(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :02/04/2026
(21) Application No.202611042277 A
(43) Publication Date : 15/05/2026

(54) Title of the invention : AI-DRIVEN REAL-TIME AUTOMATED WASTE SEGREGATION SYSTEM USING COMPUTER VISION

(51) International classification	:B65F 1/14, G06N 20/00, B07C 5/342, B65F 1/00, G06V 10/764
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Disclosed herein is a system (100) for real-time automated waste segregation using artificial intelligence that comprises a waste input interface (102) configured to receive dumped waste items from waste management authorities for automated analysis, an image acquisition unit (104) operatively associated with the waste input interface (102), the image acquisition unit (104) configured to capture real-time visual data dumped waste items under varying environmental conditions, a communication interface (106) operatively coupled to the image acquisition unit (104), the communication interface (106) being configured to transmit captured visual data and associated metadata to downstream processing components, an edge processing unit (108) operatively coupled to the communication interface (106), the edge processing unit (108) comprising at least one processor and an associated memory, the edge processing unit (108) being configured to execute real-time waste analysis operations, wherein the edge processing unit (108) comprises a pre-processing module (110) configured to perform image resizing.

No. of Pages : 28 No. of Claims : 10