पेटेंट कार्यालय
शासकीय जर्नल

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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.

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

07th November, 2025

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THE PATENT OFFICE
KOLKATA, 07/11/2025
Address of the Patent Offices/Jurisdictions
The following are addresses of all the Patent Offices located at different places having their Territorial Jurisdiction on a Zonal basis as shown below:-

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2	The Patent Office, Government of India, Boudhik Sampada Bhavan, Near Antop Hill Post Office,S.M.Road,Antop Hill, Mumbai – 400 037 Phone: (91)(22) 24137701 Fax: (91)(22) 24130387 E-mail: mumbai-patent@nic.in ❖ The States of Gujarat, Maharashtra, Madhya Pradesh, Goa and Chhattisgarh and the Union Territories of Daman and Diu & Dadra and Nagar Haveli	5	The Patent Office (Head Office), Government of India, Boudhik Sampada Bhavan, CP-2, Sector –V, Salt Lake City, Kolkata- 700 091 Phone: (91)(33) 2367 1943/44/45/46/87 Fax: (91)(33) 2367 1988 E-Mail: kolkata-patent@nic.in ❖ Rest of India
3	The Patent Office, Government of India, Boudhik Sampada Bhavan, Plot No. 32., Sector-14, Dwarka, New Delhi – 110075 Phone: (91)(11) 25300200 & 28032253 Fax: (91)(11) 28034301 & 28034302 E.mail: delhi-patent@nic.in ❖ The States of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttaranchal, Delhi and the Union Territory of Chandigarh.		

Website: www.ipindia.nic.in
www.patentoffice.nic.in

All applications, notices, statements or other documents or any fees required by the Patents Act, 1970 and The Patents (Amendment) Act, 2005 or by the Patents (Amendment) Rules, 2006 will be received only at the appropriate offices of the Patent Office.

Fees: The Fees may either be paid in cash or may be sent by Bank Draft or Cheques payable to the Controller of Patents drawn on a scheduled Bank at the place where the appropriate office is situated.

पेटेंट कार्यालय

कोलकाता, दिनांक 07/11/2025

• कार्यालयों के क्षेत्राधिकार के पते

विभिन्न जगहों पर स्थित पेटेंट कार्यालय के पते आंचलिक आधार पर दर्शित उनके प्रादेशिक अधिकार क्षेत्र के साथ नीचे दिए गए है:-

1	कार्यालय : महानियंत्रक, एकस्व, अभिकल्प तथा व्यापार चिहन, बौद्धिक संपदा भवन, प्लॉट सं. 32, सेक्टर- 14, द्वारका, नई दिल्ली- 110 078, भारत, फोन: (91) (22) 2530 0205 फ़ैक्स: (91) (22) 24123322 ई. मेल: cgoffice.in@gov.in	4	पेटेंट कार्यालय, भारत सरकार इंटेलेक्चुअल प्रॉपर्टी राइट्स बिल्डिंग, इंडस्ट्रियल इस्टेट एसआईडीसीओ आरएमडी गोडाउन एरिया एडजसेन्ट टु ईगल फ्लास्क, जी. एस. टी. रोड, गायन्डी चेन्नई - 600 032. फोन: (91)(44) 2250 2081-84 फ़ैक्स: (91)(44) 2250-2066 ई. मेल: chennai-patent@nic.in ❖ आन्ध्र प्रदेश, तेलंगाना, कर्नाटक, केरल, तमिलनाडु तथा पुडुचेरी राज्य क्षेत्र एवं संघ शासित क्षेत्र, लक्षदीप
2	पेटेंट कार्यालय, भारत सरकार बौद्धिक संपदा भवन, एंटोप हिल डाकघर के समीप, एस. एम. रोड, एंटोप हिल, मुम्बई- 400 037, फोन: (91) (22) 24137701 फ़ैक्स: (91) (22) 24130387 ई. मेल: Mumbai-patent@nic.in ❖ गुजरात, महाराष्ट्र, मध्य प्रदेश, गोवा तथा छत्तीसगढ़ राज्य क्षेत्र एवं संघ शासित क्षेत्र, दमन तथा दीव, दादर और नगर हवेली.	5	पेटेंट कार्यालय, भारत सरकार कोलकाता, (प्रधान कार्यालय) बौद्धिक संपदा भवन, सीपी-2, सेक्टर- V, साल्ट लेक सिटी, कोलकाता-700 091, भारत. फोन: (91)(33) 2367 1943/44/45/46/87 फ़ैक्स:/Fax: (91)(33) 2367 1988 ई. मेल: kolkata-patent@nic.in ❖ भारत का अवशेष क्षेत्र
3	पेटेंट कार्यालय, भारत सरकार बौद्धिक संपदा भवन, प्लॉट सं. 32, सेक्टर- 14, द्वारका, नई दिल्ली- 110 075. फोन: (91)(11) 25300200, 28032253 फ़ैक्स: (91)(11) 28034301, 28034302 ई. मेल: delhi-patent@nic.in हरियाणा, हिमाचल प्रदेश, जम्मू तथा कश्मीर, पंजाब,राजस्थान, उत्तर प्रदेश, दिल्ली तथा उत्तरांचल राज्य क्षेत्रों, एवं संघ शासित क्षेत्र चंडीगढ़		

वेबसाइट: http://www.ipindia.nic.in
www.patentoffice.nic.in

पेटेंट अधिनियम, 1970 तथा पेटेंट (संशोधन) अधिनियम, 2005 अथवा पेटेंट (संशोधन) नियम, 2006 द्वारा वांछित सभी आवेदन, सूचनाए, विवरण या अन्य दस्तावेज़ या कोई शुल्क पेटेंट कार्यालय के केवल उपयुक्त कार्यालय में स्वीकृत होंगे।

शुल्क: शुल्क या तो नगद रूप में या Controller of Patents के नाम में देय बैंक ड्राफ्ट या चेक के द्वारा भेजी जा सकती है जो उसी स्थान के किसी अनुसूचित बैंक में प्रदत्त हो जहाँ उपयुक्त कार्यालय स्थित है ।

SPECIAL NOTICE

18 Months publication as required under Section 11A of the Patents Act, 1970 as amended by the Patents (Amendment) Act, 2005.

Notice is hereby given that any person at any time before the grant of Patent may give representation by way of opposition to the Controller of Patents at appropriate office on the ground and in a manner specified under section 25(1) of the Patents (Amendment) Act, 2005 read with Rule 55 of the Patents (Amendment) Rules, 2006.

Notice is also given that if any interested person requests for copies of the complete specification, drawing and abstract of any application already published, the photocopy of the same can be supplied by the Patent Office as per the jurisdiction on payment of prescribed fees of Rs.10/- per page. If any further details are required to be obtained, the same can be provided by the respective Patent Offices on request.

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

SPECIAL NOTICE

Under the new provision of the Patents Act, 1970 as amended by the Patents (Amendment) Act, 2005 and Rules there under, Publication of the matter relating to Patents in the Official Gazette of India Part III, Section 2 has been discontinued and instead The Official Journal of the Patent Office is being published containing all the activities of The Patent Office such as publication of all the patent applications after 18th months , grant of patents & all other information in respect of the proceedings as required under the provisions of the Patents (Amendment) Act, 2005 and Rules thereunder on weekly basis on every **Friday**.

The Journal is uploaded in the website every Friday. So Paper form and CD-ROM form of the Journal are discontinued from 01/01/2009.

SPECIAL NOTICE

Every effort is being taken to publish all the patent applications under section 11(A) of the Patents Act. However, if duplication of publication of any application is found, then earlier date of publication will be taken for the purpose of provisional protection for applicant and Patent Office will grant Patent not before six months from the date of second publication, provided that there is there is no third party representation.

Early Publication:

The following patent applications have been published under section 11A (2) of The Patents (Amendment) Act 2005 and rule 24A of The Patents (Amendment) Rules, 2006. Any person may file representation by way of opposition to the Controller of Patents at the appropriate office against the grant of the patent in the prescribed manner under section 25(1) of the Patents (Amendment) Act 2005 read with the rule 55 of The Patents (Amendment) Rules, 2006:

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511047741 A
(19) INDIA
(22) Date of filing of Application :17/05/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD FOR WARMING A TIFFIN BOX USING A SMART TABLE MAT

(51) International classification	:H04W0084120000, A61B0005000000, H04L0009060000, H04L0009080000, A47J0037060000
(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 :**
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Address of Applicant :Lovely Professional University, Delhi-Jalandhar GT road Phagwara- 144411. Phagwara Punjab India
(72)**Name of Inventor :**
1)Akansha chaurasia
2)Rakesh Verma

(57) Abstract :
A method for warming a tiffin box using a smart table mat. The tiffin box is placed on the heat-resistant surface of the smart table mat. The heating element embedded within the smart table mat is activated via a power source. Real-time temperature is monitored via an integrated sensor. Temperature data is transmitted to a mobile app via Wi-Fi for remote adjustments. Heat output is regulated automatically to maintain a set temperature. The heating element is deactivated upon reaching a predefined threshold or via auto shut-off. The method improves food warming efficiency, safety, and user control

No. of Pages : 13 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511066786 A
(19) INDIA
(22) Date of filing of Application :13/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ENERGY HARVESTING ACTIVE ACOUSTIC METAMATERIAL-DEVICE

(51) International classification	:H02N2/18, G10K11/172
(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)Indian Institute of Technology, Mandi
Address of Applicant :IP & TT Cell, SRIC Office, IIT Mandi, Kamand, Himachal Pradesh 175005, India Himachal Pradesh India
(72)**Name of Inventor :**
1)Anil Pundir
2)Dr. Arpan Gupta
3)Dr. Sarthak Nag

(57) Abstract :
An energy harvesting active acoustic metamaterial-device is disclosed. The energy harvesting active acoustic metamaterial-device includes a plurality of unit cells (100) arranged in a periodic or aperiodic lattice, each unit cell (100) includes a segmented scatterer structure (101) comprising a plurality of displaceable segments (102) arranged about a central axis of the corresponding unit cell (100). At least one cavity disposed within or adjacent to each of the displaceable segments (102). At least one opening (103) provided in each displaceable segment, the at least one opening (103) being configured to acoustically couple an exterior fluid medium to the at least one cavity. A flexible membrane (106) coupled to each of the displaceable segments (102), the flexible membrane (106) comprising a piezoelectric material. A mass element (108) coupled to a surface of the flexible membrane. The mass element (108) and the flexible membrane (106) together form a decorated membrane resonator (DMR). Fig. 1D

No. of Pages : 53 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511070316 A
(19) INDIA
(22) Date of filing of Application :24/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD AND SYSTEM FOR FORECASTING FACIAL PARALYSIS SEVERITY

(51) International classification	:G06V10/70, G06V10/82, G06N3/02
(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)Indian Institute of Technology, Mandi
Address of Applicant :IP & TT Cell, SRIC Office, IIT Mandi, Kamand, Himachal Pradesh 175005, India Himachal Pradesh India
(72)**Name of Inventor :**
1)Nandani Sharma
2)Kajal Singh
3)Dinesh Singh

(57) Abstract :
A method and system (100) for forecasting facial paralysis severity is disclosed. A processor receives one or more facial images of a subject captured over a longitudinal time period. A plurality of key facial regions is identified from each facial image using a face detection algorithm. Each of the identified key facial regions is transformed into a corresponding d-dimensional feature vector using a visual encoder. A structural graph is generated, comprising nodes corresponding to each of the plurality of key facial regions and edges representing spatial proximity and feature similarity between the d-dimensional feature vectors. The structural graph using a neural network is processed, comprising a plurality of non-linear transformation layers to learn structural similarity patterns between corresponding key facial regions observed at different time points within the longitudinal time period. A severity score of facial paralysis for a future time period is forecasted based on the learned structural patterns. FIG. 1

No. of Pages : 45 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511070447 A
(19) INDIA
(22) Date of filing of Application :24/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MAGNESIUM OXIDE/GRAPHITIC CARBON NITRIDE/POLYPYRROLE (MGP) TERNARY COMPOSITE AND METHOD THEREOF

(51) International classification	:H01G0011860000, H01G0011300000, H01G0011240000, H01M0004360000, H01G0011360000	(71)**Name of Applicant :** **1)ANSHU SHARMA** Address of Applicant :Department of Applied Sciences and Humanities, School of Engineering and Technology, Central University of Haryana, Mahendragarh 123031, India Haryana India **2)CENTRAL UNIVERSITY OF HARYANA**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	(72)**Name of Inventor :** **1)Anshu Sharma** **2)Manisha** **3)Varij Panwar** **4)S. P. Nehra**
(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	

(57) Abstract :
The invention, in general, relates to the field of composite based electrode material for supercapacitor applications. Particularly, the invention provides a magnesium oxide/graphitic carbon nitride/Polypyrrole (MGP) ternary composite based electrode material for supercapacitor applications with improved electrochemical properties.

