

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511061951 A

(19) INDIA

(22) Date of filing of Application :28/06/2025

(43) Publication Date : 11/07/2025

(54) Title of the invention : A SMART MEMORY OPTIMIZATION DEVICE FOR TEMPORARY DATA CACHING

(51) International classification :G06F0009500000, G06F0003060000, G06F0016957000, G06F0012086600, G06F0012086200

(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)AMAR PAL YADAV

Address of Applicant :Department of Computer Science & Engineering, Noida Institute of Engineering & Technology, Greater Noida. Greater Noida -----

(57) Abstract :

The present invention discloses a smart memory optimization device (100) for temporary data caching includes a control unit (102), cache memory (101), optimization logic (103), and memory interface (104). It intelligently manages data caching using predictive algorithms based on access patterns and system parameters. The device dynamically adapts caching policies to improve memory efficiency, reduce latency, and enhance system responsiveness in real-time computing applications. It supports write-through and write-back modes and integrates seamlessly into embedded, portable, and distributed systems.

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