	123220184 BIOINFOI	Date
A. Alverage Distance - Jarans arrhar hode: $0-1=1$ $0-2=2$ $0-3=2$ $1-2=1$ $1-3=1$ $2-3=1$ - Jumlah total jarak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Alverage distance = $7/6$ = 1.17 Komunitas biru darak antar node $1-10=1$ $1-12=2$ $1-13=2$ $10-13=1$ $11-12=1$ $11-13=2$ $11-13=1$ buulah total jarak = $1+2+2+2+1+1+1+1+2+1$	On .	
- Jaras arter hode: $0-1=1$ $0-2=2$ $0-3=2$ $1-2=1$ $1-3=1$ $2-3=1$ - Jumlah total jarak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ komunitas biru datak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-13=2$ $11-13=2$ $11-13=2$ $11-13=2$ $12-13=1$ bumlah total jarak = $1+2+2+2+1+1+1+1+1+2+1$	PKI.	
0-1 = 1 0-2 = 2 0-3 = 2 1-2 = 1 2-3 = 1 - Jumlah total jarak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ komunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-12=1$ $11-13=2$ $11-13=2$ $12-13=1$ bumlah total jarak = $1+2+2+2+1+1+1+1+1+2+1$	a Average Distance	historia entropolationess
0-2=2 1-2=1 1-3=1 2-3=1 - Jumlah total parak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ **Nomunitas bira darak autar node $\frac{1}{4}-10=1$ $\frac{1}{4}-13=2$ $\frac{1}{10}-13=2$ $\frac{1}{10}-13=2$ $\frac{1}{10}-13=1$ $\frac{1}{10}-13=1$ $\frac{1}{10}-13=2$ $\frac{1}{10}-13=1$ \frac		
$0-3=2$ $1-2=1$ $2-3=1$ $2-3=1$ - Jumlah total jarak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Alverage distance = $\frac{7}{6}$ Komunitas biru darak autar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-12=1$ $11-13=2$ $11-13=2$ $12-13=1$ bumlah total jarak : $1+2+2+2+1+1+1+1+2+1$		
$1-2=1$ $1-3=1$ $2-3=1$ - Jumlah total jarak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ **Nomunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $10-13=2$ $11-13=2$ $12-13=1$ **Jumlah total jarak : $1+2+2+2+1+1+1+1+2+1$		
1-3=1 2-3=1 - Jumlah total parak = $1+1+2+1+1+1=7$ - Jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ Komunitas biru datak antar node $1+10=1$ $1-11=2$ $1-12=2$ $10-12=1$ $10-13=1$ $11-12=1$ $11-13=2$ $12-13=1$ bumlah total parak : $1+2+2+2+1+1+1+1+1+2+1$	0-3 = 2	2 : cobye Unternal : s
2-3=1 - Jumlah total jarak = $1+1+2+1+1+1=7$ - jumlah pasangan = 6 - Alverage distance = $\frac{7}{6}$ Komunitas biru darak autar node $4-10=1$ $4-11=2$ $4-12=2$ $10-11=1$ $10-12=1$ $11-12=1$ $11-13=2$ $12-13=1$ tumlah total jarak = $1+2+2+2+1+1+1+1+1+2+1$		
- Jumlah total jarak = 1+1+2+1+1+1 = 7 - Jumlah pasangan = 6 - Average distance = 7/6 Komunitas biru datak antar node 4-10 = 1 4-11 = 2 4-12 = 2 4-13 = 2 10-11 = 1 10-12=1 11-12=1 11-13=2 12-13=1 bumlah total jarak = 1+2+2+2+1+1+1+1+2+	228.0= 1-3=1-3+0.11	herage embeddedness = (1840.75)
- jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ Komunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-13=2$ $11-13=1$ bumlah total parak = $1+2+2+1+1+1+1+1+2+$	2-3=1	
- jumlah pasangan = 6 - Average distance = $\frac{7}{6}$ Komunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-13=2$ $11-13=1$ bumlah total parak = $1+2+2+1+1+1+1+1+2+$	- Jumlah total pro	ik = 1+1+2+1+1+1 = 7
- Average distance = $\frac{7}{6}$ **Nomunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-13=2$ $12-13=1$ buntah total parak : $1+2+2+2+1+1+1+1+2+$		
Komunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $11-13=2$ $12-13=1$ bumlah total parak $: 1+2+2+2+1+1+1+1+2+$	- Average distance	2.16= 7/6 - Marrishin Tals & Op
Komunitas biru darak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-13=1$ $10-13=2$ $11-13=2$ $12-13=1$ bunlah total parak $21+2+2+1+1+1+1+2+1$	old:2-71.0	1 : ed. luterial = 51,128 t
datak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-12=1$ $10-13=1$ $11-13=2$ $12-13=1$ buntah total parak $= 1+2+2+2+1+1+1+1+2+$	0-1 - 5 = 10-10	12 = col. luter 104 = 3, day to
datak antar node $4-10=1$ $4-11=2$ $4-12=2$ $4-13=2$ $10-12=1$ $10-13=1$ $11-13=2$ $12-13=1$ buntah total parak $= 1+2+2+2+1+1+1+1+2+$	komunitas biru	to a strillerral 12, day to
4-11 = 2 $4-12 = 2$ $4-13 = 2$ $10-11 = 1$ $10-12 = 1$ $11-12 = 1$ $11-13 = 2$ $12-13 = 1$ buntah total parak = $1+2+2+2+1+1+1+1+2+$		
4-12 = 2 $4-13 = 2$ $10-11 = 1$ $10-12 = 1$ $11-12 = 1$ $11-13=2$ $12-13=1$ buntah total parak = $1+2+2+2+1+1+1+1+2+$	4-10 =1	
4-13=2 $10-11=1$ $10-12=1$ $10-13=1$ $11-13=2$ $12-13=1$ bundah total Jarak: $1+2+2+2+1+1+1+1+2+$	4-11 = 2	Hierogz (Wernal degree
10-11: 1 10-12=1 11-12=1 11-13=2 12-13=1 tumleh total parak: 1+2+2+2+1+1+1+1+2+	4-12 = 2	Usarrunitas biru
10-12=1 10-13=1 11-12=1 11-13=2 12-13=1 Jumlah total Jarak : 1+2+2+2+1+1+1+1+2+	4-13=2	node 0:2
10-13=1 11-12=1 11-13=2 12-13=1 Jumlah total Jarak = 1+2+2+2+1+1+1+1+2+	10-11=1	E = 1
11-12=1 11-13=2 12-13=1 Jumlah total Jarak : 1+2+2+2+1+1+1+1+2+	10-12=1	2 . 3
11-13=2 12-13=1 Jumlah total Jarak: 1+2+2+2+1+1+1+1+2+	10-13=1	
11-13=2 12-13=1 Jumlah total Jarak: 1+2+2+2+1+1+1+1+2+	11-12=1	Average = (2+3+3+2)/4 = "
12-13=1 tumlah total Jarak: 1+2+2+2+1+1+1+1+2+		
tumbel total parak = 1+2+2+2+1+1+1+1+2+		Komunitas mercia
Vanilah Pasayaan = 10		OK: 1+2+2+2+1+1+1+1+2+
	Lumbh Pasanaan	= (0