No. of Pages : 30 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511049634 A
(19) INDIA
(22) Date of filing of Application :23/05/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM FOR AUTONOMOUS RIVER CLEANING AND WASTE MANAGEMENT

(51) International classification	:G06N0020000000, G05D0001000000, G01N0033180000, H02J0007350000, H02J0003380000	(71)**Name of Applicant :** **1)Lovely Professional University** Address of Applicant :Lovely Professional University, Delhi-Jalandhar GT road Phagwara- 144411 Phagwara Punjab India (72)**Name of Inventor :** **1)AKHIL KUMAR VERMA** **2)Amit Kumar Awasthi**
(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	

(57) Abstract :
A system (100) for autonomous river cleaning and waste management, comprising a navigation module (102) configured with GPS and AI-based algorithms to guide the system across predefined and dynamic paths in a river environment. The system further comprising a waste detection unit (104) including an image processing module and machine learning models to identify floating, submerged, and semi-submerged waste materials. The system further comprising a waste collection mechanism (106) operatively connected to the detection unit (104) and configured to autonomously retrieve detected waste using an actuator-driven arm or conveyor mechanism. The system further comprising a water quality sensing module (108) configured to measure parameters including turbidity, pH, dissolved oxygen, and pollutant levels. The system further comprising an IoT-based data transmission unit (110). The system further comprising a renewable energy supply module (112) comprising solar panels and battery storage.

No. of Pages : 14 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511070920 A
(19) INDIA
(22) Date of filing of Application :25/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : REAL-TIME VISUAL FEEDBACK SYSTEM AND METHOD FOR MINIMIZING THE RISK OF JAYWALKING OR DISTRACTED WALKING

(51) International classification	:G01S13/00, G08G1/005, G08G1/16, G06V20/58
(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

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(72)**Name of Inventor :**
1)GOWDHAM PRABHAKAR
2)AKHILESH KUMAR BHAGAT
3)LAZAR TONY
4)PRAGATHI PRIYADHARSINI BALASUBRAMANI

(57) Abstract :
The present invention provides an application based on smartphones for providing real-time visual feedback to minimize risks of distracted walking, which include jaywalking. The application of the present invention delivers real-time visual feedback on the screen of the smartphone and estimated time-to-impact numbers of any imminent obstacles, peering through an external depth sensor. Results obtained from the user study showed the fact that the system resulted in better obstacle detection with reduced cognitive load and higher situational awareness. This means that the system of the present invention offers pedestrians an opportunity to use their phones in a secure manner, therefore enhancing the safety of pedestrians in cities. The present innovation allows the creation of a real-time, non-intrusive feedback system, without requiring expensive smartphone hardware changes from depth-sensing techn

No. of Pages : 28 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511070925 A

(19) INDIA

(22) Date of filing of Application :25/07/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : NOVEL KINETICALLY INERT CYCLOMETALATED PT(II) COMPLEXES FOR TARGETING METASTATIC TRIPLE NEGATIVE BREAST CANCER

(51) International classification	:A61K0045060000, C07F0015000000, A61P0035000000, A61P0035040000, A61K0041000000	(71)**Name of Applicant :** **1)INDIAN INSTITUTE OF TECHNOLOGY KANPUR** Address of Applicant :Dean, Research and Development Office, 2nd Floor, New Faculty Annexe Building, IIT Kanpur, Kalyanpur, Kanpur – 208016, Uttar Pradesh, India Kanpur Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)RITIKA GAUTAM SINGH**
(33) Name of priority country	:NA	**2)AYUSHI CHAUDHARY**
(86) International Application No	:	**3)ASHWINI KUMAR**
Filing Date	:01/01/1900	**4)ANKIT**
(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	

(57) Abstract :

The invention relates to new class of cyclometalated Pt(II) nanoaggregates to combat cancer via photodynamic therapy and their method of production. The invention provides five novel kinetically inert cyclometalated Pt(II) complexes have been synthesized and characterized. The compounds were found to be photoactive when irradiated with 390 nm light and induced pronounced cytotoxicity in triple negative breast cancer (TNBC). TNBC possess a serious threat to women health, with programmed death ligand 1 (PD-L1) usually overexpressed in this condition. The cyclometalated Pt(II) complex, PtL1 (IC50, light, 48 h= 0.25 ± 0.10 µM; IC50, dark, 48 h= 41.04 ± 2.45 µM) have been found to form nanoaggregates in culture media which provides a feasible solution by combining nanoaggregates-based chemotherapy and immunotherapy in a single kinetically inert Pt (II) complex to treat TNBC.

No. of Pages : 30 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511061746 A
(19) INDIA
(22) Date of filing of Application :27/06/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : "Nano-Fibrous Composite Membrane for Seed Enhancement"

(51) International classification	:D01D0005000000, D04H0001728000, A01C0001060000, G01N0027020000, A01G0031000000
(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

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2)Dr. Moushumi Ghosh

(57) Abstract :
The present invention relates to a novel Nano-Fibrous Composite Membrane designed for seed enhancement, incorporating a hybrid polyvinyl alcohol (PVA) and polyvinylpyrrolidone (PVP) matrix for controlled nutrient delivery. The membrane is fabricated through electrospinning, creating a highly porous, spider-web-like structure that facilitates nutrient encapsulation and controlled release, ensuring effective nutrient absorption by seeds during germination and early growth stages. The composite membrane integrates nutrient salts into the polymer matrix, and its performance is characterized using electrochemical techniques, including potentio electrochemical impedance spectroscopy (PEIS) and cyclic voltammetry (CV), to monitor real-time nutrient release dynamics. A bilayer coating method is employed, where a single electrospun layer is first applied to both the seed and microelectrode chip, followed by a secondary electrospinning process to create a uniform seed-on-chip coating. This innovative approach enhances nutrient retention, promotes efficient seed germination, and improves seedling growth. The invention presents a sustainable, precision-driven technology for agricultural applications, offering a scalable solution to improve seed performance and accelerate crop production.

No. of Pages : 67 No. of Claims : 12

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511063804 A
(19) INDIA
(22) Date of filing of Application :04/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT IN AGRICULTURE: SMART IRRIGATION AND SOIL MONITORING

(51) International classification	:G01N0033240000, G06Q0050020000, A01G0025160000, G05B0015020000, A01G0027000000
(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

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3)Dr. Surajit Ghosal
4)Dr. Manisha Raosaheb Survase
5)Nimish Sunil Das
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2)Shailaja Bhagwanrao Bhosale
3)Dr. Surajit Ghosal
4)Dr. Manisha Raosaheb Survase
5)Nimish Sunil Das

(57) Abstract :
This invention focuses on the application of Internet of Things (IoT) technology in agriculture, specifically for smart irrigation and soil monitoring. By utilizing a Data-Driven Precision Irrigation method, the system leverages IoT-based sensors embedded in the soil to continuously monitor critical parameters such as soil moisture, temperature, pH, and nutrient content. The data collected is transmitted wirelessly to a cloud-based platform, where it is analyzed to optimize irrigation schedules based on real-time soil conditions, weather forecasts, and crop requirements. The core tool used in this system is the IoT-based Soil Moisture Sensor Network, which provides accurate and real-time insights into the soil's health. This tool ensures efficient water usage by delivering irrigation only when necessary, reducing water waste, and promoting sustainable farming practices. By implementing this system, farmers can enhance crop yield, conserve resources, and make informed decisions that improve soil health, ultimately contributing to more sustainable agricultural practices.

No. of Pages : 12 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511068159 A
(19) INDIA
(22) Date of filing of Application :17/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN INTELLIGENT WATER MANAGEMENT SYSTEM FOR SUSTAINABLE TOILET FLUSHING AND METHOD THEREOF

(51) International classification	:G06Q0050060000, E03B0001040000, E03B0007070000, E03D0005100000, C02F0001440000
(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

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(72)**Name of Inventor :**
1)DR. PRABH DEEP SINGH
2)DR. KIRAN DEEP SINGH
3)ROHAN VERMA

(57) Abstract :
The present invention provides a water conservation and smart water management systems, particularly focusing on recycling and reusing wastewater from Reverse Osmosis (RO) systems and kitchen waste for flushing toilets. It incorporates automated control mechanisms to optimize water usage while ensuring hygiene and efficiency.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511072022 A
(19) INDIA
(22) Date of filing of Application :29/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : GYNGUARD: A SMART WEARABLE DEVICE FOR COMPREHENSIVE WOMEN'S HEALTH MONITORING AND EARLY DETECTION OF HEALTH ANOMALIES

(51) International classification	:A61B5/00, G16H50/20, G16H50/30
(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

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2)RAMNEEK KAUR
3)DR. PRABH DEEP SINGH
4)DR. KIRAN DEEP SINGH

(57) Abstract :
The present invention provides a smart wearable for monitoring women's health. Smart, wearable accessories in women's health monitoring are probably among the most outstanding innovations in healthcare technology. This is likely to revolutionize the way women monitor and manage their health by giving them useful insights and data to improve their general health. GynGuard of the present invention is the smart wearable device, designed only for women's health. This state-of-the-art device monitors a vast array of female health parameters continuously to ensure that it is able to pick up on even the very early signs of any possible health problems and alert women accordingly, thereby allowing them to be in control of their health. Figure 1 is the representative figure.

No. of Pages : 14 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511071204 A
(19) INDIA
(22) Date of filing of Application :26/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : FRAMEWORK FOR REAL-TIME DECISION MAKING USING ENTERPRISE ARCHITECTURE AND MACHINE LEARNING ACROSS DISTRIBUTED BUSINESS INFRASTRUCTURES

(51) International classification	:G06Q10/06, G06Q10/0637, G06N20/00
(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

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(72)**Name of Inventor :**
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2)Mr. Vimal Rana

(57) Abstract :
This invention provides a real-time decision-making framework that integrates enterprise architecture with machine learning for distributed business infrastructures. It dynamically connects diverse data streams from multiple systems and deploys ML models contextually within the architectural layers to enable intelligent automation. The framework supports hybrid edge-cloud processing, ensuring low-latency inference, data integrity, and scalability. It includes adaptive deployment, compliance monitoring, and lifecycle governance for machine learning components. By incorporating knowledge graphs and process analytics, the system detects bottlenecks and recommends optimizations in real-time. The invention facilitates continuous learning and strategic alignment of technology with business objectives, empowering organizations to make timely, accurate, and scalable decisions across decentralized operational landscapes.

No. of Pages : 13 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511071362 A
(19) INDIA
(22) Date of filing of Application :28/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A GRADED LIGHTWEIGHT FOAMED CONCRETE BLOCK

(51) International classification	:C04B0038100000, B28B0001500000, E04C0002040000, C04B0111400000, C04B0038020000
(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

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2)Shubham Sharma
3)Dr. Rajneesh Sharma

(57) Abstract :
A graded lightweight foamed concrete block features a graded structure composed of multiple cast foamed cellular concrete layers, each layer has a distinct foam content to establish a sequential density gradient across the block's thickness. The composition of each layer includes fly ash (Class F), cement (OPC 43 grade), water, a protein-based foaming agent, formic acid, and xanthan gum powder. The layers are cast sequentially at pre-determined time intervals to ensure proper bonding and formation of the graded structure. The controlled density variation optimizes structural performance while maintaining lightweight characteristics, offering an energy-efficient and sustainable building material solution. FIG. 1A

No. of Pages : 28 No. of Claims : 12

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511077273 A
(19) INDIA
(22) Date of filing of Application :13/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR AI AND ML FOR ROBOTICS AND AUTONOMOUS INDUSTRIAL APPLICATION SYSTEM

(51) International classification	:G06Q50/04, G06N20/00, G05B 19/00
(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

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(57) Abstract :
The invention relates to a system and method for integrating artificial intelligence (AI) and machine learning (ML) into robotic platforms to enable autonomous operation in industrial environments. The system comprises a modular architecture including a robotic platform, distributed sensor modules, an AI/ML processing unit, an edge computing node, a cloud analytics layer, and a human-machine interface. Sensor data is continuously acquired and processed using trained AI/ML models—such as convolutional neural networks and reinforcement learning agents—to support intelligent decision-making, adaptive control, and predictive maintenance. The edge computing node ensures low-latency execution of control commands and real-time responsiveness, while the cloud analytics layer facilitates centralized data aggregation, cross-site learning, and model refinement. The human-machine interface enables intuitive interaction through gesture recognition, voice commands, and graphical dashboards, allowing for collaborative task execution and override control. The system is designed to be hardware-agnostic and compatible with various industrial protocols, supporting seamless integration into diverse operational environments. This invention enhances flexibility, scalability, and intelligence in industrial automation, making it suitable for applications in manufacturing, logistics, inspection, and emergency response.

