INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

(PROF. (DR) UNNAT P. PANDIT)
CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

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(54) Title of the invention : AUTONOMOUS CYBERSECURITY SYSTEM USING MACHINE LEARNING FOR PROACTIVE THREAT DETECTION AND DEFENSE

(51) International classification :H04L0009400000, G06N0020000000, G06N0003080000, G06F0021550000, G06N0007010000	**(71)Name of Applicant :**
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(57) Abstract :

ABSTRACT AUTONOMOUS CYBERSECURITY SYSTEM USING MACHINE LEARNING FOR PROACTIVE THREAT DETECTION AND DEFENSE A cybersecurity system is disclosed that leverages machine learning and data science to provide autonomous, real-time threat detection and mitigation. The system includes a multi-source data ingestion layer, advanced preprocessing and feature extraction capabilities, and a hybrid threat detection engine utilizing supervised, unsupervised, and reinforcement learning models. External and internal threat intelligence is correlated to predict and preempt emerging cyber threats. Upon detection, the system autonomously initiates defensive actions such as traffic filtering, endpoint isolation, and access policy updates, minimizing the need for human intervention. A continuous learning module enables the system to adapt to evolving threats over time. This invention enhances organizational cybersecurity by offering a scalable, intelligent defense framework capable of identifying both known and unknown attacks.

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