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(57) Abstract :

Disclosed herein is a artificial intelligence-assisted cloud based adaptive compression system (100), comprising a user device (102) collect real-time file-related data from a user through a user interface (104), a communication network (106) establish a communication link for data transmission, a processing unit (108) process real-time file-characterstics and determine adaptive compression parameters further comprises a data input module (110) receive real-time information from the user device (102), a pre-processing module (112) clean, normalize and reduce noise, a feature extraction module (114) extract features, an data optimization module (116) determine the adaptive compression parameters, a data compression module (118) compress file data by using entropy-optimized lossless coding based, an data encryption module (120) encrypt the compressed data output, a cloud storage module (124) store the encrypted compressed data, manage backup and provide secure retrieval, an output module (134) transmit optimized data, compressed data, and encrypted data to the user device (102).

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