No. of Pages : 21 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511010891 A
(19) INDIA
(22) Date of filing of Application :10/02/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ERGONOMIC KNEE TRACTION DEVICE FOR CONTROLLED JOINT THERAPY

(51) International classification	:A61H1/02, A61F5/042, A63B21/00
(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

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3)Dr. R. Arunmozhi
4)Vishal Verma
5)Meghna Wadhwa

(57) Abstract :
The present invention relates to a knee traction device designed to provide controlled and effective traction therapy for individuals suffering from knee pain, joint stiffness, or mobility restrictions. The device comprises a stable base frame, a padded leg support system, and an adjustable traction mechanism that allows users to apply precise and incremental traction force independently. The traction mechanism includes a ratchet-based, screw-driven, or pulley system that ensures smooth force application while preventing sudden jolts or excessive pressure. A built-in tension indicator provides real-time monitoring of applied force, while a locking system maintains traction securely throughout the therapy session. The device incorporates a quick-release mechanism for immediate disengagement of traction, ensuring user safety. Ergonomically designed with memory foam padding and adjustable straps, it ensures comfort and stability during use. Constructed from lightweight, durable materials, the device is portable and foldable, making it ideal for home-based rehabilitation and clinical applications. This invention provides a non-invasive, cost-effective, and user-friendly solution for knee joint therapy, improving mobility, reducing pain, and enhancing patient compliance with rehabilitation protocols.

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511039591 A
(19) INDIA
(22) Date of filing of Application :24/04/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PATENT FOR THE HARNESSING CORN SILK SYRUP FOR LIVER AND KIDNEY HEALTH: A NATURAL CURE

(51) International classification	:A61K0036899000, A61P0001160000, A61P0013120000, A61P0013040000, A61K0036540000	(71)**Name of Applicant :** **1)CAREER POINT UNIVERSITY** Address of Applicant :CAREER POINT UNIVERSITY, BHORANJ (TIKKER-KHARWARIAN), HAMIRPUR, MDR 35, HIMACHAL PRADESH, INDIA, 176041 Himachal Pradesh India
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(87) International Publication No	: NA	**5)Dr. Sonam Sharma**
(61) Patent of Addition to Application Number	:NA	**6)Ms. Sakshi Sabharwal**
Filing Date	:NA	**7)Ms. Kamlesh Kumari**
(62) Divisional to Application Number	:NA	**8)Ms. Reena Kumari**
Filing Date	:NA	**9)Ms. Sneha Kumari**

(57) Abstract :
Abstract: Corn silk, the delicate thread-like fibers found in maize, has been widely recognized for its medicinal properties, particularly in promoting liver and kidney health. This study explores the formulation and therapeutic potential of Corn Silk Syrup as a natural remedy for liver detoxification, kidney function enhancement, and urinary tract health. Rich in bioactive compounds such as flavonoids, alkaloids, and polysaccharides, corn silk exhibits diuretic, anti-inflammatory, antioxidant, and hepatoprotective properties that support toxin elimination, reduce inflammation, and prevent kidney stone formation. The syrup formulation ensures enhanced bioavailability and ease of consumption, making it a practical alternative to synthetic medications. As global interest in herbal medicine grows, the development of corn silk syrup offers a promising, cost-effective, and sustainable approach to managing liver and kidney disorders. Future research and clinical validation could further establish its efficacy, paving the way for commercial production and integration into modern holistic healthcare systems.

No. of Pages : 9 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511079054 A
(19) INDIA
(22) Date of filing of Application :20/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEMS AND METHODS FOR IDENTIFYING PATHWAYS DIRECTING DIFFERENTIATION OF STEM CELLS INTO SPECIFIC CELL LINEAGES

(51) International classification	:C12N0005079700, H04B0007060000, G16B0025100000, G16B0005000000, A61K0031454000
(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

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2)SHARMA, Madhu
3)Ansari, Ariba
4)A, Haseena

(57) Abstract :
Disclosed is a method (600) for identifying pathways directing differentiation of target stem cells or progenitor cells into specific cell lineages using single-cell RNA-seq profiles of given stem cells. A set of markers indicative of differentiation of the stem cells into specific cell lineages is selected from a set of predefined markers. A Ribonucleic acid (RNA)-velocity score corresponding to each of set of markers is generated. A combined RNA-velocity score is determined based on combining generated RNA-velocity score corresponding to each set of set of markers for future lineages. A pathway enrichment score is determined for each of a set of predefined pathways associated with differentiation of the stem cells. Combined RNA-velocity score is modeled using probabilistic graphical model(s). Combined RNA-velocity score is correlated with determined pathway enrichment scores. Pathways directing the differentiation of stem cells into the specific cell lineages are identified based on the correlation and the modeling.

No. of Pages : 34 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511074887 A
(19) INDIA
(22) Date of filing of Application :06/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR AI-BASED AUTOMATED MARKETING CONTENT GENERATION AND CROSS-PLATFORM PUBLISHING

(51) International classification	:G06Q30/02, G06F16/95, G06F16/958, G06F40/00, G06F40/56
(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

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(72)**Name of Inventor :**
1)Nitti Gaba

(57) Abstract :
The present invention relates to a system and method for AI-based automated generation, customization, and cross-platform publishing of marketing content from brand website inputs. The system (100) comprises a user input interface (102) configured to receive a brand identifier including a website URL. A website data extraction engine (104) semantically analyzes the URL to extract brand-specific tone, services, and keywords. A natural language generation engine (110) generates personalized marketing content in multiple formats, including social media posts, blog entries, emails, and captions. A brand kit management module (122) automatically applies visual identity elements such as logos, typography, and color schemes. A visual post design tool (118) facilitates editing of content using AI-powered templates. The content is further optimized for multiple platforms via a platform optimization module (112). The system (100) enables minimal-input, end-to-end content creation and deployment through an integrated, intelligent, and brand-personalized workflow for marketing automation.

No. of Pages : 17 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511074890 A
(19) INDIA
(22) Date of filing of Application :06/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PERSONALIZED THERMOSTATIC WATER MIXING AND DISPENSING SYSTEM

(51) International classification	:B67D1/00, A47J31/46, A47J31/56
(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

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2)RANA, Nikitaa

(57) Abstract :
The present disclosure provides a water mixing and dispensing system including a hot water inlet and a cold water inlet, at least one temperature sensor associated with the hot water inlet for measuring hot water inlet temperature, at least one temperature sensor associated with the cold water inlet for measuring cold water inlet temperature, a mixing chamber configured to receive and combine hot water from the hot water inlet and cold water from the cold water inlet, a plurality of electronically controlled valves configured to regulate flow of the hot water and the cold water, a controller configured to receive user-defined temperature settings, receive real-time input from the temperature sensors, calculate mixing ratios based on the user-defined temperature settings and the real-time input, and actuate the electronically controlled valves to deliver water at the user-defined temperature, and a user interface configured to receive the user-defined temperature settings. (Fig. 1)

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511079458 A
(19) INDIA
(22) Date of filing of Application :21/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SOCIAL NETWORK INFLUENCE MAXIMIZATION METHOD FOR USER BEHAVIORS AND PSYCHOLOGY

(51) International classification	:G06Q50/00, G06F16/9536, G06F16/901
(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

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(72)**Name of Inventor :**
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(57) Abstract :
The present invention relates to a novel approach for social network influence maximization that incorporates user behavioral patterns and psychological traits to optimize information propagation. The method employs machine learning algorithms to analyze user personality characteristics, social connections, content preferences, and engagement patterns to identify optimal seed nodes for maximizing influence spread. The system integrates psychological profiling with graph-theoretical models to predict user susceptibility and influence potential. By considering factors such as user activeness, emotional responses, trust relationships, and content virality patterns, the invention achieves superior influence coverage compared to traditional centrality-based approaches. The method utilizes dynamic psychological modeling to adapt influence strategies based on real-time user behavior analysis. The invention provides enhanced targeting accuracy for marketing campaigns, information dissemination, and social awareness programs while maintaining user privacy through anonymized behavioral analytics.

No. of Pages : 13 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511040671 A
(19) INDIA
(22) Date of filing of Application :27/04/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : "COMPACT CARBON CAPTURE SYSTEM FOR REDUCING CO2 EMISSIONS"

(51) International classification	:F01N3/08, B01D53/92, B01D53/96, B01D53/74, B01D53/75, B01D53/62, B01D53/34	(71)**Name of Applicant :** **1)GLA University, Mathura** Address of Applicant :17km Stone, NH-2, Mathura-Delhi Road MATHURA UTTAR PRADESH India 281406 Uttar Pradesh India (72)**Name of Inventor :** **1)Mr. Rajat Yadav** **2)Prof.Kamal Sharma**
(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	

(57) Abstract :
The present invention relates to a compact carbon capture system (100) for reducing CO2 emissions from a vehicle exhaust system. The system (100) comprises a CO2 adsorbent material (104) compartment that receives exhaust gases from the engine, where an advanced CO2 adsorbent material selectively captures CO2. Once saturated, the adsorbent material (104) is regenerated through the application of heat or a treatment process, releasing the captured CO2. A purified exhaust gas outlet (106) discharges exhaust gases with reduced CO2 content. The system (100) is managed by a control unit (114) that includes sensors, a controller, and a display interface, optimizing the capture and regeneration processes based on real-time exhaust data. Additionally, a captured CO2 storage unit (110) collects and stores the released CO2 for further processing or utilization.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511054276 A
(19) INDIA
(22) Date of filing of Application :05/06/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR REAL-TIME VEHICLE ACCIDENT DETECTION, ANALYSIS, AND MULTI-AGENCY RESPONSE USING MACHINE LEARNING

(51) International classification	:H04W4/90, G06Q50/30, G06Q40/08, G06N3/08, H04W4/90, G06Q50/30, G06Q40/08, G06N3/08	(71)**Name of Applicant :** **1)Seema Rani** Address of Applicant :Research Scholar, Maharshi Dayanand University, Rohtak- 124001, Haryana, India. Haryana India **2)Dr. Sandeep Dalal** (72)**Name of Inventor :** **1)Seema Rani** **2)Dr. Sandeep Dalal**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(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	

(57) Abstract :
The present disclosure relates to a system and method for real-time vehicle accident detection, analysis, and emergency response within smart infrastructure environments. The system integrates a plurality of heterogeneous sensors, including accelerometers, gyroscopes, GPS, audio, and environmental sensors, whose data is validated through a context-aware fusion module to accurately detect genuine accidents while reducing false alarms. An adaptive machine learning engine dynamically updates predictive models based on regional traffic patterns to classify accident severity. A hybrid edge-cloud computing architecture enables low-latency alert generation at edge devices alongside scalable data analytics and continuous model retraining in the cloud. The system employs a blockchain-enabled decentralized ledger to securely log accident data with privacy-preserving protocols. Automated multi-agency coordination is facilitated via blockchain-based smart contracts to notify emergency responders, hospitals, traffic management centers, and registered first responders, ensuring timely and efficient response. Fig. 3.

No. of Pages : 27 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511081270 A
(19) INDIA
(22) Date of filing of Application :27/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND A METHOD FOR MANAGING POWER DISTRIBUTION

(51) International classification	:H02J3/00, H02J3/38, H02J3/00, H02J3/38
(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

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3)ALI, Imtiyaz
4)THENGANE, Sonal Keshawrao
5)Varun

(57) Abstract :
The present disclosure provides a system for managing power distribution in a geographic region. The system comprises a power generation unit implemented in the geographic region, a power monitoring unit communicatively coupled to the power generation unit and configured to measure power generated by the power generation unit in real-time, at least one sensor implemented at the geographic region and configured to measure temperature at the geographic region, and a control unit communicatively coupled to the power monitoring unit and the at least one sensor. The control unit is configured to ascertain the power generated based on the measurement by the power monitoring unit, ascertain the temperature based on the measurement by the at least one sensor, and distribute the power to at least one load from a plurality of loads based on at least one of the power generated and the measured temperature. The power generation unit comprises a water mill-based hydropower system, and the plurality of loads includes temperature-dependent loads such as cold storage systems and hot water systems.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511074099 A
(19) INDIA
(22) Date of filing of Application :04/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM FOR EVALUATING AND CATEGORIZING FACILITATORS BASED ON MULTIPLE PERFORMANCE PARAMETERS & METHOD THEREOF

(51) International classification	:G06Q10/063, G06Q10/0639, G06Q10/00
(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

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1)Sheila Vasan Singla

(57) Abstract :
Disclosed herein is a system (100) and method (200) for evaluating and categorizing facilitators based on multiple performance parameters. The process begins with collecting facilitator-related data from various sources through data acquisition module (102), including intervention session records, experience, industry engagement, learning activities, feedback scores, certifications, and participant information. The data is then categorized into predefined parameter groups and categories via data segregation module (104), each representing a specific aspect of performance. Next, parameter-specific scores are computed for each facilitator using the score calculation module (106), involving summing, averaging, or counting data points. Predefined score thresholds are assigned to determine facilitator levels via score range assignment module (108). Individual parameter levels are established by comparing scores against thresholds (110). The minimum parameter level within each category is identified (112), and the lowest category level across all categories determines the overall facilitator proficiency level (114). Reports with visual dashboards are generated (116), and facilitator data is dynamically updated and re-calibrated as new data becomes available (118). To be published with FIG.1 & FIG.2

No. of Pages : 47 No. of Claims : 13

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511078186 A
(19) INDIA
(22) Date of filing of Application :18/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PERSONALIZED DIGITAL THERAPEUTIC PLATFORM FOR EMOTIONAL HEALTH

(51) International classification	:G16H20/70, A61B5/16, G06F3/01, G06F40/00
(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

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(72)**Name of Inventor :**
1)DEVANSH GUPTA

(57) Abstract :
The present invention provides a digital therapeutic system combining structured poetic expression, computational neuroscience modelling, and wearable biosensor technology for emotional and cognitive intervention, particularly for alexithymia. A software platform delivers metaphor-rich poetic stimuli pre evaluated using spiking neural network simulations to predict activation in emotional neural circuits. Physiological signals such as heart rate variability, EEG, and skin conductance are captured via wearable sensors, analysed in real time, and used to adapt therapeutic content dynamically. Psychometric assessments and secure therapy logs support progress tracking. This closed loop framework offers a non invasive, adaptive, and scalable method that unites therapeutic poetics, neuro-computational simulation, and biosensor feedback into a single, personalized emotional health platform, applicable in clinical, educational, and telehealth settings.

