Example

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Overview

...

Installation

Load the package into R.

```
library(MASTA)
```

Data Example

```
head(longitudinal)
```

```
##   code id time
## 1    1  4    1
## 2    1  4    1
## 3    1  4    1
## 4    1  4    2
## 5    1  5    4
## 6    1  5    4
```

```
table(longitudinal$code)
```

```
##
##      1      2      3
## 168374  68242  21501
```

```
head(follow_up_time) ;
```

```
##   id  fu_time train_valid
## 1  1 49.41273           1
## 2  2 13.93018           1
## 3  3 12.55031           1
## 4  4 14.85010           1
## 5  5 80.65708           1
## 6  6 42.64476           1
```

```
nrow(follow_up_time) ;
```

```
## [1] 21100
```

```
head(survival)
```

```
##   id event_ind event_time cov_1 cov_2 cov_3
## 1  1         1    9.36345    79     1     0
```

```
## 2  2         0   13.93018    81     0     0
## 3  3         0   12.55031    55     1     1
## 4  4         0   14.85010    72     1     0
## 5  5         0   80.65708    83     1     1
## 6  6         1   15.70431    47     1     0
```

```
nrow(survival)
```

```
## [1] 1100
```

Run the 1st step (feature selection; 3 codes; ~ 50 sec)

```
ptm = proc.time()
Z <- fpca.combine(longitudinal, follow_up_time, K.select = "PropVar")
print(proc.time() - ptm)
```

```
##    user  system elapsed
##  45.710   1.881  47.613
```

Run the 2nd step (fitting) – (~40 sec)

```
ptm = proc.time()
b <- masta.fit(Z, survival, follow_up_time, Tend=1, cov_group = NULL, thresh = 0.7, PCAthresh = 0.9, se
print(proc.time() - ptm)
```

```
##    user  system elapsed
##  39.327   0.222  39.574
```