SWARM INTELLIGENCE BASED FEDERATED LEARNING COLLABORATION METHOD AND SYSTEM FOR UNSTRUCTURED DATABASE

ABSTRACT

The present invention provides a swarm intelligence based federated learning collaboration method and system for an unstructured database, and relates to the technical field of structured data. The method includes: performing training by federated learning to obtain a query mode identification sub-model, a path programming sub-model and a resource allocation sub-model, and constructing a swarm intelligence collaboration network; parsing a query request of a user by the query mode identification sub-model, generating a candidate query path, fusing an ant colony algorithm and a particle swarm algorithm for optimizing, and generating a query execution scheme; accordingly performing resource scheduling by the resource allocation sub-model; and generating a performance optimization target for updating local model parameters of each node, and fusing the updated parameter by a security aggregation algorithm to guide the next round of query optimization. According to the present invention, the unstructured database query efficiency is improved, and the resource consumption is reduced.

[Fig. 1]