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scikit-learn 1.2.1

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- * R. H. Byrd, P. Lu and J. Nocedal. A Limited Memory Algorithm for Bound Constrained Optimization, (1995), SIAM Journal on Scientific and Statistical Computing, 16, 5, pp. 1190-1208.
- * C. Zhu, R. H. Byrd and J. Nocedal. L-BFGS-B: Algorithm 778: L-BFGS-B, FORTRAN routines for large scale bound constrained optimization (1997), ACM Transactions on Mathematical Software, 23, 4, pp. 550 - 560.
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The package is designed to compute a few eigenvalues and corresponding
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product $w \leftarrow Av$ requires order n rather than the usual order n^2 floating
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Arnoldi process called the Implicitly Restarted Arnoldi Method (IRAM). When
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called the Implicitly Restarted Lanczos Method (IRLM). These variants may be
viewed as a synthesis of the Arnoldi/Lanczos process with the Implicitly
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Name: PCG64

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Name: MT19937

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The rk_random and rk_seed functions algorithms and the original design of the Mersenne Twister RNG:

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Original algorithm for the implementation of rk_interval function from Richard J. Wagner's implementation of the Mersenne Twister RNG, optimised by Magnus Jonsson.

Constants used in the rk_double implementation by Isaku Wada.

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Name: Julia

The ziggurat methods were derived from Julia.

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David H. Munro wrote Yorick and Gist. Berkeley Yacc (byacc) generated the Yorick parser. The routines in Math are from LAPACK and FFTPACK; MathC contains C translations by David H. Munro. The algorithms for Yorick's random number generator and several special functions in Yorick/include were taken from Numerical Recipes by Press, et. al., although the Yorick implementations are unrelated to those in Numerical Recipes. A small amount of code in Gist was adapted from the X11R4 release, copyright M.I.T. -- the complete copyright notice may be found in the (unused) file Gist/host.c.

agg24-svn

The Anti-Grain Geometry Project
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ttutil.cpp

```
/*
 * Modified for use within matplotlib
 * 5 July 2007
 * Michael Droettboom
 */

/* Very simple interface to the ppr TT routines */
/* (c) Frank Siegert 1996 */
```

+++++

pprdrv.h

```
/*
 * Modified for use within matplotlib
 * 5 July 2007
 * Michael Droettboom
 */

/*
** ~ppr/src/include/pprdrv.h
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**
** This file last revised 5 December 1995.
*/
```

+++++

pprdrv_tt.cpp

```
/*
 * Modified for use within matplotlib
 * 5 July 2007
 * Michael Droettboom
 */

/*
** ~ppr/src/pprdrv/pprdrv_tt.c
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```

```

** implied warranty.
**
** TrueType font support.  These functions allow PPR to generate
** PostScript fonts from Microsoft compatible TrueType font files.
**
** Last revised 19 December 1995.
*/

+++++++

pprdrv_tt2.cpp
-----
/*
 * Modified for use within matplotlib
 * 5 July 2007
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 */

/*
** ~ppr/src/pprdrv/pprdrv_tt2.c
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** implied warranty.
**
** TrueType font support.  These functions allow PPR to generate
** PostScript fonts from Microsoft compatible TrueType font files.
**
** The functions in this file do most of the work to convert a
** TrueType font to a type 3 PostScript font.
**
** Most of the material in this file is derived from a program called
** "ttf2ps" which L. S. Ng posted to the usenet news group
** "comp.sources.postscript".  The author did not provide a copyright
** notice or indicate any restrictions on use.
**
** Last revised 11 July 1995.
*/

+++++++

truetype.h
-----
/*
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 * 5 July 2007
 * Michael Droettboom
 */

/*
** ~ppr/src/include/typetype.h
**

```

```

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** implied warranty.
**
** This include file is shared by the source files
** "pprdrv/pprdrv_tt.c" and "pprdrv/pprdrv_tt2.c".
**
** Last modified 19 April 1995.
*/
+++++

```

```

_tkmini.h
-----

```

```

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# PCG64

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PCG Random Number Generation for C.

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# SFC64

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Adapted from a C++ implementation of Chris Doty-Humphrey's SFC PRNG.

https://gist.github.com/imneme/f1f7821f07cf76504a97f6537c818083

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The rk_random and rk_seed functions algorithms and the original design of the Mersenne Twister RNG:

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Original algorithm for the implementation of rk_interval function from Richard J. Wagner's implementation of the Mersenne Twister RNG, optimised by Magnus Jonsson.

Constants used in the rk_double implementation by Isaku Wada.

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SPLITMIX64

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Dependency: contourpy

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python-oracledb 1.4.0

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numpy 1.26.0

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Adapted from a C++ implementation of Chris Doty-Humphrey's SFC PRNG.

<https://gist.github.com/imneme/f1f7821f07cf76504a97f6537c818083>

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Name: PCG64

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PCG Random Number Generation for C.

