A THE MAXIMUM SUM DISPLAYED GROUPS’ WEIGHTED SCORES CRITERION

Let $W$ is a weighting function that maps any input tree’s internal node to a non-negative number. If $I(S, i, j)$ is an indicator function that is 1 if summary tree $S$ displays the node $V(i, j)$ and 0 otherwise then: $SDGS(S) = \sum_i \sum_j I(S, i, j)W(i, j)$ is the “sum of displayed groups’ weighted scores” for a tree where $i$ indexes all of the input trees and $j$ indexes each non-root internal node in tree $i$. Preference for this tree is referred to as the maximum sum displayed groups’ weighted scores criterion (MSDGWS criterion). The summary tree constructed by the propinquity pipeline is a greedy heuristic for finding a tree that maximizes this score when the weights for a node are determined by the tree’s weight and the difference in weighting is so large that displaying one node from a highly ranked tree is preferred to displaying all of the nodes in the trees with lower rank.