SYSTEMS AND METHODS FOR FEDERATED COMPUTER PROCESSING ARCHITECTURE AND COORDINATED BROADCAST DATA MESSAGING

ABSTRACT

Embodiments of the present disclosure relate to a network of federated computing nodes in which a cost matrix is distributed. Each node has stored thereon distribution vectors, and create an optimal transportation transfer function using the Sinkhorn-Knopp theorem. In other words, the nodes are each configured to generate updated distribution vectors using the cost matrix shared amongst the nodes and their own distribution vectors. The updated distribution vectors of every node is thereafter used to create the optimal transportation transfer function by concatenating the updated distribution vectors received from each node. This approach can be centralized in a star-network architecture, or in a peer-to-peer-network architecture. Furthermore, the approach may be synchronous or asynchronous depending on the implementation.

Fig. 1