

# visNet

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visNet

*Function to visualise a graph object of class "igraph" or "graphNEL"*

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## Description

visNet is supposed to visualise a graph object of class "igraph" or "graphNEL". It also allows the color-coding of vertices by providing the input pattern.

## Usage

```
visNet(g, pattern = NULL, colormap = c("bwr", "jet", "gbr", "wyr",  
"br",  
"yr", "rainbow", "wb"), ncolors = 40, zlim = NULL, colorbar = T,  
newpage = T, glayout = layout.fruchterman.reingold,  
vertex.frame.color = NA, vertex.size = NULL, vertex.color = NULL,  
vertex.shape = NULL, vertex.label = NULL, vertex.label.cex = NULL,  
vertex.label.dist = NULL, vertex.label.color = "black", ...)
```

## Arguments

<code>g</code>	an object of class "igraph" or "graphNEL"
<code>pattern</code>	a numeric vector used to color-code vertices/nodes. Notably, if the input vector contains names, then these names should include all node names of input graph, i.e. <code>V(g)\$name</code> , since there is a mapping operation. After mapping, the length of the pattern vector should be the same as the number of nodes of input graph; otherwise, this input pattern will be ignored. The way of how to color-code is to map values in the pattern onto the whole colormap (see the next arguments: <code>colormap</code> , <code>ncolors</code> , <code>zlim</code> and <code>colorbar</code> )
<code>colormap</code>	short name for the colormap. It can be one of "jet" (jet colormap), "bwr" (blue-white-red colormap), "gbr" (green-black-red colormap), "wyr" (white-yellow-red colormap), "br" (black-red colormap), "yr" (yellow-red colormap), "wb" (white-black colormap), and "rainbow" (rainbow colormap, that is, red-yellow-green-cyan-blue-magenta). Alternatively, any hyphen-separated HTML color names, e.g. "blue-black-yellow", "royalblue-white-sandybrown", "darkgreen-white-darkviolet". A list of standard color names can be found in <a href="http://html-color-codes.info/color-names">http://html-color-codes.info/color-names</a>
<code>ncolors</code>	the number of colors specified over the colormap

<code>zlim</code>	the minimum and maximum <code>z/patttern</code> values for which colors should be plotted, defaulting to the range of the finite values of <code>z</code> . Each of the given colors will be used to color an equispaced interval of this range. The midpoints of the intervals cover the range, so that values just outside the range will be plotted
<code>colorbar</code>	logical to indicate whether to append a colorbar. If <code>pattern</code> is null, it always sets to false
<code>newpage</code>	logical to indicate whether to open a new page. By default, it sets to true for opening a new page
<code>glayout</code>	either a function or a numeric matrix configuring how the vertices will be placed on the plot. If <code>layout</code> is a function, this function will be called with the graph as the single parameter to determine the actual coordinates. This function can be one of "layout.auto", "layout.random", "layout.circle", "layout.sphere", "layout.fruchterman.reingold", "layout.kamada.kawai", "layout.spring", "layout.reingold.tilford", "layout.fruchterman.reingold.grid", "layout.lgl", "layout.graphopt", "layout.svd" and "layout.norm". A full explanation of these layouts can be found in <a href="http://igraph.org/r/doc/layout_nicely.html">http://igraph.org/r/doc/layout_nicely.html</a>
<code>vertex.frame.color</code>	the color of the frame of the vertices. If it is NA, then there is no frame
<code>vertex.size</code>	the size of each vertex. If it is a vector, each vertex may differ in size
<code>vertex.color</code>	the fill color of the vertices. If it is NA, then there is no fill color. If the <code>pattern</code> is given, this setup will be ignored
<code>vertex.shape</code>	the shape of each vertex. It can be one of "circle", "square", "csquare", "rectangle", "crectangle", "vrectangle", "pie" ( <a href="http://igraph.org/r/doc/vertex.shape.pie.html">http://igraph.org/r/doc/vertex.shape.pie.html</a> ), "sphere", and "none". If it sets to NULL, these vertices with negative will be "csquare" and the rest "circle".
<code>vertex.label</code>	the label of the vertices. If it is NA, then there is no label. The default vertex labels are the name attribute of the nodes
<code>vertex.label.cex</code>	the font size of vertex labels.
<code>vertex.label.dist</code>	the distance of the label from the center of the vertex. If it is 0 then the label is centered on the vertex. If it is 1 then the label is displayed beside the vertex.
<code>vertex.label.color</code>	the color of vertex labels.
<code>...</code>	additional graphic parameters. See <a href="http://igraph.org/r/doc/plot.common.html">http://igraph.org/r/doc/plot.common.html</a> for the complete list.

**Value**

invisible

**Note**

none

**See Also**[dNetFind](#)

**Examples**

```
# 1) generate a random graph according to the ER model
g <- erdos.renyi.game(100, 1/100)

# 2) produce the induced subgraph only based on the nodes in query
subg <- dNetInduce(g, V(g), knn=0)

# 3) visualise the subg with vertices being color-coded by the pattern
pattern <- runif(vcount(subg))
names(pattern) <- V(subg)$name
visNet(g=subg, pattern=pattern, colormap="bwr", vertex.shape="sphere")
```