Package ‘SCORNET’

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Title  Semi-Supervised Calibration of Risk with Noisy Event Times
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URL https://github.com/celehs/SCORNET
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Description

Semi-Supervised Calibration of Risk with Noisy Event Times (SCORNET) is a consistent, non-parametric survival curve estimator that boosts efficiency over existing non-parametric estimators by (1) utilizing unlabeled patients in a semi-supervised fashion, and (2) leveraging information-dense engineered EHR features to maximize unlabeled set imputation precision. See Ahuja et al. (2020) BioArxiv for details.

Description

SCORNET Estimator

Usage

```r
scornet(
  Delta,
  C,
  t0.all,
  C.UL = NULL,
  filter = NULL,
  filter.UL = NULL,
  Z0 = NULL,
  Z0.UL = NULL,
  Zehr = NULL,
  Zehr.UL = NULL,
  K = Knorm,
  b = NULL,
  bexp = -1/4,
  fc = NULL,
  nCores = 1
)
```

Arguments

- **Delta**: Labeled set current status labels (I(T<C))
- **C**: Labeled set censoring times
- **t0.all**: Times at which to estimate survival
C.UL Unlabeled set censoring times
filter Labeled set binary filter indicators
filter.UL Unlabeled set filter indicators
Z0 Labeled set baseline feature matrix
Z0.UL Unlabeled set baseline feature matrix
Zehr Labeled set EHR-derived feature matrix
Zehr.UL Unlabeled set EHR-derived feature matrix
K Kernel function (defaults to standard normal)
b bandwidth (optional)
bexp bandwidth exponent (must be between -1/5 and -1/3, defaults to -1/4)
fC N^1/4-consistent pdf estimator of CI\(Z_0\) (defaults to Kernel-Smoothed Cox/Breslow estimator)
nCores Number of cores to use for parallelization (defaults to 1)

Value

\(S_{\hat{}}\): Survival function estimates at times t0.all; \(\text{StdErrs}\): Asymptotically consistent standard error estimates corresponding to \(S_{\hat{}}\)
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