Package ‘acss.data’

February 19, 2015

Type Package

Title Data Only: Algorithmic Complexity of Short Strings (Computed via Coding Theorem Method)

Version 1.0

Date 2014-04-02

Depends R (>= 2.10)

Description Data only package providing the algorithmic complexity of short strings, computed using the coding theorem method. For a given set of symbols in a string, all possible or a large num-
ber of random samples of Turing machines (TM) with a given number of states (e.g., 5) and num-
ber of symbols corresponding to the number of symbols in the strings were simulated un-
til they reached a halting state or failed to end. This package contains data on 4.5 mil-
lion strings from length 1 to 12 simulated on TMs with 2, 4, 5, 6, and 9 symbols. The complex-
ity of the string corresponds to the distribution of the halting states of the TMs.

URL http://complexitycalculator.com/methodology.html

License GPL (>= 2)

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NeedsCompilation no

Repository CRAN

Date/Publication 2014-04-05 18:54:45

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Data only package providing the algorithmic complexity of short strings, computed using the coding theorem method. For a given set of symbols in a string, all possible or a large number of random samples of Turing machines (TM) with a given number of states (e.g., 5) and number of symbols corresponding to the number of symbols in the strings were simulated until they reached a halting state or failed to end. This package contains data on 4.5 million strings from length 1 to 12 simulated on TMs with 2, 4, 5, 6, and 9 symbols. The complexity of the string corresponds to the distribution of the halting states of the TMs.

This package only contains data. Therefore, this package is not intended to be used directly, but through functions in package acss.

The data in this package was created by Fernando Soler Toscano, Nicolas Gauvrit, and Hector Zenil. Data was ported to R by Henrik Singmann.

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References


See Also

package `acss` for functions accessing this data.

Description

Contains the algorithmic complexity for short string, an approximation of the Kolmogorov Complexity of a short string using the coding theorem method. For a given set of symbols in a string, all possible or a large number of random samples of Turing machines (TM) with a given number of states and number of symbols corresponding to the number of symbols in the strings were simulated until they reached a halting state or failed to end. The complexity of the string corresponds to the distribution of the halting states of the TMs.

See [http://complexitycalculator.com/methodology.html](http://complexitycalculator.com/methodology.html) for more information or references below.

This dataset shouldn’t be called directly but rather through the accessor functions in package `acss`.

Usage

`acss_data`

Format

A data frame with 4590267 observations on the following 5 variables.

- `k.2`: `acss` with 2 symbols, computed on all possible Turing machines (TM) with 5 states and 2 symbols.
- `k.4`: `acss` with 4 symbols, computed on a large number of TMs with 4 states and 4 symbols.
- `k.5`: `acss` with 5 symbols, computed on a large number of TMs with 4 states and 5 symbols.
- `k.6`: `acss` with 6 symbols, computed on a large number of TMs with 4 states and 6 symbols.
- `k.9`: `acss` with 9 symbols, computed on a large number of TMs with 4 states and 9 symbols.

Author(s)

Fernando Soler Toscano, Nicolas Gauvrit, and Hector Zenil.
Ported to R by Henrik Singmann.

Source

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