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(71)**Name of Applicant :**

1)Dr. Ashes Maji

Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Asansol Engineering College, Vivekananda Sarani, Kanyapur, Asansol, Paschim Bardhaman, West Bengal, 713305, India. Asansol West Bengal India

2)Dr. Sandeep Kumar

3)Dr. Ratna Raju Mukiri

4)Logeshwari Dhavamani

5)J Srikanth

6)Viji Duraisamy

7)Dr. Digamber Nagorao Mane

8)Mrs. M Saranya

9)Boopalan L

10)Komal

11)Dr Saurabh Sanjay Joshi

12)Dr M Rambabu

(72)**Name of Inventor :**

1)Dr. Ashes Maji

2)Dr. Sandeep Kumar

3)Dr. Ratna Raju Mukiri

4)Logeshwari Dhavamani

5)J Srikanth

6)Viji Duraisamy

7)Dr. Digamber Nagorao Mane

8)Mrs. M Saranya

9)Boopalan L

10)Komal

11)Dr Saurabh Sanjay Joshi

12)Dr M Rambabu

(57) Abstract :

This invention pertains an intelligent environmental monitoring system combines an IoT sensor network with an Artificial Intelligence engine for performing local real-time weather analysis and long-term climate forecasting. This environmental monitoring system includes an array of IoT sensor nodes that use micro-controllers with environmental sensors like BME680 sensors, anemometers, and rainfall sensors that send environmental data through LPWAN or Wi-Fi connectivity to a cloud platform. This AI engine uses combined Machine Learning models that incorporate Random Forest Regressors for 'now-casting' analysis and climate forecasting using Recurrent Neural Networks. This system includes an automatic notification system with a graphical representation support mechanism for environmental agriculture, disaster response, and urban planning applications. FIG.1

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