

## Empirical Study of Partitions Similarity Measures

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**Abstract :** This paper investigates and compares the performance of four existing distances and similarity measures between partitions. The partition measures considered are Rand Index (RI), Adjusted Rand Index (ARI), Variation of Information (VI), and Normalised Variation of Information (NVI). This work investigates the ability of these partition measures to capture three predefined intuitions: the variation within randomly generated partitions, the sensitivity to small perturbations, and finally the independence from the dataset scale. It has been shown that the Adjusted Rand Index performed well overall, with regards to these three intuitions.

**Keywords :** clustering, comparing partitions, similarity measure, partition distance, partition metric, similarity between partitions, clustering comparison.

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