No. of Pages : 14 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511083364 A
(19) INDIA
(22) Date of filing of Application :02/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : RECOMBINANT PROTEIN EXPRESSION METHOD FOR COST-EFFECTIVE VACCINE PRODUCTION

(51) International classification	:A61K0039000000, A61K0039385000, A61K0039145000, C12P0021000000, C12N0015880000
(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

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7)Dr. Vani Sharma

(57) Abstract :
The invention relates to a cost-effective method for recombinant protein expression aimed at large-scale vaccine production. By employing a hybrid expression system utilizing both bacterial and yeast platforms, the method significantly improves protein yield and functionality while reducing operational costs. The recombinant proteins produced using this method are capable of maintaining their immunogenic properties, essential for vaccine efficacy. This innovative approach integrates high-efficiency expression systems and streamlined purification processes, resulting in a scalable solution for affordable vaccine production. The invention is particularly advantageous for global health initiatives, where cost-effective, large-scale vaccine production is critical

No. of Pages : 10 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511083587 A
(19) INDIA
(22) Date of filing of Application :03/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : NEUROPROTECTIVE AND CNS MODULATORY EFFECTS OF METHANOLIC EXTRACT OF CASSIA ANGUSTIFOLIA LEAVES

(51) International classification	:A61P0025280000, A61P0025240000, A61P0025000000, A61P0025220000, A23L0033105000
(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

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6)Mr. Shailender Mishra
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5)Mr. Saiyad Arsh Zia
6)Mr. Shailender Mishra
7)Dr. Prachi Tayal
8)Mr. Kavendra Singh

(57) Abstract :
The present invention relates to the neuroprotective and central nervous system (CNS) modulatory potential of Cassia angustifolia leaves. The invention discloses a method for extraction, wherein the leaves are collected, authenticated, defatted with petroleum ether, and subjected to Soxhlet extraction using methanol to obtain a standardized methanolic extract (MECAL) with a yield of 6–8% w/w. The extract was evaluated in animal models, including the elevated plus maze, forced swim test, tail suspension test, and open field test, to assess anxiolytic and antidepressant-like effects. Results demonstrated a dose-dependent reduction in immobility time, increased exploratory behavior, and enhanced central activity, with higher doses showing activity comparable to Diazepam. The invention provides a safe, plant-based, and cost-effective alternative to synthetic CNS drugs, suitable for therapeutic applications in the management of anxiety, depression, cognitive dysfunction, and neurodegenerative disorders. This invention offers a novel herbal intervention for neurological health with reduced side effects.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511083643 A
(19) INDIA
(22) Date of filing of Application :03/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Hostel Management System

(51) International classification	:H04M0003530000, G06Q0010060000, G06Q0010063100, D06F0095000000, B65D0041260000	(71)**Name of Applicant :** **1)Thapar Institute of Engineering and Technology** Address of Applicant :P.O Box 32, Bhadson Road, Patiala, Punjab, India, Pin-147004, India. Patiala Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Dr. Inderveer Chana**
(32) Priority Date	:NA	**2)Dr. Anju Bala**
(33) Name of priority country	:NA	**3)Aditya Parmar**
(86) International Application No	:	**4)Garv Chandalia**
Filing Date	:01/01/1900	**5)Dhairya Singla**
(87) International Publication No	: NA	**6)Harsiddak Singh Bedi**
(61) Patent of Addition to Application Number	:NA	**7)Samanvay Siddhartha Srivastava**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention provides a centralized hostel management system that integrates hostel and room allocation, cleaning, laundry, mess, and leave management. It offers a seamless, one-stop solution for students and administrators, reducing the need for multiple systems and manual coordination. The main features of the system are real-time hostel availability, room preference submission, a room locking algorithm, room swapping, mess menu voting, occupancy tracking, laundry scheduling, online payments, automatic leave approvals, and digital scan-based entry/exit. The system streamlines operations, allowing students to request, track services and provide feedback in real-time while administrators monitor everything via a unified dashboard.

No. of Pages : 84 No. of Claims : 13

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511085412 A
(19) INDIA
(22) Date of filing of Application :09/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED MOTORCYCLE TAIL PANEL REPAIRING DEVICE

(51) International classification	:B60S5/00, B21D1/12, B08B3/02, B25J18/02
(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

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(72)**Name of Inventor :**
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2)Lavish Kansal
3)Vaibhav Mittal
4)Monica Gulati

(57) Abstract :
An automated motorcycle tail panel repairing device, comprises of a cuboidal body 1 developed to be positioned on a ground surface, wherein the body 1 is integrated with a holding slot that is accessed by a user for accommodating a motorcycle tail panel which is to be repaired, an artificial intelligence-based imaging unit 2 installed on the body 1 and sync with an IR (infra-red) sensor to determine deformities/defects on the tail panel, a water reservoir arranged on sides of the slot and integrated with multiple electronically controlled nozzles to dispense pressurized water on the accommodated tail panel, and a telescopically operated robotic link is arranged on the body 1 and integrated with a motorized rotatable brush to perform scrubbing on the tail. Ref. Figure 1 Dated This ……...day of August, 2025 Dr. Monica Gulati Registrar Lovely Professional University

No. of Pages : 17 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511085413 A
(19) INDIA
(22) Date of filing of Application :09/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED WHEELS REPLACEMENT DEVICE FOR TROLLEY BAGS

(51) International classification	:B25J0009160000, E21B0019160000, B25J0013080000, B25J0019020000, C21D0009000000	(71)**Name of Applicant :** **1)Lovely Professional University** Address of Applicant :Lovely Professional University, Delhi-Jalandhar GT road Phagwara- 144411. Phagwara Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Archana Sehgal**
(32) Priority Date	:NA	**2)Dr. Suresh Kumar**
(33) Name of priority country	:NA	**3)Dr. Satnam Singh**
(86) International Application No	:	**4)Vikas Verma**
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	

(57) Abstract :
An automated wheels replacement device for trolley bags, comprising a platform 1 installed on a fixed surface, a slot 2 is accessed by a user for accommodating a trolley bag, an artificial intelligence-based imaging unit 3 determine positioning of trolley bag on slot 2, multiple motorized clamping units 4 acquire a grip on accommodated trolley bag, an ultrasonic sensor monitors dimensions of wheels installed on bag, a multi-sectioned chamber 5 is accessed by a pair of robotic arms 6 to access a wrench for unfastening nuts and bolts engaged with wheels, a laser measurement sensor monitor dimensions of wheels to be installed on bag, a motorized gripper 7 position a drilling unit 8 in proximity to cavities to drill hole on clamps, a linear actuator integrated on inner periphery of arms 6 for applying a pressure of engaged rivet. Ref. Figure 1 Dated This ……...day of August, 2025 Dr. Monica Gulati Registrar Lovely Professional University

No. of Pages : 16 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511066417 A
(19) INDIA
(22) Date of filing of Application :11/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WASTE MANAGEMENT SYSTEM

(51) International classification	:B65F1/00, G16Y40/10, G06V10/80, G06Q30/02, G01C21/36, H04W4/024	(71)**Name of Applicant :** **1)RAUDIC PLACEMENTS PVT LTD** Address of Applicant :242, Vijaybari, Path No.1, Daher Ke Balaji, Vidhyadhar Nagar, Jaipur, Rajasthan, India, 302039 Jaipur Rajasthan India (72)**Name of Inventor :** **1)Jay Kumar Gupta** **2)Kartik Kumar Gupta**
(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	

(57) Abstract :
The invention provides an intelligent system for monitoring and monetizing waste through a unified digital platform that integrates real-time data acquisition, automated classification, dynamic pricing, logistics optimization, secure transaction recording, and user engagement. The system acquires input from users and sensor networks, classifies waste using machine learning, and determines context-aware pricing based on historical and real-time parameters. Transactions are securely recorded on a blockchain ledger, with each event linked to a unique user identifier. Collection logistics are optimized using artificial intelligence to generate efficient, responsive pickup schedules. The system further tracks user performance metrics and incentivizes participation through gamified rewards. All operations and analytics are accessible through a configurable, role-based user interface. Refer to Figure 1

No. of Pages : 21 No. of Claims : 11

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511071718 A
(19) INDIA
(22) Date of filing of Application :29/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTIFUNCTIONAL CEILING FAN SYSTEM

(51) International classification	:F04D25/08, F04D29/58, F04D29/70, F04D29/26, F24F8/00
(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

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2)Divanshu
3)Dr. Satvasheel Powar

(57) Abstract :
A multifunctional ceiling fan system is disclosed, integrating air circulation, purification, vertical motion, and programmable heating into a single ceiling-mounted unit. The system includes a fan assembly with hollow aerofoil blades (2.5.3) attached to an outer rotor (2.5), and a coaxial inner rotor (2.3) forming a contra-rotor mechanism for generating pressure differentials across air-purifying membranes. An electromechanical hoist comprising a pulley (1.3), cable (1.4), motor (1.5), and lock mechanism (1.6) enables vertical displacement of the fan assembly for cleaning and maintenance access or rapid descent in emergency anti-suicidal scenarios. A heating unit (3) beneath the fan receives filtered air through a conduit in the hollow rod (2.5.1) and functions in localized or global heating modes depending on the fan's vertical position. An IoT-enabled control module coordinates all subsystems and transmits alerts. The invention ensures synchronized electromechanical operation, enhancing air quality, thermal comfort, and occupant safety in a compact, ceiling-mounted smart appliance. FIG. 1A

No. of Pages : 30 No. of Claims : 20

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511075117 A
(19) INDIA
(22) Date of filing of Application :07/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MODULAR FOOTWEAR SYSTEM WITH INTERCHANGEABLE SOLE AND UPPER FOR CUSTOMIZABLE WEAR

(51) International classification	:A43B0003240000, A43B0013360000, A43B0013260000, A63B0053040000, A43B0013020000
(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

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(57) Abstract :
The present invention relates to a modular footwear system (100) comprising an upper unit (200) and a sole unit (300) designed for quick and secure interchangeability. The upper unit (200), preferably made of synthetic leather, features downward-extending the connector elements (210) that engage with matching the cavities (310) in the polyurethane sole unit (300) to provide tool-free and snap-fit assembly. The upper unit (200) also incorporates removable traction spikes (220) to enhance grip when the sole is not in use. Further, the sole unit (300) includes an integrated grip-textured outsole (320) to improve stability across varied surfaces such as wet, uneven, or icy terrain. This modular footwear system (100) provides ease of user customization, and supports sustainability through reduced material use and extended product life.
FIGURE 1

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511089125 A

(19) INDIA

(22) Date of filing of Application :18/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A MULTI-PASS HELICAL SUBMERGED MEMBRANE DISTILLATION MODULE FOR DESALINATION WASTEWATER TREATMENT AND METHOD THEREOF

(51) International classification	:B01D61/36, B01D63/10, B01D71/00, B01D69/12, C02F1/44	
(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	

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4)PROF. PAWAN KUMAR LABHASETWAR

(57) Abstract :

The present invention relates to a multi-pass helical submerged membrane distillation module for desalination and wastewater treatment. The module comprises a cylindrical brass shell incorporating inner and outer helical flow channels covered with hydrophobic membranes supported by spacers. The brass shell construction enhances thermal conductivity and minimises temperature polarisation, while the helical geometry increases residence time and promotes turbulence. The integrated spacer arrangement further reduces fouling and scaling, ensuring operational stability. A unique feature of the invention is its ability to function in direct contact and vacuum membrane distillation modes without requiring structural modifications. This dual-mode adaptability makes the system highly versatile for different operating environments. The compact and modular design facilitates ease of assembly, scalability, and integration with renewable or waste heat sources. The invention provides an energy-efficient and robust solution for purifying saline water, textile wastewater, pharmaceutical effluents, and other contaminated streams. To be published with Figure 2

No. of Pages : 27 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511080871 A
(19) INDIA
(22) Date of filing of Application :26/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A FIRE EXTINGUISHING MAT AND AN AUTOMATIC FIRE EXTINGUISHING SYSTEM

