Package: PCL (via r-universe)

October 9, 2024

Type Package

Title Proximal Causal Learning

Version 1.0

Date 2021-04-04

Maintainer Andrew Ying <aying9339@gmail.com>

Description We fit causal models using proxies. We implement two stage proximal least squares estimator. E.J. Tchetgen Tchetgen, A. Ying, Y. Cui, X. Shi, and W. Miao. (2020). An Introduction to Proximal Causal Learning. arXiv e-prints, arXiv-2009 <arXiv:2009.10982>.

License GPL (>= 2)

Depends R (>= 4.0)

RoxygenNote 7.1.1

Encoding UTF-8

NeedsCompilation no

Author Andrew Ying [aut, cre], Yifan Cui [ctb], AmirEmad Ghassami [ctb]

Date/Publication 2021-04-10 07:50:10 UTC

Repository https://andrewyyp.r-universe.dev

RemoteUrl https://github.com/cran/PCL

RemoteRef HEAD

RemoteSha 36f7daf23d3a2ea51eabdba9852cc5d87afd3462

Contents

pcl 2
pclfit 2

Index **4**

pcl *Create a Proximal Causal Learning Object*

Description

Create a proximal causal learning object, usually used as a variable in a model function. Argument matching

Usage

```
pcl(outcome, trt, trt_pxy, out_pxy, covariates)
```

Arguments

outcome	the outcome variable
trt	the binary treatment variable
trt_pxy	the treatment-inducing proxies
out_pxy	the outcome-inducing proxies
covariates	the observed confounders

Value

pcl returns an object of class "pcl", which wraps the treatment, outcome, treatment inducing confounding proxies, outcome inducing confounding proxies and other covariates

Examples

```
n <- 100
outcome <- rnorm(n, 0, 1)
trt <- rbinom(n, 1, 0.5)
trt_pxy <- rnorm(n, 0, 1)
out_pxy <- rnorm(n, 0, 1)
covariates <- rnorm(n, 0, 1)
pcl_object <- pcl(outcome, trt, trt_pxy, out_pxy, covariates)
```

pclfit *Fit a Proximal Causal Learning Model*

Description

Fit a proximal causal learning model

Usage

```
pclfit(pcl_object, method = "POR")
```

Arguments

pcl_object	an pcl object
method	method used to fit

Value

returns the average causal effect

Examples

```
n <- 100
outcome <- rnorm(n, 0, 1)
trt <- rbinom(n, 1, 0.5)
trt_pxy <- matrix(rnorm(n, 0, 1), ncol = 1)
out_pxy <- matrix(rnorm(n, 0, 1), ncol = 1)
covariates <- matrix(rnorm(n, 0, 1), ncol = 1)
pcl_object <- pcl(outcome, trt, trt_pxy, out_pxy, covariates)
fit <- pclfit(pcl_object)
```

Index

pcl, 2
pclfit, 2