(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :06/03/2025
(21) Application No.202541020154 A
(43) Publication Date : 21/03/2025

(54) Title of the invention : INTELLIGENT GREENHOUSE MANAGEMENT SYSTEM USING IOT TECHNOLOGY FOR OPTIMIZED CLIMATE CONTROL AND CROP MONITORING

(51) International classification :A01G0025160000, G06F0009500000, G06N0020000000, H04L0041140000, A01G0009240000
(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)Dr. M. Jeyakarthic
Address of Applicant :Assistant Professor, Department of Computer and Information Science, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu -608002 ---------- ----------
2)Dr. K. Kavitha
3)Dr. N. Subalakshmi
4)Dr. S. Selvarani
5)Ms. R. Catherin Ida Shylu
6)Dr. S. Murugan
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. M. Jeyakarthic
Address of Applicant :Assistant Professor, Department of Computer and Information Science, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu -608002 ---------- ----------
2)Dr. K. Kavitha
Address of Applicant :Assistant Professor, Department of Electrical and Electronics Engineering, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu -608002 ---------- ----------
3)Dr. N. Subalakshmi
Address of Applicant :Assistant Professor, Department of Computer and Information Science, Annamalai University, Annamalai Nagar, Chidambaram, 608002 ---------- ----------
4)Dr. S. Selvarani
Address of Applicant :Assistant professor, Department of Computer Science, Alagappa Government arts College, Karaikudi, Tamil Nadu -630003 ---------- ----------
5)Ms. R. Catherin Ida Shylu
Address of Applicant :Assistant professor, Department of Computer Science, Annai Violet Arts and Science College, Menambedu, Chennai, Tamil Nadu - 600 053 ---------- ----------
6)Dr. S. Murugan
Address of Applicant :Assistant Professor, Department of Computer science, Dr. MGR Government Arts and Science College for Women, Villupuram, Tamil Nadu - 605401 ---------- ----------

(57) Abstract :
[034] The present invention relates to an IoT-enabled greenhouse management system that integrates smart sensors, AI-driven analytics, and automated control mechanisms to optimize plant growth conditions. The system comprises temperature, humidity, soil moisture, CO_2, and light sensors that continuously monitor environmental parameters and transmit real-time data to a central processing unit. The collected data is processed using machine learning algorithms to predict environmental variations and autonomously adjust irrigation, ventilation, heating, and lighting systems. A cloud-based remote monitoring interface allows users to access real-time insights and control greenhouse operations via a mobile or web application. Additionally, blockchain security ensures tamper-proof data logging, and renewable energy integration enhances sustainability. This invention provides an efficient, scalable, and intelligent solution for precision agriculture, ensuring higher crop yields, resource optimization, and reduced manual intervention. Accompanied Drawing [FIGS. 1-2]

No. of Pages : 23 No. of Claims : 10