

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511043618 A

(19) INDIA

(22) Date of filing of Application :05/05/2025

(43) Publication Date : 23/05/2025

(54) Title of the invention : AN AI-DRIVEN CONTEXT-AWARE DYNAMIC DATA COMPRESSION SYSTEM

(51) International classification :H04L0012180000, H03M0007300000, G06N0020000000, G06N0005040000, E21B0047120000

(86) International Application No :NA  
 Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
 Filing Date :NA

(62) Divisional to Application Number :NA  
 Filing Date :NA

(71)**Name of Applicant :**  
**1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY**  
 Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. -----  
**Name of Applicant : NA**  
**Address of Applicant : NA**

(72)**Name of Inventor :**  
**1)Dr. RAJU**  
 Address of Applicant :Department of Computer Science & Engineering (AIML), Noida Institute of Engineering & Technology, Greater Noida. Greater Noida -----  
 -----

(57) Abstract :  
 The present invention discloses an AI-driven context-aware dynamic data compression system (100) comprising a context analyzer module (102), content classifier module (104), dynamic compression engine (106), learning optimizer unit (108), and feedback control module (110). The system intelligently adjusts compression strategies in real time based on environmental conditions, data types, and application requirements, offering optimized performance in storage and transmission without sacrificing data fidelity.

No. of Pages : 13 No. of Claims : 5