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पेटेंट कार्यालय का एक प्रकाशन
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(54) Title of the invention : AN INTELLIGENT IOT AND DEEP LEARNING–BASED SYSTEM FOR REAL-TIME ENERGY SAVING AND FINANCIAL GROWTH IN SMART EDUCATIONAL CAMPUSES

(51) International classification :G06Q 50/20, G06N 3/08, G06N 3/04, H04L 29/08, G05B 15/02 (31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No : Filing Date :01/01/1900 (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)A. Vasantharaj Address of Applicant :Associate Professor, Department of Electronics and Communication Engineering, KIT-Kalaignarkarunanidhi Institute of Technology, Coimbatore, 641402 Coimbatore Tamil Nadu India 2)K Saifuddin 3)Dr. András Szeberényi 4)Gokula Brindha S 5)Appa Rao Nagubandi 6)Venu Pantangi 7)Ravi Teja Aida 8)Yeshaswini R 9)Jasmine Mystica K 10)Nadikatla Chandrasekhar 11)R. Veerappan 12)Boddeda Omnamasivaya (72)Name of Inventor : 1)A. Vasantharaj 2)K Saifuddin 3)Dr. András Szeberényi 4)Gokula Brindha S 5)Appa Rao Nagubandi 6)Venu Pantangi 7)Ravi Teja Aida 8)Yeshaswini R 9)Jasmine Mystica K 10)Nadikatla Chandrasekhar 11)R. Veerappan 12)Boddeda Omnamasivaya
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(57) Abstract :

An Intelligent IoT and Deep Learning–Based System for Real-Time Energy Saving and Financial Growth in Smart Educational Campuses is the proposed invention. The proposed invention is an intelligent Internet of Things (IoT) and deep learning–based system for real-time energy saving and financial growth in smart educational campuses. The system utilizes distributed IoT sensors and smart meters to continuously monitor energy usage, occupancy, environmental conditions, and equipment status across campus facilities. Advanced deep learning models analyze the collected data to predict energy demand, detect anomalies, and optimize energy consumption dynamically. Automated control mechanisms regulate lighting, HVAC systems, and electrical devices based on real-time insights, thereby minimizing energy wastage while maintaining user comfort. In addition, the system incorporates financial analytics and predictive maintenance modules to reduce operational costs, support budget planning, and enhance long-term financial efficiency. The proposed solution offers a scalable, adaptive, and environmentally sustainable framework that supports green campus initiatives while enabling data-driven decision-making for improved energy efficiency and financial performance in educational institutions.

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