

Abstract**RANDOM GREEDY ALGORITHM-BASED HORIZONTAL
FEDERATED GRADIENT BOOSTED TREE OPTIMIZATION
METHOD**

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A random greedy algorithm-based horizontal federated gradient boosted tree optimization method, which comprises the following steps: a coordinator configures gradient boosted tree model relevant parameters, which comprise but are not limited to a maximum number of decision trees (T), a maximum tree depth (L), an initial prediction value (base), etc., and sends same to each participant (p_i); and each participant partitions a current node dataset according to a partition feature f and a partition value v , and allocates new partitioned data to a child node. In the present random greedy algorithm-based horizontal federated gradient boosted tree optimization method, horizontal federated learning comprises participants and a coordinator, the participants possess local data, the coordinator does not possess any data, and is a center that aggregates participant information, the participants respectively calculate a histogram and send the histogram to the coordinator, and after collecting all histogram information, the coordinator searches for a maximally optimal partition point according to a greedy algorithm, and then shares same with each participant, and operates in coordination with an internal algorithm.

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(FIG. 1)

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