

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511100494 A

(19) INDIA

(22) Date of filing of Application :17/10/2025

(43) Publication Date : 05/12/2025

(54) Title of the invention : AN AI-BASED FRAMEWORK FOR DETECTING INTRUSIONS IN INDUSTRIAL NETWORKS

(51) International classification	:H04L0009400000, G06N0020000000, G06F0021550000, G06F0018210000, G01N0033543000	(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. Uttar Pradesh India
(31) Priority Document No	:NA	(72) Name of Inventor :
(32) Priority Date	:NA	1)Dr. MANALI GUPTA
(33) Name of priority country	:NA	2)RAVIRAJ SINGH KURMI
(86) International Application No	:	
Filing Date	:01/01/1900	
(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	

(57) Abstract :

The invention discloses an AI-based framework (101) for detecting intrusions in industrial networks. It comprises a machine learning engine (102), anomaly detection module (103), adaptive response system (104), real-time monitoring module (105), and contextual analysis engine (106). The framework enables real-time detection, classification, and mitigation of intrusions, ensuring operational continuity and reducing false positives. Experimental validation demonstrates its superior performance in identifying both known and unknown attacks, while federated learning ensures adaptability. The system offers scalability, resilience, and improved trust in industrial network security.

No. of Pages : 15 No. of Claims : 6