(51) International classification	:A62D1/02, A62D1/06, A62D1/08, A62D5/00, A62C2/10, A62C8/06, A62C13/02, A62C13/20	(71)**Name of Applicant :** **1)Dr Avinash Sharma** Address of Applicant :H. No 125 Tar Gali Bada Bazaar Garhmukteshwar District Hapur Uttar Pradesh Pin code – 245205 Garhmukteshwar Uttar Pradesh India (72)**Name of Inventor :** **1)Vandana Sharma** **2)Dr. Nidhi Sharma** **3)Dr Anil Sharma** **4)Dr. Amit Rathore** **5)Mohd Nadeem**
(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	

(57) Abstract :
The present invention relates to a fire extinguisher mat and an automatic fire extinguishing system, and a method thereof. More particularly, the present invention provides an automatic fire extinguishing system comprising at least one fire extinguisher mat; at least one sensor configured to detect a fire; and an actuation mechanism configured to ignite said mat based on the senor feedback, wherein said fire extinguisher mat comprises a plurality of fire extinguishing layers of propellant and an extinguishing agent. FIG. 1

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511085250 A

(19) INDIA

(22) Date of filing of Application :09/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR OHMIC HEATING AND AGITATION OF HIGH-FAT AND LOW-CONDUCTIVITY LIQUID FOODS

(51) International classification	:H05B3/00, H05B3/03, H05B3/60, A23B2/05, A23L5/30	(71)**Name of Applicant :** **1)Rajasthan University of Veterinary & Animal Sciences** Address of Applicant :Vijay Bhawan Palace Complex, Veterinary University Road, Near Deen Dayal Upadhyay Circle, Bikaner – 334001, Rajasthan, India Bikaner Rajasthan India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr Mukul Sain**
(33) Name of priority country	:NA	**2)Prof Manoj Dixit**
(86) International Application No	:	**3)Dr Rahul Singh Pal**
Filing Date	:01/01/1900	**4)Dr Hemant Dadhich**
(87) International Publication No	: NA	**5)Dr Manisha Mathur**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

The present invention relates to a system and method are disclosed for processing high-fat and low-conductivity liquid foods by utilizing a closed container (100) that houses a liquid food medium (106) and one or more metal electrodes (102) with laterally extending portions (104) for agitation. The invention employs a container lid (108) integrating drive motors (110) powered by an energy storage unit (battery) (112) to rotate the electrodes (102), while a transformer (114) conditions power from an AC power supply (118) to facilitate ohmic heating within the medium (106). A user interface (116) enables precise control of electrical and mechanical operating parameters, with optional temperature sensors further ensuring optimal processing conditions. This arrangement effectively combines thermal treatment and mechanical mixing, particularly suitable for challenging high-fat, low-conductivity liquid food formulations. To be published with Fig. 01

No. of Pages : 24 No. of Claims : 11

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511089590 A

(19) INDIA

(22) Date of filing of Application :19/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : AN IoT ENABLED AUTOMATIC CHEMICAL MANAGEMENT (ACM) SYSTEM TO ENHANCE SAFETY IN FIRECRACKER MANUFACTURING

(51) International classification	:H04L0067120000, G08B0021180000, H04N0021422000, F04D0015000000, G08B0025100000	(71)**Name of Applicant :** **1)DIVYASAMPARK IHUB ROORKEE FOR DEVICES MATERIALS AND TECHNOLOGY FOUNDATION** Address of Applicant :Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, Roorkee Uttarakhand India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)DR. RAMAMOORTHY S**
(33) Name of priority country	:NA	**2)DR. RAJESWARI D**
(86) International Application No	:	**3)DR. DEEPAK KUMAR**
Filing Date	:01/01/1900	**4)DR. PUSHPALATHA M**
(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	

(57) Abstract :

The present invention relates to an Automatic Chemical Management (ACM) system to mitigate these risks by leveraging IoT-enabled smart sensors to monitor and balance chemical proportions, ensuring they remain within predefined safe thresholds. The ACM (1) system integrates motion detection and automatic alert mechanisms, including symbolic, auditory (gong), and visual (blaze) indicators, to effectively communicate risks to laborers, regardless of literacy levels. The ACM chemical mixture tray (3) is used to mix the chemicals that are used in the firecrackers. The blades which are placed inside, rotate based on the command from the control panel (2). The tray consists of holders for different sensors (5) and their values are saved in the cloud database. The cooling unit (4) consists of a submersible water pump that circulates water constantly around the ACM machine. To be Published with Figure 1

No. of Pages : 30 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511089592 A
(19) INDIA
(22) Date of filing of Application :19/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A REAL-TIME CAMERA-BASED SYSTEM AND METHOD FOR POTHOLE DETECTION, MAPPING AND QUANTIFICATION

(51) International classification	:G06T0007000000, E01C0023060000, G06T0007620000, G08G0001160000, G06V0020580000
(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

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(72)**Name of Inventor :**
1)MR. KALIPRASANA MUDULI
2)MR. AVNISH PANWAR
3)PROF. INDRAJIT GHOSH

(57) Abstract :
The present invention relates to a real-time camera-based system and method for pothole detection, mapping and quantification. The invention relates to a system and method for detecting, segmenting, and quantifying road surface anomalies, such as potholes, using a monocular camera. The invention further provides a method for estimating the area and volume of such anomalies through image-based depth inference and geometric processing, enabling real-time assessment and mapping for road maintenance and safety applications. To be Published with Figures 1 and 2

No. of Pages : 32 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511001636 A
(19) INDIA
(22) Date of filing of Application :07/01/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : QUADCOPTER WITH TWIN NOZZLE FOR HIGH PRECISION 5-LITER AGRICULTURE SPRAYING DRONE

(51) International classification	:B64C39/02, B64D1/18, G05D1/00	
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(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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(72)**Name of Inventor :**
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2)LAKSHAY PANCHAL
3)AVINASH CHANDRA PAL
4)SAHEJEET SINGH

(57) Abstract :
Quadcopter with Twin Nozzle for High Precision 5-Liter Agriculture Spraying Drone The present invention generally relates to the field of agricultural technology, particularly within artificial intelligence and robotics. Specifically, the invention provides a Quadcopter with Twin Nozzle for High Precision 5-Liter Agriculture Spraying Drone, designed to enhance endurance, support a large-capacity battery, and accommodate substantial payloads. This drone offers efficient, precise spraying capabilities, tailored for large-scale crop management with stability and durability in demanding agricultural environments.

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511007816 A
(19) INDIA
(22) Date of filing of Application :30/01/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MACHINE LEARNING BASED SYSTEM AND METHOD FOR CANCER TARGETED DRUG DESIGN

(51) International classification	:G16C0020500000, A61P0035000000, G16C0010000000, G16B0015300000, G01N0033500000
(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

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2)DR. JATINDER MANHAS
3)DR. RAJNEET KAUR BIJRAL
4)DR. INDERPAL SINGH
5)MS. JAHANVI KOTWAL

(57) Abstract :
The present invention relates to the machine learning based system and method for cancer targeted drug design. The system integrates molecular dynamics (MD) simulations, dimension reduction techniques, and virtual screening for the purpose of cancer-targeted drug discovery. The system automates complex computational workflows, providing protein-ligand interactions, reduce high-dimensional molecular data, and perform virtual screening to identify potential drug candidates. To be Published with Figure 1

No. of Pages : 26 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511070137 A
(19) INDIA
(22) Date of filing of Application :23/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : TOWARDS INCLUSIVE DEVELOPMENT: SOCIALIST PERSPECTIVES ON IOT AND AI

(51) International classification	:G06Q10/10, G06N20/00, G06Q50/26
(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

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(72)**Name of Inventor :**
1)Dr. Debabrata Baral
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3)Dr. Adrija Chattopadhyay
4)Mr. Debasis Das

(57) Abstract :
This invention presents a socially responsible framework for the implementation of IoT and AI technologies based on socialist values of equity, collective benefit, and participatory governance. It enables decentralized, ethical, and inclusive technological ecosystems through cooperative infrastructure, transparent algorithms, and democratic data stewardship. Designed to combat digital inequality and promote socio-economic justice, the system empowers marginalized communities by facilitating access to intelligent services tailored for public welfare. This invention ensures that technological advancement supports inclusive development across global and local scales.

No. of Pages : 12 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511084789 A

(19) INDIA

(22) Date of filing of Application :07/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR ENHANCING GRADUATE EMPLOYABILITY IN INDIA THROUGH STRUCTURED SOFT SKILL DEVELOPMENT PROGRAM

(51) International classification	:G06Q0050200000, G06Q0010105300, G09B0007020000, G09B0005060000, G06N0003044000
(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

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2)Afreen Banu

3)K. Mahammad Rafi

4)Neha Nazneen Siddiqui

(57) Abstract :

The invention provides a novel framework for improving graduate employability in India by implementing structured soft skill development programs. The system integrates diagnostic assessments, modular training, experiential simulations, and multi-level feedback to build critical non-technical competencies. An employability index is generated to quantify improvements in workplace readiness. The invention ensures scalability, standardization, and measurable outcomes across diverse educational and training institutions, thereby bridging the gap between academia and industry employability requirements.

No. of Pages : 9 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092359 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A System and a Method to Assess and Revive Cultural Capital, Migration Dynamics, and Economic Well-Being for Rehabilitation of Ghost Villages and Preservation of Ancient Treasures in the Land of Almora

(51) International classification	:G06Q0020380000, G06Q0050260000, G06Q0010063900, G06Q0020100000, H04L0067500000
(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

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(72)**Name of Inventor :**

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2)Dr. KAMRUDDIN

(57) Abstract :

ABSTRACT A System and a Method to Assess and Revive Cultural Capital, Migration Dynamics, and Economic Well-Being for Rehabilitation of Ghost Villages and Preservation of Ancient Treasures in the Land of Almora This disclosure pertains to a system (100) and a method (200) for evaluating and revitalizing cultural capital, migration trends and regional welfare for reclaiming ghost villages and protecting cultural artifacts. The system includes a cultural capital evaluation module (102) that can analyze cultural practices with (AI) to generate a Cultural Vitality Index; a migration monitoring and forecast module (104) to examine geo-tagged data and remittance flows to identify mobility processes; an economic well-being evaluation module (106) that assesses household stability through IoT sensors, digital records, and remote sensing data. Moreover, there is an on-chain heritage tokenization module (108) to encrypt and distribute heritage tokens to ensure transparent allocation of revitalization funds and a region revitalization engine (110) coordinated by (AI) which ties together cultural migration and economic indicators for adaptive planning. Finally, a policy and community engagement interface (112) provides predictive partitioning simulation dashboards, feedback loop and community action teams for the democratic, data-driven governance and community resiliency.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511089038 A
(19) INDIA
(22) Date of filing of Application :18/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : OIL-BASED DRILLING FLUID COMPOSITION

(51) International classification	:C09K8/36, C09K8/32, C09K8/035, C09K 8/34, C09K8/03, C09K23/00, C09K8/50
(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

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2)Harish Kumar Anand
3)Poonam Kumari
4)Hemant Badola
5)Kashish Madan
6)Shivraj Singh
7)Poornima

(57) Abstract :
Provided herein is an oil-based drilling fluid composition. The drilling fluid composition comprises a base oil in an amount ranging from 36.67 to 37.62 %w/w, an emulsifier, lime in an amount ranging from 2.38 to 3.10 %w/w, a viscosifier in an amount ranging from 0.95 to 2.74 %w/w, a brine comprising calcium chloride and water, a fluid loss control additive in an amount ranging from 0.71 to 1.43 %w/w, calcium carbonate in an amount of 7.14 %w/w; and a weighing agent in an amount ranging from 18.57 to 20.24 %w/w. The ratio of base oil to water in the drilling fluid composition is 70:30. The oil-based drilling fluid composition exhibits an electrical stability for up to 5 days and a sag factor in a range from 0.50 to 0.53 for 120 hours.

No. of Pages : 33 No. of Claims : 20

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092556 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Three-phase transmission line fault detection system

(51) International classification	:G01R31/52, G01R31/08
(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

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(72)**Name of Inventor :**
1)Dr. Sandeep Gupta
2)Dr. Padmanabh Thakur

(57) Abstract :
The present invention relates to a three-phase transmission line fault detection system comprising: sensors; display; microcontrollers; signal processors; an IoT devices; a buzzer; an analysis module; wherein said analysis module has advanced algorithms for identifying the type of fault (single-line-to-ground, double-line, double-line-to-ground, and three-phase faults) and locate the fault section within the transmission line.

