

# Package ‘NMI’

August 20, 2016

**Title** Normalized Mutual Information of Community Structure in Network

**Version** 2.0

**Description** Calculates the normalized mutual information (NMI) of two community structures in network analysis.

**Depends** R (>= 3.2.2)

**License** GNU General Public License version 2

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 5.0.1

**NeedsCompilation** no

**Author** Tianhao Wu [aut, cre]

**Maintainer** Tianhao Wu <tianhao.wu@yale.edu>

**Repository** CRAN

**Date/Publication** 2016-08-20 15:36:57

## R topics documented:

NMI . . . . .	1
<b>Index</b>	<b>3</b>

---

NMI *Normalized Mutual Information of Community Structure in Network*

---

### Description

Calculates the normalized mutual information (NMI) of two community structures in network analysis.

### Usage

NMI(X, Y)

**Arguments**

X a data frame or matrix whose first column is the node id and the second column is module

Y a data frame or matrix whose first column is the node id and the second column is module

**Value**

value value of NMI

**Examples**

```
# Suppose X and Y are exactly the same
X<-data.frame(c(1,2,3),c(2,1,1))
Y<-X
# There NMI is 1
NMI(X,Y)

# Suppose X and Y are completely independent
X<-data.frame(c(1,2,3),c(2,1,1))
Y<-data.frame(c(5,6,7),c(2,1,1))
# There NMI is 0
NMI(X,Y)
```

# Index

NMI, 1