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<p>(51) International classification :G08B0021160000, G08B0021140000, G01M0003160000, G08B0021020000, G01M0003240000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)Brainware University, Kolkata Address of Applicant :398, Ramkrishnapur Rd, Near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Mr. Shantanu Bhadra Address of Applicant :Assistant Professor, Department of Computational Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 2)Mr.Mounshi Afrid Hossain Address of Applicant :MCA First Year, Department of Computational Science, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 3)Mr. Samrat Das Address of Applicant :MCA First Year, Department of Computational Science, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 4)Dr. Gunjan Mukherjee Address of Applicant :Associate Professor, Department of Computational Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 5)Dr.Jayanta Aich Address of Applicant :Associate Professor and HOD, Department of Computational Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 6)Dr.Subrata Sinha Address of Applicant :Associate Professor, Department of Computational Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- 7)Mr. Sourav Mali Address of Applicant :Research Associate, Department of Computational Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 -----</p>
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(57) Abstract :

The present invention discloses a Gas Leakage Detection System using an Arduino microcontroller integrated with gas, temperature, and humidity sensors, an IoT communication module, and AI-based predictive analytics for real-time monitoring and alert generation. The system detects hazardous gas leaks by analyzing sensor data, processing it through the Arduino microcontroller, and sending alerts via IoT to a remote server or mobile application. AI algorithms predict potential gas leaks by analyzing historical data, enabling preemptive safety measures. The system also includes an automatic gas shutoff mechanism, alarm system, and cloud-based data storage for remote monitoring. Designed for scalability, it can cover large areas or multiple facilities and offers integration with home automation systems. This invention enhances safety by providing timely alerts, minimizing false alarms, and ensuring proactive mitigation of gas leak risks in both industrial and residential settings. Accompanied Drawing [Fig. 1]

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