No. of Pages : 9 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092583 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DUAL-MODE NANO-CATALYST KITCHEN CONVERTER

(51) International classification	:H01M0008160000, C02F0003000000, B01J0035390000, B09B0003000000, A61L0009200000
(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

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(72)**Name of Inventor :**
1)Dr. Asha Kumari
2)Dr. Rahul Sharma
3)Dr. Shailja Kumari
4)Dr. Anjali Sharma

(57) Abstract :
A miniaturized dual-mode kitchen device is revealed adjoining nano-catalyst-coated photothermal/photocatalytic chamber and a regulated bio-conversion unit. Photothermal/photocatalytic chamber eliminates moisture and pathogens and removes volatile compounds in food waste. That pretreated waste is processed in the bio-conversion unit to produce stabilized compost or biochar and can include a microbial fuel cell with nano-augmented electrodes to recover energy. A gas management system using photocatalytic oxidation, and adsorption filters is used to reduce odor and emissions. The sensor arrays also measure process conditions such as; humidity, temperature, pH, and gaseous by-products and allow automated control. The unit works in a sizable, modular shape that can be used in the household or institutional environment, with lower energy requirement and better sanitation as opposed to the traditional waste treatment equipment.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092755 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HERBICIDAL COMPOSITION COMPRISING FOMESAFEN, CLODINAFOP-PROPARGYL AND IMAZETHAPYR IN A MICROEMULSION (ME) FORMULATION

(51) International classification	:A01N25/08, A01N25/10, A01N25/14, A01N25/12, A01N25/30, A01P13/00, A01N31/14, A01N43/50	(71)**Name of Applicant :** **1)SAHIB PESTICIDES PRIVATE LIMITED** Address of Applicant :V&P.O–CHAURA, TEHSIL-GHARAUNDA, KARNAL, HARYANA, INDIA-132114 Karnal Haryana India (72)**Name of Inventor :** **1)SUBHASH KHURANA** **2)SAHIB KHURANA**
(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	

(57) Abstract :
The present disclosure provides a herbicidal microemulsion (ME) formulation (101) comprising Fomesafen in an amount of about 10-50% w/w, Clodinafop-propargyl of about 5-30% w/w, and Imazethapyr of about 1-10% w/w, in combination with a surfactant-co-solvent system that ensures superior stability and performance. Unlike conventional single-active or binary herbicides, this multi-active ME delivers three distinct modes of action (PPO, ACCase, and ALS inhibition), resulting in synergistic efficacy and broad-spectrum control of both monocotyledonous and dicotyledonous weeds. Castor oil ethoxylate (20% w/w) and a fatty acid amide co-solvent enhance miscibility, sprayability, and droplet uniformity, thereby improving field coverage. The formulation demonstrates improved physicochemical robustness (flash point 24.5 °C, water ≤2.5% w/w, acidity ≤0.25% w/w) and long-term storage stability, preventing phase separation or degradation. Its higher efficacy reduces the number of required sprays, lowering input cost, labor, and environmental impact, while minimizing resistance development, thus offering a significant advancement over existing herbicide formulations. (Figure 1 shall be reference figure)

No. of Pages : 22 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511085423 A
(19) INDIA
(22) Date of filing of Application :09/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AIR CONDITIONAL EVAPORATOR COIL CLEANING AND TESTING DEVICE

(51) International classification	:F28G9/00, F28G15/02, F28G15/00, F28G3/16, G06T7/00, G06V10/00
(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

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2)Sami Anand
3)Dr. Arun Malik
4)Dr. Chandra Mohan

(57) Abstract :
An air conditional evaporator coil cleaning and testing device, comprising a rectangular base 1 possessing four telescopic rods 2 equipped with omnidirectional wheels 3, an imaging unit 4 installed on the base 1 to determine substantial physical damage on coil, an L-shaped arm 5 equipped with a nozzle 6 integrated on the base 1 for spraying a cleaning solution on to the evaporator, an L-shaped bar 7 with a brush 8 configured on a slider 9 arranged on base 1 to position the brush 8 near the evaporator, a ball and socket joint for rotating the brush 8 around the coil to scrub the coil, a robotic link 10 configured on the base 1 for inserting a plug at end of the coil to close the end and attaching a tube 12 coming from air compressor 11 at other end of coil for applying predetermined air pressure in the coil. Ref. Figure 1 Dated This ……...day of August, 2025 Dr. Monica Gulati Registrar Lovely Professional University

No. of Pages : 16 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092847 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED INFANT CARE SYSTEM WITH VOICE-CONTROLLED FEEDING AND COMFORT FUNCTIONS

(51) International classification	:G06F0003160000, A61B0005000000, A61G0011000000, F21Y0115100000, H04R0001020000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. Neha Kondal**
(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	

(57) Abstract :
The present invention discloses a fully integrated, voice-controlled smart baby care system designed to automate and simplify routine caregiving tasks. Housed within an ergonomic, pod-like enclosure, the system combines multiple functionalities including voice-activated dispensing of baby oil, lotion, cream, powder, and tissues; warm air or towel-based drying; ambient LED lighting; and soothing audio playback. It also features an extendable massage and diaper change platform, refillable hygiene cartridges, and embedded environmental sensors for safety and comfort. Operable via voice commands or a mobile application, the device provides a hands-free, hygienic, and emotionally supportive caregiving experience. The invention significantly reduces caregiver effort and enhances infant well-being by unifying traditionally separate tasks into a single compact unit. It is particularly advantageous for single parents, physically challenged individuals, and busy caregivers, offering a groundbreaking advancement in automated infant care.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092848 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : PORTABLE FLAME PROTECTION DEVICE FOR ASEPTIC INOCULATION IN LARGE-SCALE FERMENTERS OR BIOREACTORS AND METHOD THEREOF

(51) International classification	:C12M1/26, F23D14/00, F23D14/46, F23D14/58
(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

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(72)**Name of Inventor :**

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2)Dr. Naveen Dwivedi

(57) Abstract :

The present invention relates to a portable flame protection device for ensuring aseptic inoculation in large-scale fermenters and bioreactors. The device comprises a ring-shaped burner (101) with multiple flame outlets configured to generate a continuous circular flame barrier around an inoculation port, a refillable fuel canister (102) serving as the fuel source, a connecting gas pipe (103) linking the canister to the burner, a flame control valve (104) for regulating flame intensity and providing a safety shut-off mechanism, and an attachment mechanism for securing the device directly onto the inoculation port. In use, the device is mounted onto the port, ignited to establish localized sterilization during inoculation transfer, and extinguished after completion of the process. The invention offers a portable, reusable, fuel-efficient, and operator-safe alternative to conventional fixed flame rings and open burners, providing targeted sterilization and enhanced contamination control for industrial bioprocessing applications.

No. of Pages : 13 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092377 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : App-Based Smart Patient Positioning Assistant System and Method for Pre Imaging Guidance in Diagnostic Medical Imaging

(51) International classification	:G16H0030200000, G16H0040200000, A61B0005000000, A61B0006000000, G16H0010600000
(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

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(57) Abstract :
ABSTRACT The present invention relates to an App-Based Smart Patient Positioning Assistant for Pre Imaging, a system and method designed to optimize and automate patient positioning prior to diagnostic medical imaging procedures such as X-ray, CT, MRI, and ultrasound. The invention utilizes a mobile application integrated with artificial intelligence algorithms, augmented reality overlays, and optional sensor inputs to provide real-time guidance and feedback to healthcare professionals. It ensures precise patient alignment based on standardized imaging protocols, reducing the need for repeat imaging, minimizing radiation exposure, and improving diagnostic accuracy and workflow efficiency. The system supports offline functionality, multi-modal feedback, and secure integration with hospital information systems, making it suitable for diverse clinical environments including rural and remote healthcare settings.

No. of Pages : 18 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092380 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR DIGITAL EVIDENCE MANAGEMENT FOR WHISTLEBLOWER ANONYMITY UTILIZING ZERO-KNOWLEDGE PROOFS AND PRIVATE BLOCKCHAIN TECHNOLOGY

(51) International classification	:H04L0009320000, H04L0009000000, H04L0009400000, H04L0009080000, G06F0021600000
(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

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(72)**Name of Inventor :**

1)Rupa Khanna Malhotra

(57) Abstract :

A system and method in the field of secure digital evidence management are disclosed, wherein an evidence submission portal (101) receives encrypted whistleblower evidence and metadata without compromising anonymity. The zero-knowledge verification engine (102) processes the evidence using non-interactive zero-knowledge proof protocols to generate a cryptographic proof, while the private blockchain ledger (103) immutably records the proof, metadata, and time-linked access logs via a permissioned network and smart contract consensus. An access control module (104) employing multi-factor authentication and digital signature verification restricts data access, and an audit trail interface (105) provides a chronological display of transactions. A server infrastructure (106) with hardware security modules further supports cryptographic operations, collectively ensuring secure, tamper-proof digital evidence management and whistleblower anonymity.

No. of Pages : 16 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092381 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR PERSONALIZED ACADEMIC COURSE RECOMMENDATION USING A MULTI-MODEL MACHINE LEARNING FRAMEWORK

(51) International classification	:G06Q0050200000, G06F0016953500, G06N0020000000, G06Q0030020000, G06N0003045000
(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 :**

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(72)**Name of Inventor :**

1)Rupa Khanna Malhotra

(57) Abstract :

The present invention relates to personalized academic course recommendation systems. A Student Profiling Engine (100) acquires and pre-processes diverse student data, forming multi-dimensional profile vectors that feed into a Multi-Model Recommendation Core (200). The Core comprises various sub-modules—including, but not limited to, a Collaborative Filtering Module (210), Content-Based Filtering Module (220), Deep Learning Module (230), and Reinforcement Learning Module (240)—which generate tailored course suggestions by integrating data from a Central Aggregator (250). An Academic Success Predictor (300) processes these profiles using regression and classification analyses, while a Dynamic Curriculum Optimizer (400) constructs compliant course sequences via a Rule-Based Engine (410). A Feedback Loop and Continuous Learning Module (500), interfaced via Communication Interface (600), iteratively updates system outputs, ensuring recommendations remain adaptive to real-time performance and evolving student metrics.

No. of Pages : 17 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092766 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SAFETY DEVICE FOR OUTDOOR AIR CONDITIONING UNITS

(51) International classification	:F24F0013220000, G16H0040630000, H02M0007060000, F24F0001420000, G01N0033000000	(71)**Name of Applicant :** **1)Manav Rachna University** Address of Applicant :Sector-43, Aravali Hills Delhi Suraj Kund, Faridabad, Haryana, India, Pin – 121004. Faridabad Haryana India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Dr. Prashant Bhardwaj**
(32) Priority Date	:NA	**2)Dr. Smriti Mishra**
(33) Name of priority country	:NA	**3)Mandeep Bhadana**
(86) International Application No	:	**4)Dr. Piyush Mahendru**
Filing Date	:01/01/1900	**5)Dr. Pradeep Kumar Mouria**
(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	

(57) Abstract :
A safety device for outdoor air conditioning units, comprising a cuboidal framework 101 configured to house an outdoor AC unit, an inlet pipe 102 positioned at a rear portion of framework 101 receives condensate water via a drain line from an indoor unit and directs it to an internal water storage chamber 103, an IR sensor detects ambient temperature and transmits data to a microcontroller, a misting module 104 integrated within framework 101 is activated by microcontroller to generate and direct mist for cooling, a dust and airflow management arrangement 105 monitors dust levels and manages airflow, a gas detection and filtration module 106 detects air quality and protects unit, an acoustic transducer and an accelerometer detect sound and vibration to determine operational status of AC unit, and a covering assembly 201 automatically deploys or retracts a protective cover based on operational status.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092767 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SUSTAINABLE WORKPIECE MACHINING SYSTEM

(51) International classification	:B23P23/06, B23P23/04, B23P23/02, B23Q3/00, B23Q1/25, B23Q5/00, B23Q11/10	(71)**Name of Applicant :** **1)Manav Rachna University** Address of Applicant :Sector-43, Aravali Hills Delhi Suraj Kund, Faridabad, Haryana, India, Pin – 121004. Faridabad Haryana India (72)**Name of Inventor :** **1)Dr. Charu Pathak** **2)Shweta Kumari** **3)Dr. Shruti Vashist**
(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	

(57) Abstract :
A sustainable workpiece machining system, comprising a housing 101 for machining of a workpiece, a workpiece holder to hold and rotate the workpiece, a tool holder 105 to store tools, a translation arrangement 106 configured with an extendable gripping means 107 to hold tool a tool with suction force while facilitating dual axis movement of the tool, a lubrication unit to provide lubrication during machining, a filtration sieve 111 to filter the lubrication oil and store filtered oil in a reservoir 124, a LIDAR unit to detect uneven surfaces of the workpiece to cause initiation of alignment verification by an alignment arrangement, a roller 114 provided with bristles 115 and a wiper 116 via two sliding units 117 to gather chips from the workpiece in a singular location, and a compression chamber 118 to receive the chips received from the roller 114 to compress the chips.

