

(54) Title of the invention : MACHINE LEARNING BASED SMART HVAC CONTROL SYSTEM WITH PREDICTIVE

(51) International classification :B60H0001000000, G06N0020000000, F24F0011300000, G06N0003080000, F24F0011620000

(86) International Application No Filing Date :PCT// :01/01/1900

(87) International Publication No : NA

(61) Patent of Addition to Application Number Filing Date :NA :NA

(62) Divisional to Application Number Filing Date :NA :NA

(71)Name of Applicant :
1)Dhanalakshmi Srinivasan Engineering College (Autonomous)
 Address of Applicant :The Principal, Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212. Perambalur -----

Name of Applicant : NA
Address of Applicant : NA

(72)Name of Inventor :
1)Dr. K. ANBARASAN
 Address of Applicant :Professor,Department of Electrical and Electronics Engineering , Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212. Email - deanacademic@dsengg.ac.in Perambalur -----

2)Dr. N. ARUNKUMAR
 Address of Applicant :Associate Professor,Department of Electrical and Electronics Engineering , Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212 Email - narunme26@gmail.com Perambalur -----

3)Mr. M. ASAITHAMBI
 Address of Applicant :Assistant Professor,Department of Electrical and Electronics Engineering , Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212. Email - asaithambi90@gmail.com Perambalur -----

4)Mr. C. P. VIGNESH
 Address of Applicant :Assistant Professor, Department of Electrical and Electronics Engineering , Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212. Email - vignesh.cp@dsengg.ac.in Perambalur -----

5)Mr. V. VINOTHKUMAR
 Address of Applicant :Assistant Professor, Department of Electrical and Electronics Engineering , Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road,Perambalur, Tamilnadu-621212. Email - uvvino@gmail.com Perambalur -----

(57) Abstract :

The embodiments herein relate to machine learning based smart HVAC control system with predictive analytics. The system (100) includes sensor modules (102), a Machine Language (ML) HVAC module (104), and relay modules (106). The sensor modules (102) are configured to sense weather data, Human Machine Interface (HMI) data, and occupancy data. The Machine Language (ML) HVAC module (104) is configured to receive the data from the sensor modules (102). It includes a data receiving module (202), a machine learning model (204), an HVAC controller (206), actuators (208), and an HVAC feedback receiving module (210) and process the data using a machine learning model (204). The machine learning model (204) includes a time estimation module (204A), an auxiliary units decision module (204B), and a predictive analytics module (204C). The Machine Language (ML) HVAC module (104) controls the heat pump and the auxiliary units through the HVAC controller (206). This system provides effective utilization of HVAC system with less men interventions and predicts the performance and the required energy. FIG. 1

No. of Pages : 22 No. of Claims : 10