

index.G3 (clusterSim)

### Internal cluster quality index

$$G3(u) = \frac{D(u) - r \cdot D_{\min}}{r \cdot D_{\max} - r \cdot D_{\min}}, \quad D_{\min} \neq D_{\max},$$
$$G3(u) \in (0, 1),$$

where:  $D(u)$  – all within-cluster dissimilarities,

$r$  – number of within-cluster dissimilarities,

$D_{\min}$  – smallest within-cluster dissimilarity,

$D_{\max}$  – largest within-cluster dissimilarity,

$u$  – number of clusters ( $u = 2, \dots, n - 2$ ).

The value of  $u$ , which minimizes  $G3(u)$ , is regarded as specifying the number of clusters.

### References

Gordon, A.D. (1999), *Classification*, Chapman & Hall/CRC, London, p. 62.