

# Package ‘RnavGraphImageData’

July 2, 2014

**Type** Package

**Title** Some image data used in the RnavGraph package demos

**Version** 0.0.3

**Date** 2013-04-30

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**URL** <http://www.navgraph.com>

**Description** Image data used as examples in the RnavGraph R package.  
See the demos in the RnavGraph package.

**Depends** R (>= 2.10.0)

**Suggests** RnavGraph

**License** GPL-2

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2013-05-01 09:23:05

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binaryalphadigits      *Binary Alphadigits*

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**Description**

Binary 20x16 digits of "0" through "9" and capital "A" through "Z". 39 examples of each class.

From Simon Lucas' (sml@essex.ac.uk), Algoval system.

**Usage**

binaryalphadigits

**Format**

Data frame with one image per row.

**Source**

<http://www.cs.nyu.edu/~roweis/data.html>

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digits      *USPS Handwritten Digits*

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**Description**

8-bit 16x16 grayscale images of "0" through "9"; 1100 examples of each class.

**Usage**

digits

**Format**

Data frame with one image per column.

**Source**

<http://www.cs.nyu.edu/~roweis/data.html>

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faces

*Olivetti Faces*

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**Description**

Grayscale faces 8 bit [0-255], a few images of several different people.

400 total images, 64x64 size.

From the Olivetti database at ATT.

**Usage**

faces

**Format**

Data frame with one image per column.

**Source**

<http://www.cs.nyu.edu/~roweis/data.html>

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frey

*Frey Face*

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**Description**

From Brendan Frey. Almost 2000 images of Brendan's face, taken from sequential frames of a small video. Size: 20x28.

**Usage**

frey

**Format**

Data frame with one image per column.

**Source**

<http://www.cs.nyu.edu/~roweis/data.html>

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`L2Distance`*Euclidean distances between vector in A and B*

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**Description**

This fully vectorized (VERY FAST!) m-file computes the Euclidean distance between two vectors by:

$$\|A-B\| = \text{sqrt} ( \|A\|^2 + \|B\|^2 - 2*A.B )$$

**Usage**

```
L2Distance(a, b, df = 0)
```

**Arguments**

<code>a</code>	Either a matrix or a vector.
<code>b</code>	Either a matrix or a vector.
<code>df</code>	<code>df = 1</code> , force diagonals to be zero; 0 (default), do not force.

**Value**

For A - (DxM) matrix B - (DxN) matrix

L2Distance returns a matrix of size (MxN).

**Note**

This function was transcribed by the package maintainers from a Matlab to an R function.

**Author(s)**

Roland Bunschoten

**Examples**

```
A = matrix(runif(400*100),ncol=100)
B = matrix(runif(400*200),ncol=200)

d = L2Distance(A,B)
```

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ordalphadigits	<i>Dissimilarity object of class 'isomap' for Binary Alphadigits data</i>
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**Description**

Dissimilarity object of class 'isomap'. Returned from:  
isomap(vegdist(binaryalphadigits), k=6).

**Usage**

```
ordalphadigits
```

**Format**

Object of class 'isomap'.

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ordfrey	<i>Dissimilarity object of class 'isomap' for Frey Faces data</i>
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**Description**

Dissimilarity object of class 'isomap'. Returned from:  
isomap(vegdist(t(frey), method="euclidean"), k = 12, ndim=6, fragmentedOK = TRUE)

**Usage**

```
ordfrey
```

**Format**

Object of class 'isomap'.

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