No. of Pages : 25 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092768 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : PASSENGER ASSISTANCE AND SAFETY SYSTEM FOR PUBLIC TRANSIT ACCESSIBILITY

(51) International classification	:H02J0050600000, B61D0023020000, G08B0007060000, E05F0015430000, E05F0015410000
(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

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2)Dr. Piyush Charan

3)Aleshwaram Vamshi Teja

4)Vulli Ajay Kumar

5)Saddanapu Sathwik

(57) Abstract :

A passenger assistance and safety system for public transit accessibility comprising a base platform 101 mounted adjacent to a train or transit vehicle entry gate, a plurality of gripping clamps 102 for securing base platform 101 to railings of gate, an artificial intelligence (AI) based imaging unit 103 capturing and analyzing passenger behavior in real-time, a boarding and de-boarding assistance arrangement facilitating safe transfer across platform gap, a passenger monitoring and display unit detecting and counting passengers while displaying occupancy and safety guidance, a barrier and crowd segmentation assembly managing passenger flow, an obstruction and foreign object detection module identifying trapped objects, an audio assistance module delivering personalized guidance, an environmental hazard detection module sensing smoke, toxic gases and moisture, a holographic boarding and de-boarding guidance module projecting animated 3D boarding instructions and a control unit halting vehicle door closure and alerting staff.

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092849 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-POWERED REAL-TIME DRIVER DROWSINESS DETECTION SYSTEM USING MULTI-MODAL SENSOR FUSION

(51) International classification	:A61B0005000000, G06V0040160000, G08B0021060000, G06F0003010000, A61B0005180000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Bebesh Tripathy**
(33) Name of priority country	:NA	**2)Anupam Jena**
(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	

(57) Abstract :
The invention relates to an AI-powered real-time driver drowsiness detection system utilizing multi-modal sensor fusion. The system comprises an infrared camera module (101) equipped with dual-band near-infrared light emitting diodes (106), a global shutter CMOS sensor (107), and a polarizing filter (108) to monitor facial features, including eye closure, yawning, and head pose. A steering wheel sensor array (102) detects physiological signals and grip behavior, while an edge AI processing unit (103) executes a hybrid CNN–LSTM–Transformer model for low-latency fatigue scoring. A vehicle telematics interface (104) with a Controller Area Network Flexible Data-Rate transceiver (109) and On-Board Diagnostics interface (110) enables integration with vehicle systems for data acquisition and automated control. An alert and feedback system (105), featuring a peripheral LED array (111), vibrotactile seat actuators (112), and audio output module (113), delivers tiered interventions. A calibration module (114) personalizes thresholds, ensuring non-invasive, privacy-compliant, and proactive driver safety.

No. of Pages : 13 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092850 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE, NON-TOXIC HERBAL INSECT-REPELLENT DEVICE

(51) International classification	:A01N0065000000, A01N0065440000, A61K0036530000, A01N0065260000, A61K0036899000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Komal Mittal**
(33) Name of priority country	:NA	**2)Dr. Pitambri Thakur**
(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	

(57) Abstract :
The present invention provides a portable herbal insect-repellent device designed to offer safe, eco-friendly, and electricity-free protection against mosquitoes and other insects. The device comprises a carrier matrix infused with a blend of herbal essential oils (103), including neem, tulsi, citronella, lemongrass, and lavender, enclosed within a breathable, leak-proof diffusion chamber fitted with a mesh-like net (102) to regulate uniform release of active compounds. An outer portable casing (104) fabricated from lightweight, biodegradable, or recycled material encases the diffusion chamber, ensuring durability and portability. A thermochromic indicator (101) provides a visual signal of depletion of essential oils through a color change, while a strap (105) enables the device to be worn on the wrist or hand for continuous personal protection. The invention ensures long-lasting repellent action, is safe for human use, and suitable for diverse indoor and outdoor applications.

No. of Pages : 11 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092851 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-BASED SYSTEM TO OPTIMIZE ENERGY USE AND CUT CO2 IN INDUSTRY AND CITIES

(51) International classification	:G06N0020000000, G06Q0010040000, G16H0050200000, H04L0067120000, G06N0003088000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. B. K Mishra**
(33) Name of priority country	:NA	**2)Dr. Amit Kumar Goyal**
(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	

(57) Abstract :
The present invention provides an intelligent, modular system and method for real-time monitoring, forecasting, and reduction of carbon dioxide (CO_2) emissions using Machine Learning (ML), Artificial Intelligence (AI), and Internet of Things (IoT) technologies. The system collects energy and emission data from multiple sectors, including industry, urban infrastructure, and transportation via IoT sensors. This data is processed through an AI engine utilizing supervised, unsupervised, and reinforcement learning models to predict emission trends and detect inefficiencies. Based on these insights, the system generates real-time optimization strategies such as load shifting, equipment scheduling, and alternative energy recommendations. A dynamic user interface displays emission metrics, alerts, and optimization suggestions, while an integrated carbon offset module supports compliance with environmental policies and carbon markets. The system adapts continuously, improving accuracy and effectiveness over time.

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092382 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR REAL-TIME GLOBAL CARBON EMISSIONS MONITORING, AI-DRIVEN BEHAVIORAL NUDGE GENERATION, AND BLOCKCHAIN-ENABLED OFFSET TRANSACTION IMPLEMENTATION

(51) International classification	:H04L0009000000, H04L0009320000, G06Q0030025100, G06N0020000000, G06Q0030020700
(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

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(72)**Name of Inventor :**

1)Rupa Khanna Malhotra

(57) Abstract :

The present invention relates to environmental monitoring and management systems, featuring a global emission monitoring network (10) with multiple data acquisition sensors (11) including IoT devices, satellites, transportation, and energy grid sensors, and a secure communication interface (11a) for real-time data transmission. A behavioral analytics engine (20) with machine learning modules (21) and standardized APIs (22) processes emission and behavioral data to generate personalized nudges. A carbon wallet (30) displays daily CO_2 emission data and coordinates with a blockchain-enabled offset transaction module (40) utilizing smart contracts (41) to trigger micro-offset transactions. Integration with a gamification and incentives layer (50) incentivizes user engagement, while a policy integration module (60) offers real-time regulatory interfacing via an administrative dashboard (61) to dynamically adjust emission thresholds and incentive parameters.

No. of Pages : 17 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092383 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR BLOCKCHAIN-BASED AUTHENTICATION OF DIGITAL MEDIA IN ELECTORAL PROCESSES USING AI-BASED DEEPFAKE DETECTION

(51) International classification	:H04L0009320000, H04L0009000000, H04L0009400000, G06N0003045000, G06V0040160000
(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

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(72)**Name of Inventor :**
1)Rupa Khanna Malhotra

(57) Abstract :
The disclosure relates to a system for authenticating digital media in electoral processes within the technical field of cybersecurity and electoral technology. The system integrates a media submission interface (10) for capturing media files and associated metadata with an AI detection engine (20) that employs deep learning algorithms, including convolutional neural network layers, to analyze visual artifacts such as facial irregularities and lighting anomalies indicative of deepfakes. Analysis outputs are immutably recorded on a blockchain ledger (30) via smart contracts (40) that enforce predetermined validation rules, while a public verification portal (50) enables secure stakeholder access, and a privacy and security module (60) ensures encrypted, tamper-resistant data communication.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092387 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR CIRCULAR ECONOMY ASSESSMENT OF BIOCHAR-ENHANCED COMPOST IN VITICULTURE USING THE ECOCANVAS FRAMEWORK

(51) International classification	:G16H0050200000, G06Q0010067000, A01G0017020000, G06V0020130000, G06Q0010063900	(71)**Name of Applicant :** **1)GRAPHIC ERA DEEMED TO BE UNIVERSITY** Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun - 248002, Uttarakhand, India Dehradun Uttarakhand India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Rupa Khanna Malhotra**
(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	

(57) Abstract :
The invention relates to a system in the field of sustainable agriculture and circular economy, comprising a biochar-compost lifecycle analyzer with integrated sensors and data logging devices, a viticulture impact module featuring IoT sensors and satellite imagery capture, an Ecocanvas integration layer for harmonizing digital records into circular economy inputs, processes, outputs, loops, and impacts, a circularity scoring engine utilizing multi-criteria decision analysis for computing performance metrics, and a decision support dashboard for real-time display of the circularity score. The interconnected components, communicated via a network and supplemented by a data storage module, continuously process parameters such as feedstock quality, compost curing, soil moisture, pH, and microbial activity for optimized agronomic, environmental, and economic outcomes.

No. of Pages : 17 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093025 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART DRAINAGE MONITORING DEVICE FOR FLOOD-PRONE URBAN AREAS

(51) International classification	:H04W0004380000, G06Q0050260000, H04L0067120000, H04W0004900000, H04W0004020000
(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 :**
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Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun – 248002, Uttarakhand, India. Uttarakhand India
(72)**Name of Inventor :**
1)KHUSHBOO UNIYAL

(57) Abstract :
The invention discloses a Smart Drainage Monitoring Device (100) for flood-prone urban areas. The system integrates water level sensors (140), flow sensors (150), and gas sensors (160) with a microcontroller (130) and IoT module (120) for real-time monitoring. Data is transmitted to a cloud server (180) for predictive analysis (210), while a solar power unit (190) ensures uninterrupted operation. Alerts are provided through a mobile application (200), enabling authorities and citizens to prevent flooding, improve drainage management, and enhance public safety.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093026 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SELF-HEALING CONCRETE PROCESS USING MICROBIAL CALCIUM CARBONATE DEPOSITION

(51) International classification	:C04B0028020000, C04B0020100000, C04B0111340000, C09K0008582000, C04B0014480000	(71)**Name of Applicant :** **1)GRAPHIC ERA DEEMED TO BE UNIVERSITY** Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun – 248002, Uttarakhand, India. Dehradun Uttarakhand India (72)**Name of Inventor :** **1)Dr. BHEEM PRATAP**
(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	

(57) Abstract :
The present invention relates to a self-healing concrete process utilizing microbial calcium carbonate deposition for autonomous crack repair. Microbial spores (101), nutrient capsules (102), and carrier medium (103) are embedded within the concrete matrix (104). Upon crack formation (105) and water ingress, the microbes become active, metabolizing nutrients to precipitate calcium carbonate (106) that fills and seals the cracks. The process enhances structural durability, reduces maintenance costs, and ensures sustainability while remaining compatible with conventional concrete practices, making it suitable for large-scale infrastructure applications.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093027 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR MONITORING SOIL MOISTURE IN FOUNDATION LAYERS

(51) International classification	:G01N0033240000, G05B0023020000, G01M0005000000, A61B0005000000, H04W0084180000	(71)**Name of Applicant :** **1)GRAPHIC ERA DEEMED TO BE UNIVERSITY** Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun – 248002, Uttarakhand, India. Uttarakhand India (72)**Name of Inventor :** **1)Dr. BHEEM PRATAP**
(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	

(57) Abstract :
The present invention discloses a device for monitoring soil moisture in foundation layers, comprising embedded moisture sensors (101), a wireless communication module (102), a data processing unit (103), a protective casing (104), and a power supply (105). The system provides continuous, real-time soil moisture profiling at multiple depths, enabling early detection of variations that may compromise structural stability. With durable underground operation and remote monitoring capabilities, the invention offers predictive maintenance and safety assurance for civil engineering structures.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093028 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART PAVEMENT MONITORING DEVICE FOR REAL-TIME TRAFFIC ASSESSMENT

(51) International classification	:G08G0001010000, G07C0005000000, A61B0005000000, H05B0047125000, G05B0023020000	(71)**Name of Applicant :** **1)GRAPHIC ERA DEEMED TO BE UNIVERSITY** Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun – 248002, Uttarakhand, India. Uttarakhand India (72)**Name of Inventor :** **1)Dr. BHEEM PRATAP**
(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	

(57) Abstract :
The present invention discloses a smart pavement monitoring device (100) for real-time traffic assessment and pavement health diagnostics. The device (100) integrates pressure sensors (101), vibration sensors (102), and strain gauges (103), connected to a microcontroller (104) and wireless communication module (105). A self-powering unit (106) ensures energy independence, while a modular design (107) facilitates easy installation. Data transmitted to an analytics platform (108) provides vehicle classification, traffic density, and predictive maintenance insights, enhancing road safety, reducing repair costs, and supporting smart infrastructure management.

