Package ‘SCORNET’

January 4, 2021

Title Semi-Supervised Calibration of Risk with Noisy Event Times
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License GPL-3
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VignetteBuilder knitr
LazyData true
URL https://github.com/celehs/SCORNET

BugReports https://github.com/celehs/SCORNET/issues
NeedsCompilation yes
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Repository CRAN
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SCORNET-package

SCORNET: A novel non-parametric survival curve estimator for the Electronic Health Record

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.

scornet

SCORNET Estimator

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
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.UL</td>
<td>Unlabeled set censoring times</td>
</tr>
<tr>
<td>filter</td>
<td>Labeled set binary filter indicators</td>
</tr>
<tr>
<td>filter.UL</td>
<td>Unlabeled set filter indicators</td>
</tr>
<tr>
<td>Z0</td>
<td>Labeled set baseline feature matrix</td>
</tr>
<tr>
<td>Z0.UL</td>
<td>Unlabeled set baseline feature matrix</td>
</tr>
<tr>
<td>Zehr</td>
<td>Labeled set EHR-derived feature matrix</td>
</tr>
<tr>
<td>Zehr.UL</td>
<td>Unlabeled set EHR-derived feature matrix</td>
</tr>
<tr>
<td>K</td>
<td>Kernel function (defaults to standard normal)</td>
</tr>
<tr>
<td>b</td>
<td>bandwidth (optional)</td>
</tr>
<tr>
<td>bexp</td>
<td>bandwidth exponent (must be between -1/5 and -1/3, defaults to -1/4)</td>
</tr>
<tr>
<td>fc</td>
<td>$N^{1/4}$-consistent pdf estimator of CI of $Z_0$ (defaults to Kernel-Smoothed Cox/Breslow estimator)</td>
</tr>
<tr>
<td>nCores</td>
<td>Number of cores to use for parallelization (defaults to 1)</td>
</tr>
</tbody>
</table>

**Value**

- $S_{\hat{}}$: Survival function estimates at times $t_0$, $\text{StdErrs}$: Asymptotically consistent standard error estimates corresponding to $S_{\hat{}}$
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