_ili,data_test$unweighted_ili[
truth[truth_idx] <- data_test$unweighted_ili[test_idx + 157]
  truth_idx <- truth_idx+1
}

```

```
scores <- HIDA.forecasting::scores_sample(truth,pred_dists)
pander(colMeans(scores))
```

dss	logs
18.08	9.346