

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541115293 A

(19) INDIA

(22) Date of filing of Application :21/11/2025

(43) Publication Date : 05/12/2025

(54) Title of the invention : Explainable AI models for Real -Time Threat Mitigation in Blockchain -Integrated IOT Supply Chains

(51) International classification	:G05D 101/10, B60L 1/06, G08B 13/19, G08B 13/181, G08B 13/189	(71)Name of Applicant : 1)Mrs. Yerraginnela Shravani Address of Applicant :Assistant Professor Department of Computer Science and Engineering (AIML), Gurunanak Institution's Technical Campus (Autonomous), Ibrahimpatnam. Ibrahimpatnam Telangana India 2)Sariya Jabeen Duriya 3)M.Keerthi priya 4)Bushra Muneeb 5)RAGIPANI SOWMYA 6)Dr. M. Vijaya Kanth 7)Dr.A. Manikandan 8)Vannadapu Narsimha
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	1)Mrs. Yerraginnela Shravani
(33) Name of priority country	:NA	2)Sariya Jabeen Duriya
(86) International Application No	:	3)M.Keerthi priya
Filing Date	:01/01/1900	4)Bushra Muneeb
(87) International Publication No	: NA	5)RAGIPANI SOWMYA
(61) Patent of Addition to Application Number	:NA	6)Dr. M. Vijaya Kanth
Filing Date	:NA	7)Dr.A. Manikandan
(62) Divisional to Application Number	:NA	8)Vannadapu Narsimha
Filing Date	:NA	

(57) Abstract :

ABSTRACT [0011] This invention introduces explainable AI models tailored for real-time threat mitigation in supply chains that blend IoT and blockchain technologies. In essence, it addresses the vulnerabilities in modern, connected supply systems by using AI that not only detects risks swiftly but also provides clear, human-readable explanations for its actions. IoT devices gather live data on goods and processes, which is secured via blockchain to prevent tampering. The AI then processes this data to identify threats such as cyberattacks, supply disruptions, or fraud, and responds immediately perhaps by halting operations or alerting teams. What sets it apart is the explainability: Users get detailed breakdowns of why a threat was flagged, fostering trust and enabling better oversight. This invention highlights the invention's potential to enhance security, efficiency, and transparency in industries reliant on complex supply chains, reducing losses from threats while complying with accountability standards.

No. of Pages : 8 No. of Claims : 7