Overlapping

George G Vega Yon

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Jaccard Index between different leader selection algorithms: Each cell represents a 100 simulated networks with network size ranging between 20 and 50 individuals and selecting a random proportion of leaders ranging 5 to 20 percent of the network. The Scale-free homophilic network was built based on age using the rgraph\_ba function as implemented in netdiffuseR.

|  |  |  |  |
| --- | --- | --- | --- |
|  | scale\_free | small\_world | sf\_homophilic |
| Indegree VS Mentor Matching | 0.98 | 0.62 | 0.86 |
| Girvan-Newman VS Indegree | 0.61 | 0.48 | 0.33 |
| Girvan-Newman VS Mentor Matching | 0.60 | 0.41 | 0.32 |
| Mentor Matching VS Random Groups | 0.58 | 0.47 | 0.57 |
| Indegree VS Random Groups | 0.58 | 0.55 | 0.58 |
| Indegree VS Key Players | 0.42 | 0.17 | 0.54 |
| Key Players VS Mentor Matching | 0.42 | 0.17 | 0.54 |
| Girvan-Newman VS Random Groups | 0.38 | 0.37 | 0.28 |
| Key Players VS Random Groups | 0.38 | 0.14 | 0.46 |
| Girvan-Newman VS Key Players | 0.30 | 0.15 | 0.28 |
| Group Assignment VS Indegree | 0.23 | 0.11 | 0.12 |
| Group Assignment VS Mentor Matching | 0.23 | 0.10 | 0.10 |
| Group Assignment VS Key Players | 0.21 | 0.06 | 0.12 |
| Group Assignment VS Random Groups | 0.19 | 0.10 | 0.10 |
| Group Assignment VS Girvan-Newman | 0.16 | 0.10 | 0.13 |

Normalized Hamming Distance between different leader selection algorithms groups: Each cell represents a 100 simulated networks with network size ranging between 20 and 50 individuals and selecting a random proportion of leaders ranging 5 to 20 percent of the network. The Scale-free homophilic network was built based on age using the rgraph\_ba function as implemented in netdiffuseR.

|  |  |  |  |
| --- | --- | --- | --- |
|  | scale\_free | small\_world | sf\_homophilic |
| Girvan-Newman VS Random Groups | 0.69 | 0.38 | 0.32 |
| Girvan-Newman VS Mentor Matching | 0.63 | 0.30 | 0.37 |
| Mentor Matching VS Random Groups | 0.36 | 0.34 | 0.37 |

Where the adjacency matrices are defined as individuals’ group-co-membership: