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Sl. No.	Patent Application No.	Status of Patent (Published / Granted)	Inventor/s Name	Title of the Patent	Assignee/s Name (Institute Affiliation/s at time of Appication)	Page No.
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1	202421081322	Published	ATHARVA KANAWADE SANCHIT JOSHI KRISHNA KHATOD AKSHAY KULKARNI SANKET MAHADIK GOVIND MOHITE MAYURI DESHMUKH GOPAL SUKDEV GAWANDE PRAVIN KASHIRAMJI KATARE VIJAY NANAJI GOHOKAR	AN AUTOMATIC AIR CONDITIONER TEMPERATURE CONTROLLER SYSTEM	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	10
2	202421081306	Published	RAJESH RAMAKANT MANTRI ADITYA DEEPAK KULKARNI ANUSHKA NIRANJAN KULKARNI PURVA SHAILESH NAGDEOTE MADHURA SACHIN KULKARNI NANDINI SANTOSH KHARAT SWAPNA SWAPNIL JAWALKAR PRAVIN KASHIRAMJI KATARE VIJAY NANAJI GOHOKAR	SOLAR PANEL WITH WATER COOLING SYSTEM	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	13

3	202421069231	Published	DR. KALPANA THAKARE DIPTI LANDGE TRUPTI LANDGE SHUBHANGI KUMBHAR VEDIKA TORAWANE	IoT BASED MACHINE LEARNING MODULES FOR DETECTION AND PREDICTION OF AUTISM	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	16
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5	202421062904	Published	TEJAS KASHINATH GHULE PRATIK RAVINDRA BHALERAO KOUSTUBH DAYANAND GURAV AKASH DINANATH GUPTA PANKAJ POPATRAO YENARE PRAVIN KASHIRAMJI KATARE VIJAY NANAJI GOHOKAR	SOLAR CUM ELECTRIC POWER BANK	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	22

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7	202441095577 A	Published	Dr. Swapnil Lahane	Iot-Based Real-Time Monitoring and Control System for Electric Vehicle Charging Stations	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	26
8	202541031164 A	Published	Dr. Swapnil Lahane	Development of a Firefighting Humanoid Robot for Defence Applications	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	27
9	452269-001	Published	Dr. A. B. Kanwade Dr. N. N. Thune Dr. H. M. Jadhav	Smart Cattle Cart	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	28
10	432600-001	Published	Dr. Kalpana Thakre Dr. Smita Chaudhari Dr. Girija G. Chiddarwar	Machine learning based robot for predictive analytics	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	29

11	202521029783 A	Published	Dr. Bharati P. Vasgi Ms. Punam V. Chavan	HANDHELD DEVICE FOR REAL-TIME DETECTION AND MONITORING OF THYROID HEALTH AND DISEASE CONDITIONS USING NON-INVASIVE BIOSENSING AND AI ANALYTICS	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	31
12	202521029786 A	Published	Ms. Punam V. Chavan Dr. Bharati P. Vasgi	AI-POWERED HANDHELD DEVICE FOR EFFICIENT REAL-TIME TEXT AND IMAGE DATA EXTRACTION AND PROCESSING	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	34
13	202521029782 A	Published	Dr. Bharati P. Vasgi Ms. Punam V. Chavan	AI-ENHANCED DATA MINING DEVICE FOR FRAUD DETECTION AND RISK ANALYSIS IN FINANCIAL TRANSACTIONS	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	36
14	414382-001	Published	Mrs.Pallavi D.Wadkar	AIR POLLUTANT REMOVAL CHAMBER	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	37

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18	202521035405	Published	Ebrahim Murtuza Ghadially Dr .Mrunal A Deshpande Dr. Vilas S Bugade	HUMAN VITALS MONITORING DEVICE	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	47
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20	202521032887	Published	GOURAJA RAHUL AGASHE, SHAUNAK SANDEEP DESHPANDE, ISHITA VINAY BHANOSE POORVA RAVINDRA CHOUGULE Dr. TUSHAR DADASAHEB GADEKAR Dr. SWANAND KIRPEKAR Dr. KRISHNRAO PATIL	HELMET DETECTION SYSTEM FOR HUMAN SAFETY	MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING	53
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(54) Title of the invention : AN AUTOMATIC AIR CONDITIONER TEMPERATURE CONTROLLER SYSTEM

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(57) Abstract :
AN AUTOMATIC AIR CONDITIONER TEMPERATURE CONTROLLER SYSTEM 5 10 15 The present invention is related to an Automatic AC Temperature Controller that can intelligently manage an air conditioning unit based on ambient temperature and humidity. The said system aims to convert non-automatic and semi-automatic AC units into fully automatic systems, offering a cost-effective and environmentally friendly solution. The said system utilizes an Arduino Uno microcontroller board, a DHT11 sensor for temperature and humidity measurement, a TSOP1738 infrared receiver for capturing signals from a remote control, a breadboard for circuit connections, jumper wires for interconnections, and an LCD1602 display for visual feedback. Refer Fig. 1

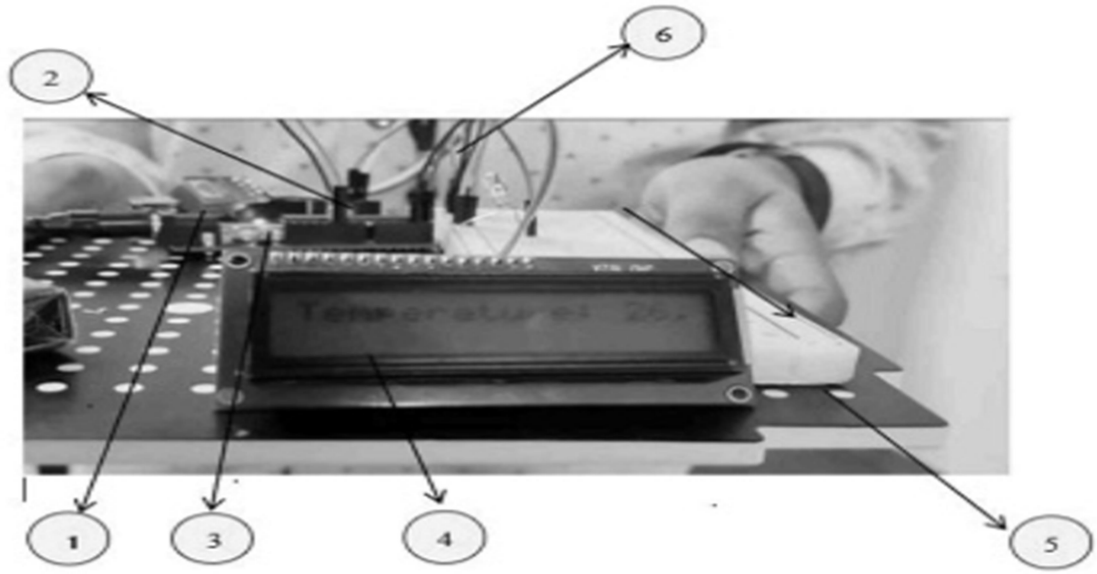

Fig.1: Overview of automatic air conditioning temperature controller system

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(57) Abstract :
SOLAR PANEL WITH WATER COOLING SYSTEM 5 10 15 The present invention is related to the solar panel (1) with water cooling system for avoiding or reducing excessive solar panel surface temperature thereby improving the efficiency of converting solar energy into electric energy. The said water cooling system mounted behind solar panel (1) improves the overall efficiency and longevity of solar panel systems. In the said system, water is pumped through a series of Aluminium fins (8) that are mounted at the back of the solar panel (1). The water absorbs heat from the solar panel, and then it is circulated back to a water tank (3). Refer Fig. 1a and 1b

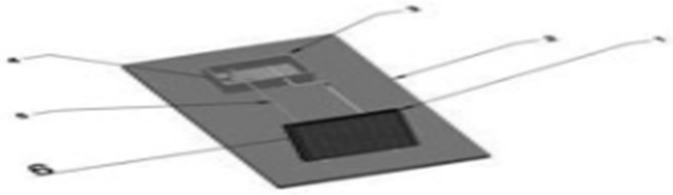

Fig.1a: Solar panel with water cooling system

Fig.1b: Solar panel back side (back plate) back plate

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(57) Abstract :
The present invention is related to the IoT based machine learning modules for detecting and predicting Autism Spectrum Disorder (ASD). There are three modules wherein the first module consists of an automated questionnaire model through which the risk of autism is calculated. Depending upon the high, low, or medium risk of autism the user will also be provided with the appropriate actions to be taken. The second module is based on real-time video tracking using an IoT (Internet of Things) device, where a raspberry pi camera will be used to record the eye movements of the user. The third module is based on using an eye image as an input, where a random forest is used for image classification. Refer Fig. 1

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(57) Abstract :
The present invention is related the said air quality monitoring and air purification device comprises of Arduino UNO circuit (1), OLED display panel (2), Suction fan (3), Surgical cotton filter (4), Sponge filter (5), HEPA filter (6), Detachable metal casing (7) and Sensor Unit (8). The sensor unit (8) initially detects the air quality index (AQI) and displays it on OLED display panel (2) and based on the value of AQI it is decided by the system whether the purification of air is necessary or not. the said air quality monitoring and air purification device is cost- effective, user friendly and has application in hospitals, clinics, laboratories and at home as well. The said device is highly beneficial to the asthmatic patients. Refer Fig. 1

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(21) Application No.202421062904 A
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(54) Title of the invention : SOLAR CUM ELECTRIC POWER BANK

(51) International classification :H02J0007000000, H01M0010052500, H01M0010440000, H02J0007350000, H02S0040380000
(86) International Application No :NA
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(87) International Publication No : NA
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(57) Abstract :
The present invention is related to the solar cum electric power bank comprises of plurality of the solar panel (1) for charging of lithium ion batteries (2) when exposed to sunlight, plurality of rechargeable lithium ion batteries (2) for storing of electric energy, USB module (3) and Switch (4) for charging the power bank with electricity, in the absence of solar light. The said power bank is compatible with phones, tablets, and other devices and the same can be used in the areas with unreliable or intermittent power supply. Refer Fig. 1a and 1b

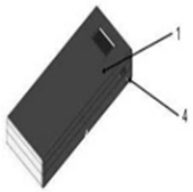

Fig.1a: Top view of solar cum electric power bank

Fig.2: Inner view of solar cum electric power bank

No. of Pages : 14 No. of Claims : 6

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पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

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CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

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(54) Title of the invention : SENSOR BASED AUTOMATIC WASTE SEGREGATOR

(51) International classification :B65F0005000000, G01S0015931000, B65F0001160000, G06F0021320000, G01S0013931000
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(57) Abstract :
The present invention is related to the sensor based automatic waste segregator comprises of waste storage unit (1), flipping plate (2), moisture sensor (3), storage unit divider (4), ultrasonic sensor (5), microcontroller (6), servo motor (7), IR sensor (8) and LCD display screen (9). The said automatic waste segregator separates the waste material or garbage into the wet and dry compartments of the waste storage unit (1) respectively as per the commands given by the sensor and the microcontroller. Refer Fig. 1

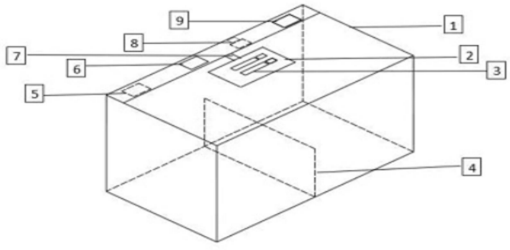

Fig.1: Sensor based automatic waste segregator

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(22) Date of filing of Application :04/12/2024
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(54) Title of the invention : IOT-BASED REAL-TIME MONITORING AND CONTROL SYSTEM FOR ELECTRIC VEHICLE CHARGING STATIONS

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(57) Abstract :
ABSTRACT The invention IoT-Based Real-Time Monitoring and Control System for Electric Vehicle Charging Stations provides a comprehensive solution for managing EV charging infrastructure. It leverages IoT technology to enable real-time monitoring, control, and optimization of charging stations. The system incorporates sensors and communication modules to track critical parameters such as energy consumption, charging status, and station availability. This data is transmitted to a centralized cloud platform, allowing operators to monitor and manage charging stations remotely. The system also includes fault detection capabilities, promptly identifying issues like overheating or hardware failures and notifying operators for immediate action. Dynamic load balancing ensures optimal energy distribution, reducing grid stress during peak demand. Additionally, the system supports the integration of renewable energy sources, enhancing sustainability. Users benefit from features such as secure authentication, real-time notifications on charging progress, and seamless payment options through a mobile app. The collected data is analyzed for predictive maintenance, improving reliability and reducing downtime. This innovative system addresses the growing need for scalable, energy-efficient, and user-friendly EV charging networks, promoting sustainable transportation and improving the overall EV charging experience.

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(54) Title of the invention : DEVELOPMENT OF A FIREFIGHTING HUMANOID ROBOT FOR DEFENCE APPLICATIONS

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(87) International Publication No	: NA
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(57) Abstract :
ABSTRACT Fire emergencies in defence environments present significant challenges, requiring innovative solutions for effective response and risk reduction. This invention introduces a firefighting humanoid robot designed with specialized systems for fire detection, suppression, and rescue tasks. Engineered for deployment in high-risk defence zones such as military bases and ammunition depots, the robot is equipped with enhanced mobility to navigate complex terrains, including confined spaces, staircases, and debris-filled areas. It features advanced fire suppression technology capable of tackling hazardous fires involving explosives and chemicals. Integrated with intelligent control algorithms, the robot can autonomously assess fire conditions, identify safe pathways, and make critical real-time decisions. Its humanoid design allows for efficient manipulation of firefighting equipment, ensuring adaptability in diverse defence infrastructures. This innovation aims to strengthen emergency response, enhance operational efficiency, and minimize human risk in high-threat defence environments.

No. of Pages : 9 No. of Claims : 8

ORIGINAL

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डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No. : 452269-001

तारीख / Date : 20/03/2025

पारस्परिकता तारीख / Reciprocity Date* :

देश / Country :

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *SMART CATTLE CART* से संबंधित है, का पंजीकरण, श्रेणी 12-01 में 1.Dr. Archana Bajirao Kanwade 2. Dr. Neeta Nitin Thune 3.Dr. Hemlata Makarand Jadhav 4.Dr. Vaishali Mangesh Joshi के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

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क्रम सं/ Serial No. : 185698

पेटेंट कार्यालय, भारत सरकार | The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No. : 432600-001

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पारस्परिकता तारीख / Reciprocity Date* :

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प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *MACHINE LEARNING-BASED ROBOT FOR PREDICTIVE ANALYTICS* से संबंधित है, का पंजीकरण, श्रेणी 15-99 में 1.Dr. Kalpana Thakre 2. Dr. S V Balshetwar 3.Dr. Bharati P. Vasgi 4.Dr. Smita Chaudhari 5.Dr. Girija G. Chiddarwar के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 15-99 in respect of the application of such design to *MACHINE LEARNING-BASED ROBOT FOR PREDICTIVE ANALYTICS* in the name of 1.Dr. Kalpana Thakre 2. Dr. S V Balshetwar 3.Dr. Bharati P. Vasgi 4.Dr. Smita Chaudhari 5.Dr. Girija G. Chiddarwar.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

जारी करने की तिथि :
Date of Issue : 28/11/2024

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(54) Title of the invention : HANDHELD DEVICE FOR REAL-TIME DETECTION AND MONITORING OF THYROID HEALTH AND DISEASE CONDITIONS USING NON-INVASIVE BIOSENSING AND AI ANALYTICS

(51) International classification :A61B0005000000, A61B0005145000, A61B0008000000, A61P0005140000, A61B0005110000

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(57) Abstract :
The invention presents a handheld, non-invasive device for real-time detection and monitoring of thyroid health and disease conditions. Combining biosensors and ultrasound imaging with AI-powered analysis, the device evaluates both functional biomarkers and structural abnormalities of the thyroid gland. It estimates hormone levels (TSH, T3, T4) using bioimpedance, thermal, and optical measurements, while the integrated ultrasound unit captures gland morphology. An embedded AI engine processes sensor and imaging data to identify thyroid disorders such as hypothyroidism, hyperthyroidism, and nodules. Results are transmitted to a mobile app and cloud platform, enabling real-time feedback, remote physician access, and personalized health insights. The invention enhances early detection, continuous monitoring, and decentralized thyroid care.

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

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :28/03/2025

(21) Application No.202521029786 A

(43) Publication Date : 11/04/2025

(54) Title of the invention : AI-POWERED HANDHELD DEVICE FOR EFFICIENT REAL-TIME TEXT AND IMAGE DATA EXTRACTION AND PROCESSING

(51) International classification :G06V0030100000, G06F0003048420, G06V0030400000, G06F0003048200, G06V0010820000

(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

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(57) Abstract :
The invention discloses an AI-powered handheld device for real-time text and image data extraction from physical media. Equipped with a high-resolution camera, advanced OCR, and image recognition algorithms, the device captures and digitizes printed and handwritten content, as well as graphical elements such as tables and symbols. It supports offline operation and multiple languages, enabling instant processing and export of extracted content to digital platforms. The device provides an intuitive interface, wireless connectivity, and secure onboard data handling, serving applications in education, fieldwork, legal documentation, and assistive technology.

No. of Pages : 8 No. of Claims : 9

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :28/03/2025

(21) Application No.202521029782 A

(43) Publication Date : 11/04/2025

(54) Title of the invention : AI-ENHANCED DATA MINING DEVICE FOR FRAUD DETECTION AND RISK ANALYSIS IN FINANCIAL TRANSACTIONS

(51) International classification :G06Q0020400000, G06N0020000000, G06N0020200000, G06Q0030018000, G06N0003045000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
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12)Bipin Sule
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(57) Abstract :
The invention discloses an AI-powered data mining device for real-time fraud detection and risk analysis in financial transactions. The system integrates supervised and unsupervised machine learning models, feature engineering techniques, and behavioral analytics to detect fraudulent activities and assess transaction risk. Real-time scoring mechanisms evaluate transaction legitimacy based on historical and contextual data, triggering alerts for anomalies. A feedback loop enables continuous model improvement, while a user-friendly dashboard provides insights, trend visualizations, and compliance tools. This invention offers scalable, intelligent, and adaptive fraud prevention for banks, payment platforms, and financial services.

No. of Pages : 8 No. of Claims : 8

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

सत्यमेव जयते

ORIGINAL
क्रम सं/ Serial No. : 172351

पेटेंट कार्यालय, भारत सरकार | The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No. : 414382-001

तारीख / Date : 22/04/2024

पारस्परिकता तारीख / Reciprocity Date* :

देश / Country :

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *AIR POLLUTANT REMOVAL CHAMBER* से संबंधित है, का पंजीकरण, श्रेणी 23-04 में 1.Ganesh Chandrakant Chikute 2. Dyaneshwar Vasant Wadkar 3.Pallavi Dyaneshwar Wadkar 4.Sudarshan Sampatrao Bobade 5.Manasi Ganesh Chikute के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 23-04 in respect of the application of such design to *AIR POLLUTANT REMOVAL CHAMBER* in the name of 1.Ganesh Chandrakant Chikute 2. Dyaneshwar Vasant Wadkar 3.Pallavi Dyaneshwar Wadkar 4.Sudarshan Sampatrao Bobade 5.Manasi Ganesh Chikute.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

जारी करने की तिथि :
Date of Issue : 07/06/2024

उन्नत की ओर

महानियंत्रक पेटेंट, डिजाइन और व्यापार चिह्न
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INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

(PROF. (DR) UNNAT P. PANDIT)
CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

30th May, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :08/05/2025
(21) Application No.202521044577 A
(43) Publication Date : 30/05/2025

(54) Title of the invention : ALCOHOL DETECTION SYSTEM INTEGRATED WITH AN ENGINE LOCKING MECHANISM

(51) International classification :B60K0028060000, G01N0033497000, A61B0005080000, A61B0005000000, G01N0033980000
(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

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(57) Abstract :
ABSTRACT ALCOHOL DETECTION SYSTEM INTEGRATED WITH AN ENGINE LOCKING MECHANISM The present invention is related to an Alcohol Detection and Engine Locking System that uses the MQ-135 gas sensor to read the alcohol content in the driver's breath. It contributes to road safety in the sense that it automatically eliminates intoxicated people from driving. When the alcohol concentration present within the breath sample exceeds a defined tolerance value, a microcontroller activates a motorically locked mechanism to immobilize a car's engine. Thus, this system aims to significantly eliminate drunk driving incidents on highways and roads by reliable in-real-time intervention. Refer Fig 1

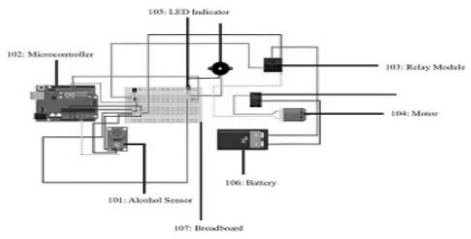

Fig.1: Circuit Diagram of an Alcohol Detection and Engine Locking System

No. of Pages : 15 No. of Claims : 8

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(PROF. (DR) UNNAT P. PANDIT)
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30th May, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :08/05/2025
(21) Application No.202521044557 A
(43) Publication Date : 30/05/2025

(54) Title of the invention : AI-POWERED ADAPTIVE E-LEARNING SYSTEM WITH PUPIL DILATION ANALYSIS

(51) International classification :G06F0003010000, A61B0003113000, A61B0005160000, A61B0005000000, G06Q0050200000
(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

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(57) Abstract :
ABSTRACT AI-POWERED ADAPTIVE E-LEARNING SYSTEM WITH PUPIL DILATION ANALYSIS The present invention is related to an AI powered adaptive E-learning system that utilizes integration of pupil dilation, micro saccades, and gaze tracking in real-time for learning style prediction. The said E-learning system utilizes standard webcams to gather data on pupil dilation, micro saccades, and gaze patterns, providing insights into cognitive load and attention. It employs algorithms to analyse collected data, classifying users into auditory, visual, or kinesthetic learners and monitoring attention levels with further adjustments in content formats—such as mnemonics, illustrations, or animations—based on the learner's style, cognitive load, and attention state. The said E-learning system dynamically adjusts educational content based on these physiological signals which is a novel approach in e-learning. Refer Fig 1

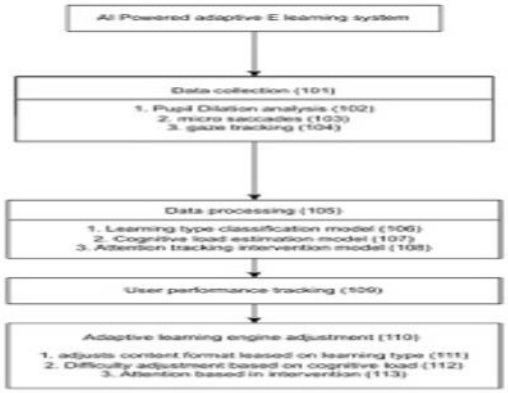

Fig.1: Flow chart of AI-powered adaptive e-learning system

No. of Pages : 18 No. of Claims : 7

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02nd May, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :11/04/2025

(21) Application No.202521035411 A
(43) Publication Date : 02/05/2025

(54) Title of the invention : AI BASED EXAM ASSESSMENT SYSTEM

(51) International classification :G06F0016332000, G06F0016951000, G06F0016330000, H04L0067610000, A63F0009180000
(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
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(57) Abstract :
ABSTRACT AI BASED EXAM ASSESSMENT SYSTEM The present invention is related to an AI based exam assessment system comprising of Question-Answer Mapping Module (101) wherein the said module (101) scans the handwritten answer sheets, identifies question locations and maps them to corresponding answer sections; Contextual Page Passing Mechanism (102) wherein after mapping questions to respective answers, the said mechanism (102) conducts a sequence-based process where summaries of previous pages (e.g., question numbers and marks obtained) are passed to the Large Language Models (LLM) thereby ensuring continuity in grading long answers across multiple pages without redundant re-evaluation. The said system is effective in independently detecting variable types of handwriting unlike traditional OCR-based solutions.

No. of Pages : 23 No. of Claims : 8

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INTRODUCTION

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(PROF. (DR) UNNAT P. PANDIT)
CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

02nd May, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :11/04/2025

(21) Application No.202521035405 A
(43) Publication Date : 02/05/2025

(54) Title of the invention : HUMAN VITALS MONITORING DEVICE

(51) International classification :A61B5/00, A61B5/01, A61B5/145, A61B5/0205, A61B5/021
(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

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(57) Abstract :
ABSTRACT HUMAN VITALS MONITORING DEVICE The present invention is related to the all in one human vitals monitoring device for measuring parameters like temperature, blood sugar, blood pressure, blood oxygen level. The said device comprises of different sensors for measuring human physiological parameters which are configured with microcontroller for input data processing. The said device is portable non-invasive and non-wearable. Refer Fig 1 and 2

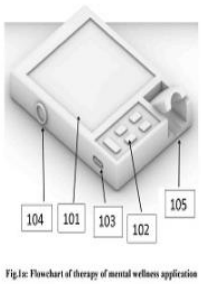

Fig.1a: Flowchart of therapy of mental wellness application

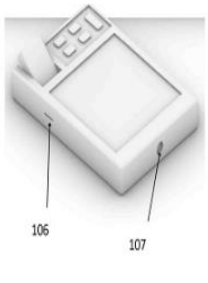

Fig.1b: System architecture of mental wellness application

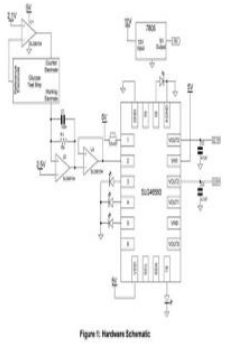
Figure 1: Hardware Schematic

Fig.2: Schematic diagram of blood sugar sensor of human vitals monitoring device

No. of Pages : 21 No. of Claims : 6

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18th April, 2025

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :03/04/2025

(21) Application No.202521032896 A

(43) Publication Date : 18/04/2025

(54) Title of the invention : MENTAL WELLNESS THERAPY APPLICATION THROUGH SEAMLESS INTEGRATION OF AUGMENTED REALITY AND VIRTUAL REALITY TECHNOLOGY

(51) International classification	:G06T0019000000, G06F0003010000, G16H0020700000, A63F0013240000, H04L0067131000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
ABSTRACT MENTAL WELLNESS THERAPY SYSTEM THROUGH SEAMLESS INTEGRATION OF AUGMENTED REALITY AND VIRTUAL REALITY TECHNOLOGY The present invention is related to an application for mental health therapy that integrates augmented reality (AR) and Virtual Reality (VR) technologies seamlessly wherein, within a single therapeutic session user can transition smoothly between AR and VR environments allowing for a more immersive and cohesive experience.

No. of Pages : 25 No. of Claims : 7

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(PROF. (DR) UNNAT P. PANDIT)
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18th April, 2025

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :03/04/2025

(21) Application No.202521032887 A

(43) Publication Date : 18/04/2025

(54) Title of the invention : HELMET DETECTION SYSTEM FOR HUMAN SAFETY

(51) International classification :A42B0003040000, G01N0015140000, G01N0021640000, G01N0015143300, G01N0033543000

(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

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(57) Abstract :
ABSTRACT HELMET DETECTION SYSTEM FOR HUMAN SAFETY The present invention is related to the helmet detector system for human safety comprising of an image capturing and processing unit (103), a notification module (106) and an ignition control unit (109) that are integrated with each other for detecting if the rider is wearing a helmet. The Image capturing and processing unit (103) captures images of a rider and the Data Processing section, which is operatively coupled to the image capturing unit (109), processes the captured images and detects if the rider is wearing a helmet.

Fig.1: Overview of helmet detection system

No. of Pages : 18 No. of Claims : 7

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(PROF. (DR) UNNAT P. PANDIT)
CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

21th February, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :31/01/2025

(21) Application No.202521008110 A
(43) Publication Date : 21/02/2025

(54) Title of the invention : VEHICLE-TO-VEHICLE (V2V) COMMUNICATION SYSTEM FOR ENHANCED ROAD SAFETY

(51) International classification	:H04W0004460000, G08G0001160000, H04W0004020000, G05D0001000000, H04L0067120000
(86) International Application No Filing Date	:NA :NA
(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

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(57) Abstract :
VEHICLE-TO-VEHICLE (V2V) COMMUNICATION SYSTEM FOR ENHANCED ROAD SAFETY 5 10 15 The present invention is related the Vehicle-to-Vehicle (V2V) communication technology that has been developed to significantly improve road safety. The said system comprises microprocessor (1), integrated sensors (2) and three communication modules namely GPS module (3), GSM module (4) and LoRa module (5). The said system enables real-time data exchange between vehicles, allowing them to share critical information about their position, speed, direction, and surrounding environment. This comprehensive data exchange creates a cooperative awareness network, enhancing driver perception and enabling proactive safety measures. Refer Fig. 1

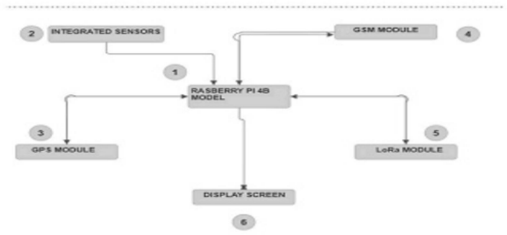

Fig.1: Vehicle to Vehicle Communication Module

No. of Pages : 23 No. of Claims : 9

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(PROF. (DR) UNNAT P. PANDIT)
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21th February, 2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :31/01/2025

(21) Application No.202521008099 A
(43) Publication Date : 21/02/2025

(54) Title of the invention : SENSOR BASED DRIVER DROWSINESS DETECTION SYSTEM

(51) International classification	:G08B0021060000, B60K0028060000, B60W0040080000, A61B0005180000, A61P0013120000
(86) International Application No Filing Date	:NA :NA
(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

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(57) Abstract :
SENSOR BASED DRIVER DROWSINESS DETECTION SYSTEM 5 10 15 The present invention is related the sensor-based driver drowsiness detection system that alerts the driver on detecting drowsiness thereby assisting in avoiding accidents. The novelty of the present invention lies in the eye blinker sensor (1) which is to be attached on the top corner of the spectacles that driver wears. A person without spectacles can attach the eye blinker sensor (1) on the frame which is easily wearable at the time of driving. The said system is more accurate in detecting drowsiness and can be used while driving any type of vehicle thereby reducing the number of accidents and deaths caused due to accident. Refer Fig. 1

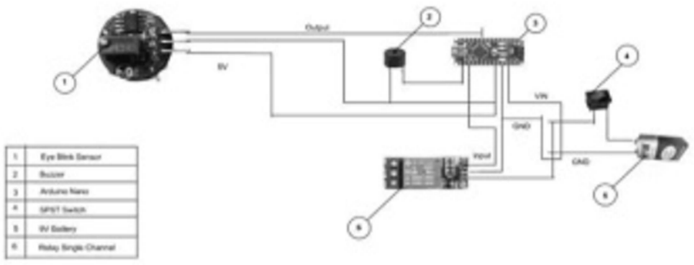

Fig.1: Overview of Sensor-based driver drowsiness detection system

No. of Pages : 15 No. of Claims : 4

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(PROF. (DR) UNNAT P. PANDIT)
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(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :18/12/2024

(21) Application No.202421100208 A
(43) Publication Date : 14/03/2025

(54) Title of the invention : A MULTI-MODAL NSFW CONTENT DETECTION SYSTEM

(51) International classification :G06V 10/82, G06N 3/045, G06F 18/25, G06F 18/20
(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

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(57) Abstract :
The present invention is related to the Multi-Modal NSFW (Not Safe for Work) Content Detection System to detect explicit, adult, or other improper content in any type of files formats that incorporate photos, audio, videos, and other types of content. This system achieves record-breaking accuracy in identifying NSFW content in a variety of formats by merging cutting-edge deep learning models tailored for image, text, and audio analysis. Results are further honed using a two-stage voting process, which minimizes false positives and negatives. For scalable deployment, the system employs parallel processing for video analysis, which optimizes speed and resource utilization on cloud based virtual machines. Refer Fig. 1

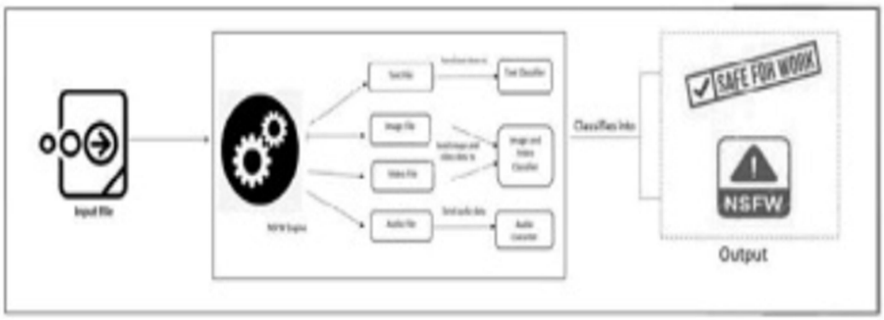

Fig.1: Overview of Multi-Modal NSFW Content Detection System

No. of Pages : 20 No. of Claims : 9

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14th March, 2025

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(57) Abstract :
ABSTRACT SMART CLOTHESLINE SYSTEM FOR PROTECTION AGAINST RAIN The present invention is related to the smart clothesline system that automatically protects clothes from rain without manual intervention. The said system is equipped with advanced sensors, microcontroller and a responsive actuation mechanism, that detects changes in the weather and deploys a protective canopy over the clothes to keep them dry. The said system further consists of a small canopy (8a) and a large canopy (8b) which is deployed over the clothesline as per the severity of waterdrops detected by the rain sensors (1). Refer Fig. 1a and 1b

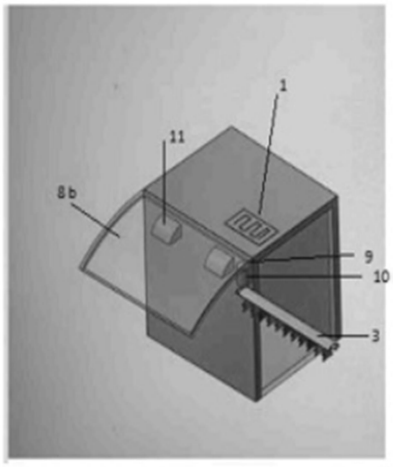

Fig.1a: Smart clothesline system with large canopy

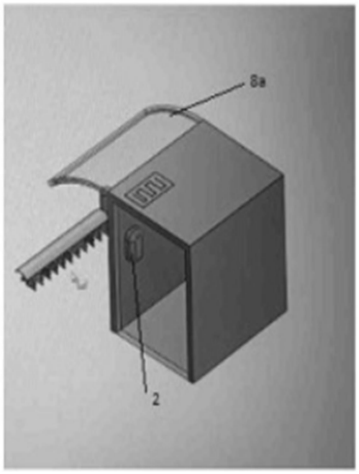

Fig.1b: Smart clothesline system with small canopy

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