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Original algorithm for the implementation of `rk_interval` function from Richard J. Wagner's implementation of the Mersenne Twister RNG, optimised by Magnus Jonsson.

Constants used in the `rk_double` implementation by Isaku Wada.

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Name: Julia

The ziggurat methods were derived from Julia.

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Adapted from a C++ implementation of Chris Doty-Humphrey's SFC PRNG.

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The rk_random and rk_seed functions algorithms and the original design of the Mersenne Twister RNG:

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Original algorithm for the implementation of `rk_interval` function from Richard J. Wagner's implementation of the Mersenne Twister RNG, optimised by Magnus Jonsson.

Constants used in the `rk_double` implementation by Isaku Wada.

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The ziggurat methods were derived from Julia.

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Name: PCG64

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The rk_random and rk_seed functions algorithms and the original design of the Mersenne Twister RNG:

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Original algorithm for the implementation of rk_interval function from Richard J. Wagner's implementation of the Mersenne Twister RNG, optimised by Magnus Jonsson.

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Name: Julia

The ziggurat methods were derived from Julia.

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Name: Faddeeva

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References

- * R. H. Byrd, P. Lu and J. Nocedal. A Limited Memory Algorithm for Bound Constrained Optimization, (1995), SIAM Journal on Scientific and Statistical Computing, 16, 5, pp. 1190-1208.
- * C. Zhu, R. H. Byrd and J. Nocedal. L-BFGS-B: Algorithm 778: L-BFGS-B, FORTRAN routines for large scale bound constrained optimization (1997), ACM Transactions on Mathematical Software, 23, 4, pp. 550 - 560.
- * J.L. Morales and J. Nocedal. L-BFGS-B: Remark on Algorithm 778: L-BFGS-B, FORTRAN routines for large scale bound constrained optimization (2011), ACM Transactions on Mathematical Software, 38, 1.

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Name: uarray
Files: scipy/_lib/uarray/*
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Name: HiGHS

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Name: Boost

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Name: Biasedurn

----- Forwarded message -----

From: Agner Fog <agner@agner.org>
Date: Wed, Jul 22, 2020 at 8:54 PM
Subject: Re: Add BiasedUrn to SciPy?
To: Matt Haberland <mhaberla@calpoly.edu>
Cc: Warren Weckesser <warren.weckesser@gmail.com>

Dear Matt The C++ code for these distributions without binding to the R project are available here:

<https://www.agner.org/random/stocc.zip>

You have my permission to use it in SciPy under the new BSD license.

Best regards,

Agner Fog

On 22/07/2020 17.05, Matt Haberland wrote:

Hi Agner, I'm a maintainer of the Python scientific computing library SciPy, and I'm working on improving the capabilities of our statistics subpackage scipy.stats. We'd like to add both Fisher's and Wallenius' noncentral

hypergeometric distributions, but these look quite challenging to implement. We found your BiasedUrn package, and we'd love to wrap it, but we can't include GPL-3 licensed code under our BSD-new license. Would you consider re-licensing BiasedUrn under a more permissive license, such as BSD-new or MIT, so we can include it in SciPy? Thank you for considering it!

Matt

--

Matt Haberland
Assistant Professor
BioResource and Agricultural Engineering
08A-3K, Cal Poly

Name: UNU.RAN

Permission was granted on 23 March 2021 by Josef Leydold (josef.leydold@wu.ac.at) and Wolfgang Hoermann (hormannw@bound.edu.tr) to use the UNU.RAN code excluding the uniform random number generator in src/uniform/mrg31k3p.c (copyright by Renee Touzin) under the BSD licence. The following files have been removed from the original library:

