(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :06/10/2025

(21) Application No.202511095938 A

(43) Publication Date : 05/12/2025

(54) Title of the invention : A MACHINE LEARNING MODEL FOR AUTOMATED CYBERSECURITY THREAT DETECTION

(51) International classification	:H04L0009400000, G06N0020000000, G06N0003088000, G06F0018210000, G06F0021550000
(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 :
The invention relates to a machine learning–based system for automated cybersecurity threat detection comprising Data Collection Unit (101), Feature Extraction Module (102), Machine Learning Engine (103), Anomaly Detection Sub-Module (104), Decision Engine (105), and Response Layer (106). The system integrates supervised and unsupervised learning for comprehensive threat coverage, while a Model Retraining Loop (107) ensures adaptive learning. By automating classification, correlation, and response, the invention enhances real-time detection accuracy, reduces false positives, and provides scalable, autonomous protection against both known and unknown threats.

No. of Pages : 16 No. of Claims : 6