adequatebootstrap

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`adequatebootstrap(X,distribution,test)`

Calculates an adequate bootstrap interval. `X` is the data. `distribution` is a list of character strings giving the names of distributions to be tested. Currently supported names are: `"normal"`, `"pareto"`, `"t"`, `"LogNormalPoisson"`, `"Poisson"`, which correspond to the obvious distributions. `test` is the name of the model adequacy test to use. Currently supported values are `"AD"` for the Anderson-Darling test; `"KS"` for the Kolmogorov-Smirnov test; and `"ChiSquare"` for the Pearson Chi-square test. It returns a listm the first element of which is the adequate bootstrap size (the size at which bootstrap samples reject the adequacy distribution half the times); the second element of which is the adequate bootstrap interval (a bootstrap confidence interval for bootstrap size the adequate bootstrap size).

Example:

```
> library(AdequateBootstrap)
> set.seed(123)
> X <- c(rnorm(490),rnorm(10)*4)
> #standard normal with 2% contamination from normal with higher variance.
> ab <- adequatebootstrap(X,list("name"="normal","mu"=0,"main"="sigma"),"AD@0.05")
> ab

normal distribution.

Fixed parameters:
mu=0

Anderson-Darling test at 0.05 significance level.

Adequate bootstrap size = 251.

Adequate bootstrap interval for sigma is [0.943797876987762,1.24957441488589].
```

`adequatebootstrap_discriminant(X1,X2,distribution1,distribution2,test,testdata)`

Uses the adequate bootstrap to perform discriminant analysis. `X1` and `X2` are data. `distribution1` and `distribution2` are the distributions tested. Options are the same as for `adequatebootstrap`. `test` is the adequacy test to be used.

Options are the same as for `adequatebootstrap`. `testdata` is the values at which to estimate the a confidence interval for the probability of belonging to each class.