(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :22/07/2024
(21) Application No.202441055614 A
(43) Publication Date : 26/07/2024

(54) Title of the invention : ENVIRONMENTAL MONITORING AND ALERT SYSTEM USING ARTIFICIAL INTELLIGENCE

(51) International classification :G06N0020000000, G06N0005040000, G01N0033000000, H04W0004380000, G07C0005080000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
In today's rapidly evolving environmental landscape, the need for robust monitoring systems has never been more crucial. The Environmental Monitoring and Alert System (EMAS) represents a pioneering initiative designed to address these pressing challenges. EMAS integrates advanced sensor technologies with cutting-edge data science and artificial intelligence to provide real-time insights into environmental conditions. Key components of EMAS include a network of high-precision sensors strategically deployed across critical environmental zones. These sensors continuously gather data on parameters such as air quality, water quality, temperature, humidity, and atmospheric pressure. The collected data is transmitted to a central computing infrastructure where it undergoes rigorous analysis using sophisticated machine learning algorithms. The system's intelligence lies in its ability to detect anomalies and trends in environmental data, enabling early identification of potential hazards or deviations from normal conditions. Through seamless integration with communication technologies, EMAS promptly alerts relevant stakeholders, including environmental agencies, policymakers, and the public, about emerging threats or incidents. EMAS aims not only to enhance environmental monitoring capabilities but also to empower proactive decision-making and intervention strategies. By leveraging the synergy of sensors, data science, and artificial intelligence, EMAS represents a paradigm shift towards sustainable and resilient environmental management in the face of global challenges.

No. of Pages : 9 No. of Claims : 4