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(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. ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)ANAMIKA SRIVASTAV
Address of Applicant :Department of Computer Science & Engineering, Noida Institute of Engineering & Technology, Greater Noida. Greater Noida ---------- ----------

(57) Abstract :
The present invention discloses a multi-layered intrusion prevention system that utilizes behavioral fingerprints to detect and mitigate cyber threats in real time. The system comprises an input monitoring module (100), a feature extraction unit (101), a behavioral signature database (102), a fingerprint analysis engine (103), and a multi-layer prevention mechanism (104). By analyzing user-specific behavioral patterns and comparing them against evolving behavioral signatures, the invention enables early detection of anomalies, including zero-day attacks, while minimizing false positives and automating response actions across multiple defense layers for enhanced network security.

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