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(54) Title of the invention : AUTOMATED ANOMALY DETECTION THROUGH RULE-BASED SAMPLING IN A COMPUTER SYSTEM

(51) International classification : G06K0009620000, G06N0020000000, G06F0016215000, G06F0011300000, A61B0090900000	(71)**Name of Applicant :** 1)**Chitkara University** Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala ----------- ----------- 2)**Bluest Mettle Solutions Private Limited** **Name of Applicant : NA** **Address of Applicant : NA** (72)**Name of Inventor :** 1)**MISHRA, Rahul** Address of Applicant :ODC-4, Panchshil Tech Park, inside Courtyard by Marriott premises, Hinjewadi Phase - 1, Pune - 411057, Maharashtra, India. Pune ----------- ----------- 2)**PANDEY, Sakshi** Address of Applicant :ODC-4, Panchshil Tech Park, inside Courtyard by Marriott premises, Hinjewadi Phase - 1, Pune - 411057, Maharashtra, India. Pune ----------- ----------- 3)**MANTRI, Archana** Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala ----------- -----------
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(57) Abstract :
The computer-implemented system (100) described is designed for efficient anomaly detection within data sets. It incorporates a memory and a processor to execute instructions, a data storage unit (108) for housing the data sets subject to analysis, a rule identification unit (110) that employs statistical algorithms to autonomously recognize and extract rules from the data sets, and an anomaly detection unit (112) that detects deviations in subsequent data sets using the extracted rules. In particular, the rule identification unit utilizes a sample-based approach, employing statistical algorithms to pinpoint optimal rules through analysis of a randomly selected subset of the data set. The system ensures adaptability by tailoring the statistical algorithms of the rule identification unit to the specific data set and desired accuracy. The anomaly detection unit employs unsupervised learning techniques, effectively identifying anomalies by contrasting patterns and trends in the data with anticipated behavior.

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