An ORL-DLNN and IFIM-MST Framework for Data Quality Improvement in Modern Master Data Management

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Abstract*: The process of generating and maintaining a master record for each person in a business is called Master Data Management (MDM). But, during Modern Master Data Management (MMDM), the prevailing methodologies did not focus on data loss. Hence, an Optimal with Recover Layer-based Deep Learning Neural Network (ORL-DLNN) and Indexed Fisher Information Matrix-based Minimum Spanning Tree-based Modern Master Data Management (IFIM-MST-based MMDM) is proposed in this paper. The source data is taken and pre-processed during training. Then, the products are clustered, and the attributes are extracted. Thereafter, by utilizing Dynamic Function-based Gold Rush Optimization (DF-GRO), the optimal attributes are selected. Afterward, for performing format classification with error detection, ORL-DLNN is introduced. Then, by utilizing the Reconciliation Rule (RR), the detected errors are corrected. After that, by utilizing the IFIM-MST, the text records are stored in the primary drive and the video and images are stored in the external drive. The details are entered by the information stewards into the classifier during testing. The data will be corrected if correction is present. Then, for verifying whether the data must be stored or not, some conditions are checked. Hence, the outcomes illustrated that the proposed system obtained a high accuracy of 98.3%, thus outperforming the existing techniques.*

Keywords: Modern MDM (MMDM), Dynamic Function-based Gold Rush Optimization (DF-GRO), Indexed Fisher Information Matrix-based Minimum Spanning Tree (IFIM-MST), Exponential Probability Function-based Affinity Propagation (EPF-AP), Reconciliation Rule (RR), Information stewards, and Business.

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