

# Package ‘ggsom’

May 8, 2026

**Type** Package

**Title** New Data Visualisations for SOMs Networks

**Version** 0.4.0

**Description**

The aim of this package is to offer more variability of graphics based on the self-organizing maps.

**License** MIT + file LICENSE

**LazyData** true

**Encoding** UTF-8

**Depends** R (>= 3.4.0)

**Imports** dplyr, magrittr, tidyr, ggplot2, kohonen, assertthat,  
data.table, entropy, tibble

**Suggests** devtools, knitr, rmarkdown

**URL** <https://github.com/oldlipe/ggsom>

**RoxygenNote** 7.0.0

**Collate** 'ggsom.R' 'ggsom\_aes.R' 'ggsom\_entropy.R' 'ggsom\_plot.R'  
'ggsom\_utils.R' 'zzz.R'

**NeedsCompilation** no

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**Repository** CRAN

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geom_class	<i>Visualization in parallelels coordinates in matrix of each attribute</i>
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**Description**

Visualization of the classes corresponding to each neuron of the SOM

**Usage**

```
geom_class(object_som, class = NULL, x_o = 3, y_o = 5.5, x_e = 3, y_e = 6.3)
```

**Arguments**

object_som	object of Kohonen package
class	categorical vector corresponding to the class of the dataset
x_o	x-axis to map the number of observations of each neuron
y_o	y-axis to map the number of observations of each neuron
x_e	x-axis to map the entropy of each neuron
y_e	y-axis to map the entropy of each neuron

**Value**

ggplot2 object

**Author(s)**

Felipe Carvalho, <lipecaso@gmail.com>

**References**

‘ggplot2’ package (<https://CRAN.R-project.org/package=ggplot2>)

**Examples**

```
# Creating SOM object
iris_som <- kohonen::som(X = as.matrix(iris[1:4]),
                        grid = kohonen::somgrid(xdim = 5,
                                                  ydim = 5,
                                                  neighbourhood.fct = "gaussian",
                                                  topo = "rectangular"),
                        rlen = 100)

# Creating ggsom class plot
geom_class(iris_som, class = iris$Species,
           x_o = 1, y_o = 6,
           x_e = 1.1, y_e = 7.4)
```

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ggsom

*ggsom*

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### Description

The aim of this package is to offer more variability of graphics based on the self-organizing maps

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ggsom\_aes

*kohonen package object modeling*

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### Description

Function to map each SOM neuron with its corresponding class

### Usage

```
ggsom_aes(object_som, class)
```

### Arguments

object_som	object of kohonen package
class	categorical vector corresponding to the class of the dataset

### Value

data.table model used in visualizations

### Author(s)

Felipe Carvalho, <lipecaso@gmail.com>

### References

'Kohonen' package (<https://CRAN.R-project.org/package=kohonen>)

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ggsom_entropy	<i>Function to obtain the purity of each neuron in the SOM network</i>
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**Description**

Entropy calculation using the maximum likelihood method

**Usage**

```
ggsom_entropy(ggsom_aes)
```

**Arguments**

ggsom\_aes      kohonen package object modeling

**Value**

Data set with the purity attribute added in Tibble

**Author(s)**

Felipe Carvalho, <felipe.carvalho@inpe.br>

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is.kohonen	<i>verifies that the object inherits kohonen object</i>
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**Description**

if object inherits kohonen class return TRUE otherwise FALSE

**Usage**

```
is.kohonen(object_som)
```

**Arguments**

object\_som      object of Kohonen package

**Value**

Boolean value

**Author(s)**

Felipe Carvalho, <lipecaso@gmail.com>

**References**

‘Kohonen’ package (<https://CRAN.R-project.org/package=kohonen>)

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