- unuran-1.8.1/COPYING
- unuran-1.8.1/INSTALL
- unuran-1.8.1/Makefile.am
- unuran-1.8.1/Makefile.in
- unuran-1.8.1/NEWS
- unuran-1.8.1/UPGRADE
- unuran-1.8.1/acinclude.m4
- unuran-1.8.1/aclocal.m4
- unuran-1.8.1/autoconf/config.guess
- unuran-1.8.1/autoconf/config.sub
- unuran-1.8.1/autoconf/depcomp
- unuran-1.8.1/autoconf/install-sh
- unuran-1.8.1/autoconf/ltmain.sh
- unuran-1.8.1/autoconf/mdate-sh
- unuran-1.8.1/autoconf/missing
- unuran-1.8.1/autogen.sh
- unuran-1.8.1/configure
- unuran-1.8.1/doc/Makefile.am
- unuran-1.8.1/doc/Makefile.in
- unuran-1.8.1/doc/figures/Makefile.am
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- unuran-1.8.1/doc/figures/discrete_inversion.eps
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unuran-1.8.1/tests/testdistributions/Makefile.am
unuran-1.8.1/tests/testdistributions/Makefile.in
unuran-1.8.1/tests/testdistributions/c_sawtooth_contpdf.c
unuran-1.8.1/tests/testdistributions/c_sawtooth_discpdf.c
unuran-1.8.1/tests/testdistributions/c_w_pdf_from_logpdf.c
unuran-1.8.1/tests/testdistributions/c_with_multiple_of_pdf.c
unuran-1.8.1/tests/testdistributions/c_wo_logpdf.c
unuran-1.8.1/tests/testdistributions/testdistributions.h
unuran-1.8.1/tests/testdistributions/vc_cauchy_RoU_ball.c
unuran-1.8.1/tests/testdistributions/vc_special_correlations_ar1.c
unuran-1.8.1/tests/testdistributions/vc_special_correlations_constantrho.c
unuran-1.8.1/tests/testdistributions/vc_w_marginals.c
unuran-1.8.1/tests/testdistributions/vc_wo_logpdf.c
unuran-1.8.1/tests/testroutines.c
unuran-1.8.1/tests/testunuran.h
unuran-1.8.1/src/distr/deprecated_distr.c
unuran-1.8.1/src/distr/deprecated_distr.h
unuran-1.8.1/src/methods/deprecated_methods.c
unuran-1.8.1/src/methods/deprecated_methods.h
unuran-1.8.1/src/methods/deprecated_tdrwg.h
unuran-1.8.1/src/methods/deprecated_vmt.c
unuran-1.8.1/src/methods/deprecated_vmt.h
unuran-1.8.1/src/methods/deprecated_vmt_struct.h
unuran-1.8.1/src/parser/stringparser_lists.ch.in
```

UNU.RAN relies on a modified version of the library Cephес, see ./src/src/specfunct/cephес_source.h

Details from /src/src/specfunct/cephес_source.h

=====

This file was considerably changed for UNU.RAN.
As a consequence it has been renamed from "mconf.h" to
"cephес_source.h" to avoid confusion.

We were only interested in the files:

```
gamma.c
igamma.c
incbet.c
ndtr.c
ndtri.c
```

to use these files we needed the auxiliary files:

```
isnan.c
mtherr.c
polevl.c
```

The aim was to enhance portability for ANSI C without expert knowledge of the floating point unit.

The main changes are

numeric constants (in cephес - const.c) are replaced
by macros defined in this file (source_mconf.h).

We changed these constants using the constants provided by
ANSI C in the math.h file.

We changed also the definitions of MAXGAM (in incbet.c) and of
MAXSTIR (in gamma.c).

Everything concerning NANS and INFINITY was moved into isnan.c.
(Also the defines to turn it off or on.)

We have only tested this version with NAN and INFINITY turned
off, but we have not changed anything concerning that
question. So turning this support on should (could) work.

March 26th, 2001, Josef Leydold and Wolfgang Hoermann.

```
/*-----*/
/*          mconf.h
 *
 * Common include file for math routines
 *
 *
 * SYNOPSIS:
 *
 * #include "mconf.h"
 *
 *
 * DESCRIPTION:
 *
 * This file contains definitions for error codes that are
 * passed to the common error handling routine mtherr()
 * (which see).
 *
 * The file also includes a conditional assembly definition
 * for the type of computer arithmetic (IEEE, DEC, Motorola
 * IEEE, or UNKnown).
 *
 * For Digital Equipment PDP-11 and VAX computers, certain
 * IBM systems, and others that use numbers with a 56-bit
 * significand, the symbol DEC should be defined. In this
 * mode, most floating point constants are given as arrays
 * of octal integers to eliminate decimal to binary conversion
 * errors that might be introduced by the compiler.
 *
 * For little-endian computers, such as IBM PC, that follow the
 * IEEE Standard for Binary Floating Point Arithmetic (ANSI/IEEE
 * Std 754-1985), the symbol IBMPC should be defined. These
 * numbers have 53-bit significands. In this mode, constants
 * are provided as arrays of hexadecimal 16 bit integers.
 *
 * Big-endian IEEE format is denoted MIEEE. On some RISC
 * systems such as Sun SPARC, double precision constants
 * must be stored on 8-byte address boundaries. Since integer
 * arrays may be aligned differently, the MIEEE configuration
 * may fail on such machines.
 *
 * To accommodate other types of computer arithmetic, all
 * constants are also provided in a normal decimal radix
 * which one can hope are correctly converted to a suitable
 * format by the available C language compiler. To invoke
 * this mode, define the symbol UNK.
 *
 * An important difference among these modes is a predefined
 * set of machine arithmetic constants for each. The numbers
 * MACHEP (the machine roundoff error), MAXNUM (largest number
 * represented), and several other parameters are preset by
 * the configuration symbol. Check the file const.c to
 * ensure that these values are correct for your computer.
 *
```


* Configurations NANS, INFINITIES, MINUSZERO, and DENORMAL
* may fail on many systems. Verify that they are supposed
* to work on your computer.
*/

Cephes Math Library Release 2.3: June, 1995
Copyright 1984, 1987, 1989, 1995 by Stephen L. Moshier

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