b. Average embeddedness Komunitas bim Node 0 : edge Internal : 2 . dagree total : 2 -> 1.0 1. edge internal. 3, alegrer total. H-, 3/4:0175 2 : edge Internal: 3 , degree total: 3-71.0 3 redge Internal: 3 rdegree total: 3-7 4/3=064 Average embeddedness = (10+0.75+1.0+0.67)/4 = 0.855 komunitas meral 00000000000000000 Node 4 = ed. (Hernal = 1, day tolal = 2 -> 0.5 40 : ed - Nuternal = 4, aley. total 5 -> 4/5=0.8 Il : ed. luternal : 2, deg total : 2 -7 1.0 12 = cd. Interval : 3, day total : 3 -> 1.0 13 : ed. luternal , 2, deg total = 3 -> 2/3 , 0.67 Average embeddedness = (0.5+0.8+1.0+1.0+0.67) = 0.794 Avenua Internal degree Comunitas ETru node 0:2 1:3 2 , 3 3:2 Allerage = (2+3+3+2)/4 = 10/4 = 2,5 Komunifa, meral node 12:3 node 4:1 13, 2 10:4 11:2

THE DIENO, UN NOTED INST

A SITAM A OF MICE PRIOR SECTION Date

TOTAL M1 2 0.2925+0-0.167+0.333

= 0.4585

= 0.459 11+ H = 20000 ms

b. NMI 1. entropy H(x) dan H(y) H(x) = -[0.5log2 (0.5) + 0.5log2 (0.5)] = -2 x0.5 x(-1) Hly =- [0.667/092(0.667) + 0.333/092(0.333)] >-[0.667 x (-0.585)+0.33x (-1.585)] = 0.396+ 0.528 = D.918 2. NMI Formula 2×MI 2 x0.459 H(x)+H(Y) 1 +0.918 0.918 1.918 0.479 C. Rand Index 1. Pasangan cocok

1. Pasangan cocok

tot pasangan node (2) = 15

pasangan dalam komunitas sama di kedua deteksi

(01) (0,2) (1,2) (4,5) -7 4 pasangan cocok

pasangan beda komunitas di kedua deteksi

(0,3) (0,4) (0,5) (1,3) (1,4) (1,5) (2,3) (2,4) (2,5) (3,4) (3,5)

11 pasangan cocok

jml. pasangan cocok = 4+11

- 15 pasangan cocok

Date

2.	12and	index

4. ARI

Index - Expected Index
Max Index - Expected

= 15

=1.0