ACE_Metric ELCOMM

2022-06-03

Data loading

```
library(readr); library(readxl)

# Getting predictions for ACE calculation
outData_All_pred_ELRETSALCOMM <- read_excel("outData_All_pred_ELRETSALCOMM.xlsx")
```

```
## New names:
## * `True` -> `True...4`
## * `True` -> `True...8`
## * `True` -> `True...12`
## * `True` -> `True...16`
```

```
# Same name for the calculations
df <- outData_All_pred_ELRETSALCOMM
colnames(df) <- colnames(outData_All_pred_ELRETSALCOMM)
```

Playing with the data to PICP

```
library(dplyr); library(tidyr); library(magrittr)
```

```
# Dplyr remove a column by name:

df_w_true <- df %>%
  select(-c(4,8,12))

#true <- df %>% select(c(4))

colnames(df_w_true)[dim(df_w_true)[2]] <- c("True")
#head(true)
```

```
# For alpha = 0.1

observ <- df_w_true$True
n <- (dim(df_w_true)[2]-1)
ci <- rep(0, n)
ci
```

```
##  [1] 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```r
for (j in 1:(dim(df_w_true)[2]-1)) {
  ci[j] <- df_w_true %>%
  mutate(ci = ifelse(.[[j]] >= observ, 0, 1)) %>%
  select(ci) %>% sum()
  ci
}

#ci <- df_w_true %>%
#  mutate(ci = ifelse(DVQR_01 >= observ, 0, 1)) %>%
#  select(ci) %>% sum()
#ci

PICP <- ci/dim(df_w_true)[1]
PICP
```

```
##  [1] 0.48226950 0.43262411 0.46808511 0.34751773 0.37588652 0.41134752
##  [7] 0.24113475 0.24822695 0.29078014 0.03546099 0.02127660 0.02127660
```

```r
# ORDER FOR MODELS: DVQR - NPDVQR - LQR
# For 0.1 case
ACE_01 <- PICP[c(1,2,3)] - 0.1
ACE_01
```

```
## [1] 0.3822695 0.3326241 0.3680851
```

```r
# For 0.25 case
ACE_025 <- PICP[c(4,5,6)] - 0.25
ACE_025
```

```
## [1] 0.09751773 0.12588652 0.16134752
```

```r
# For 0.5 case
ACE_05 <- PICP[c(7,8,9)] - 0.5
ACE_05
```

```
## [1] -0.2588652 -0.2517730 -0.2092199
```

```r
# For 0.9 case
ACE_09 <- PICP[c(10,11,12)] - 0.9
ACE_09
```

```
## [1] -0.8645390 -0.8787234 -0.8787234
```

```r
# combine all of them

ACE_All <- cbind(ACE_01, ACE_025, ACE_05, ACE_09)

rownames(ACE_All) <- c("DVQR", "NPDVQR", "LQR")
library(pander)
pander(ACE_All)
```

	ACE_01	ACE_025	ACE_05	ACE_09
DVQR	0.3823	0.09752	-0.2589	-0.8645
NPDVQR	0.3326	0.1259	-0.2518	-0.8787
LQR	0.3681	0.1613	-0.2092	-0.8787