

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :08/04/2025

(21) Application No.202531034316 A

(43) Publication Date : 18/04/2025

(54) Title of the invention : Real-Time Iot-Based System for Soil Health Monitoring and Crop Recommendation

(51) International classification :G06Q0050020000, A01G0025160000, G06Q0030060100, H04W0072230000, G05B0019042000

(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

(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**

(72)**Name of Inventor :**  
**1)Mr. Sudip Samanta**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**2)Ms. Anudeepa Gon**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**3)Mr. Subhadip Nandi**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**4)Dr. Kaushik Chanda**  
Address of Applicant :Associate Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**5)Mr. Gourab Dutta**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**6)Mr. Sandip Chakraborty**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----  
**7)Dr. Rahul Kumar Ghosh**  
Address of Applicant :Assistant Professor at Brainware University, 398, Ramkrishnapur Road, Barasat, Near Jagadighata Market, Kolkata, West Bengal-700125. -----

(57) Abstract :

The present invention relates to a real-time IoT-based system for soil health monitoring and crop recommendation, designed to optimize agricultural practices. The system comprises an IoT device equipped with sensors to measure soil mineral composition, temperature, and humidity in an agricultural field. The device transmits real-time data to a mobile application through wireless communication. The mobile application processes the data using advanced algorithms to provide tailored crop recommendations based on the specific soil and environmental conditions. This technology enables farmers to make informed decisions regarding crop selection, irrigation, and resource management, thereby improving productivity, minimizing resource wastage, and promoting sustainability. The system offers a user-friendly interface, allowing farmers to easily monitor soil health and receive timely recommendations, ensuring efficient farm management and contributing to enhanced food security.

No. of Pages : 19 No. of Claims : 10