No. of Pages : 16 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093029 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN AUTOMATED BRIDGE CRACK DETECTION DEVICE USING THERMAL IMAGING SENSORS

(51) International classification	:G06T0007000000, E01D0022000000, F03D0017000000, G01N0029040000, E01D0019140000	(71)**Name of Applicant :** **1)GRAPHIC ERA DEEMED TO BE UNIVERSITY** Address of Applicant :566/6, Bell Road, Society Area, Clement Town, Dehradun – 248002, Uttarakhand, India. Uttarakhand India (72)**Name of Inventor :** **1)Dr. BHEEM PRATAP**
(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	

(57) Abstract :
The present invention relates to an automated bridge crack detection device employing thermal imaging sensors (101) for real-time monitoring of bridge structures. The system includes an image processing unit (102) embedded with AI algorithms, a wireless communication module (103), a power supply unit (104), and a data storage/visualization module (105), all enclosed within a weather-resistant housing (106). The device provides continuous, autonomous crack detection, generates alerts for critical damages, and records historical trends, thereby ensuring proactive maintenance, reducing costs, and enhancing structural safety of bridges.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092389 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-IoT Gaushala Management and Panchgavya Traceability System

(51) International classification	:G06Q0030018000, G16H0050200000, G06Q0030020100, G16H0010600000, G16H0050800000	(71)**Name of Applicant :** **1)Hemendra Singh Yadav** Address of Applicant :43 KP/ 9,10,11 Krishna Puram,K.K.Nagar, Sikandra Agra Uttar Pradesh India 282007 Agra Uttar Pradesh India (72)**Name of Inventor :** **1)Hemendra Singh Yadav**
(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	

(57) Abstract :
AI-IoT Gaushala Management and Panchgavya Traceability System The present invention discloses an AI and IoT-enabled integrated Gaushala management and Panchgavya product traceability system. The system comprises wearable sensors and environmental monitors for real-time cow health tracking, feeding automation, and disease prediction using AI models. It facilitates structured batch-wise collection of cow urine and dung, mapped to utilization metadata. The collected resources are processed into Panchgavya-based products including Gomutra Ark, Vermicompost, Briquettes, Dhoop, and Ayurvedic formulations. Each product lot is labelled with QR codes linked to manufacturing and expiry dates, and GST-compliant invoices for donations and sales. The system further includes recall management, expiry alerts, and automated donor/visitor engagement via WhatsApp templates. A cloud-based dashboard provides analytics on cow health, resource yield, donation patterns, and product lifecycle, thereby enabling transparency, compliance, and sustainable Gaushala operations.

No. of Pages : 19 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092390 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Multi-Sensor AI-Based Early Warning System for Fungal Contamination in Mushroom Cultivation

(51) International classification	:G01N0021350400, G16H0050300000, G06N0003045000, G06N0005040000, G01N0021610000	(71)**Name of Applicant :** **1)Hemendra Singh Yadav** Address of Applicant :43 KP/ 9,10,11 Krishna Puram,K.K.Nagar, Sikandra Agra Uttar Pradesh India 282007 Agra Uttar Pradesh India (72)**Name of Inventor :** **1)Hemendra Singh Yadav**
(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	

(57) Abstract :
Multi-Sensor AI-Based Early Warning System for Fungal Contamination in Mushroom Cultivation The present invention relates to a multi-sensor artificial intelligence–based early warning system for detecting fungal contamination in mushroom cultivation environments. The system integrates non-dispersive infrared (NDIR) carbon dioxide sensors, volatile organic compound (VOC) sensor arrays, environmental monitors, and imaging devices. A processor executes a sensor-fusion model configured to establish cycle-specific baselines, detect CO_2 anomalies, classify VOC metabolite patterns, and analyse pre-symptomatic surface changes using computer vision. Outputs from each modality are combined in a hybrid inference engine to generate a contamination-risk score with quantified confidence. When the score exceeds predefined thresholds, the system issues alerts and may automatically activate environmental interventions, including ventilation adjustment, filtration, sterilization, or localized quarantine guidance. The invention enables earlier and more accurate detection of fungal contamination compared to conventional manual or single-sensor methods, reduces false positives through cross-modal consensus, and supports deployment across diverse mushroom species and chamber configurations.

No. of Pages : 13 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092392 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Polyherbal Emulgel with Clerodendrum and Guava Extracts for Folliculitis Management

(51) International classification	:A61K0009000000, A61K0047320000, A61K0047100000, A61K0009060000, A61K0036855000	(71)**Name of Applicant :** **1)Meerut Institute of Engineering & Technology, Meerut** Address of Applicant :N.H. 58, Delhi-Roorkee Highway, Baghpat Bypass Road Crossing, Meerut, Uttar Pradesh-250005 Uttar Pradesh India **2)Payal Dhama**
(31) Priority Document No	:NA	**3)Neha Sharma**
(32) Priority Date	:NA	**4)Aditi Singhal**
(33) Name of priority country	:NA	**5)Archana Adhana**
(86) International Application No	:	(72)**Name of Inventor :**
Filing Date	:01/01/1900	**1)Payal Dhama**
(87) International Publication No	: NA	**2)Neha Sharma**
(61) Patent of Addition to Application Number	:NA	**3)Aditi Singhal**
Filing Date	:NA	**4)Archana Adhana**
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention relates to a novel topical emulgel formulation incorporating Clerodendrum serratum root extract and Psidium guajava leaf extract for the treatment of folliculitis. The extracts are obtained via Soxhlet and hydroalcoholic maceration techniques and combined in an oil-in-water emulsion system stabilized with Span 80 and Tween 80. This emulsion is incorporated into a Carbopol 940 gel matrix, neutralized with triethanolamine, and evaluated for pH, spreadability, viscosity, and antimicrobial efficacy. The formulation provides sustained release of actives, good skin compatibility, and a non-greasy texture suitable for topical use. In vitro antimicrobial studies against Staphylococcus aureus showed significant zones of inhibition, confirming the synergistic effect of the herbal extracts. Drug release studies demonstrated over 80% release within 6 hours, supporting prolonged therapeutic action. The emulgel maintained stability under varying environmental conditions. This invention offers a natural, effective, and safe alternative for managing bacterial skin infections, especially folliculitis.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092852 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BRAIN-REGION SPECIFIC STIMULATION PROTOCOLS USING SANSKRIT PHONEME MAPPING

(51) International classification	:A61B0005000000, A61N0001360000, A61M0021000000, A61B0005375000, G16H0050200000
(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)Chandigarh University
Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India

(72)**Name of Inventor :**
1)Dr. Raghav Mehra
2)Yatin Singh
3)Krrish Parashar

(57) Abstract :
The present invention discloses an AI-driven neurostimulation system that delivers Sanskrit phoneme-based acoustic therapy targeted to specific brain regions for cognitive, emotional, and meditative enhancement. The system integrates Vedic phonetic science with modern neurophysiology by mapping individual Sanskrit phonemes to cortical regions using EEG and/or fMRI data. It comprises an EEG-based brainwave acquisition device, a calibrated audio delivery system, and AI-powered modules for cognitive state detection, stimulation protocol generation, and adaptive feedback control. Phonemes are dynamically selected and delivered based on the user's real-time brain activity and therapeutic goals, with continuous neurofeedback adjusting phoneme parameters for optimal effect. The culturally grounded, non-pharmaceutical system offers a personalized, closed-loop alternative to generic sound therapy, with applications in wellness, clinical neurorehabilitation, education, and meditation. The present invention represents a novel fusion of ancient Sanskrit sound science and adaptive neurotechnology for quantifiable mental health improvement.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092853 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM FOR AUTOMATED EVALUATION OF STUDENT PROJECTS USING SELF-LEARNING ALGORITHMS

(51) International classification	:G06N0020000000, G06Q0050200000, G09B0007000000, G06Q0010063100, G10L0015183000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. Tripti Sharma**
(33) Name of priority country	:NA	**2)Dr. Nitin Sharma**
(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	

(57) Abstract :
The present invention discloses an intelligent, self-learning system for the automated evaluation of student projects across multiple formats including text, code, presentations, audio, and video. The system integrates modular AI components—such as natural language processing, static code analysis, computer vision, and speech recognition—to perform objective, scalable, and consistent assessments. A dynamic rubric mapping module aligns extracted features with customizable scoring criteria, while a feedback generation engine provides personalized, rubric-based suggestions to students. A self-learning feedback loop continuously refines the evaluation models based on historical data, evaluator overrides, and peer review trends, enhancing accuracy and fairness over time. The system supports seamless integration with Learning Management Systems (LMS) and offers administrative dashboards for oversight, analytics, and bias detection.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092854 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ALL-WEATHER SMART AFTERMARKET SEAT COVER

(51) International classification	:F25B0021020000, H02M0003158000, G05D0023190000, F25B0021040000, B60N0002580000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. Ravinder Tonk**
(33) Name of priority country	:NA	**2)Baljinder Kaur**
(86) International Application No	:	**3)Anuj Kumar Sehgal**
Filing Date	:01/01/1900	**4)Litesh Goyal**
(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	

(57) Abstract :
The present invention relates to a smart, all-weather, slip-on seat cover for two-wheelers that provides integrated active heating, active cooling, and waterproofing functionalities. The seat cover comprises a multi-layered flexible structure embedded with thermoelectric modules (Peltier devices), temperature sensors, a rechargeable battery pack, and an intelligent microcontroller unit (MCU). It further incorporates a wireless communication module for control via a dedicated mobile application, enabling precise temperature adjustment, real-time monitoring, and smart scheduling. Advanced thermal management is achieved through miniaturized heat sinks, internal air channels, and micro-fans, while ergonomic comfort is ensured using breathable mesh and viscoelastic foams. The system operates independently from the vehicle's power supply and features adaptive control logic, safety mechanisms, and universal mounting components.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092821 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A HYDRATION REMINDER WATER BOTTLE FOR MAINTAINING ADEQUATE DAILY FLUID INTAKE

(51) International classification	:A61B0005000000, A47G0023160000, F24F0011300000, C02F0001000000, A61B0005110000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. RUPA MAZUMDER**
(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	

(57) Abstract :
The present invention discloses a hydration reminder water bottle (100) comprising a water containment structure (10), an integrated reminder system (20), and a sensor assembly (30) configured to monitor water level and temperature. A user interface (40) provides real-time hydration progress, while an adaptive alert mechanism (50) adjusts reminders based on individual consumption patterns and environmental conditions. A customizable notification system (60) and wireless communication module (70) enable seamless smartphone integration, supporting extended tracking and personalized hydration management. The device promotes consistent fluid intake, enhancing health and well-being across diverse user groups.

No. of Pages : 23 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092822 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN INSPIRATORY MUSCLE TRAINING BAND FOR STRENGTHENING RESPIRATORY HEALTH

(51) International classification	:A61B0005000000, A63B0021000000, A63B0023180000, A61M0016000000, A63B0021008000
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. AVIJIT MAZUMDER
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The present invention discloses an inspiratory muscle training band (100) formulated to strengthen respiratory health through controlled resistance-based inhalation exercises. The band comprises an adjustable resistance mechanism (20) to regulate airflow, a hypoallergenic wearable structure (40) for prolonged comfort, and an integrated sensor system (60) to track respiratory performance. A wireless communication module (80) enables synchronization with mobile applications for real-time monitoring and personalized training feedback. Its lightweight, modular, and eco-friendly design supports enhanced lung capacity, endurance, and rehabilitation across clinical, athletic, and daily wellness applications.

No. of Pages : 22 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092823 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN ASTHMA INHALATION MONITORING DEVICE FOR IMPROVED SYMPTOM MANAGEMENT IN PATIENTS

(51) International classification	:A61B5/087, A61B5/091, A61M15/00, G16H20/13, G16H40/67	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. AVIJIT MAZUMDER**
(33) Name of priority country	:NA	**2)Dr. SWARUPANJALI PADHI**
(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	

(57) Abstract :
The present invention discloses an asthma inhalation monitoring device (100) for improved symptom management in patients. The device comprises an inhalation flow sensor (10) to monitor and optimize medication delivery, a feedback mechanism (20) for real-time inhalation guidance, and an environmental monitoring system (30) to detect asthma triggers. A communication module (40) enables IoT connectivity for seamless data transfer, while a usage tracking system (50) ensures adherence monitoring. Its compact structure, smartphone integration, and patient-centric design facilitate self-management, enhance collaboration with healthcare providers, and reduce the risk of asthma-related complications.

No. of Pages : 22 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092824 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A URINE FLOW MEASUREMENT DEVICE FOR CLINICAL UROLOGY ASSESSMENTS

(51) International classification	:A61B5/20, G06N3/08, G16H50/20
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. RUPA MAZUMDER
2)Dr. MONIKA

(57) Abstract :
The present invention discloses a urine flow measurement device (100) configured to assist in clinical urology assessments. The device comprises a flow detection module (20) integrated with advanced sensors (80) for precise real-time measurement of flow rate and urine volume, a detachable funnel (40) ensuring hygiene and ease of cleaning, and a data processing unit (60) employing machine learning algorithms for generating diagnostic insights. Wireless connectivity (62) enables seamless data transfer to healthcare platforms, while a rechargeable power source enhances portability. The device provides accurate, user-friendly monitoring across clinical and home settings, facilitating proactive urinary health management and improved patient outcomes.

No. of Pages : 26 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092863 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : POCKET-SIZED 3D BONE IMAGING AND FRACTURE DETECTION SYSTEM

(51) International classification	:A61B0005000000, A61B0006000000, G06T0007000000, A61B0008000000, G16H0030200000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Ujjwal Mishra**
(33) Name of priority country	:NA	**2)Navjot Singh Talwandi**
(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	

(57) Abstract :
The present invention discloses a compact and portable pocket-sized 3D bone imaging and fracture detection system designed for bone fracture detection and three-dimensional (3D) skeletal imaging without the use of ionizing radiation. The device comprises a high-frequency ultrasound transducer coupled with a microcontroller-based signal acquisition unit for capturing and digitizing echo waveforms. The digitized data is transmitted to a smartphone interface via USB or Bluetooth, where it is securely relayed to a cloud-based processing engine. Advanced algorithms perform signal analysis, tomographic reconstruction and artificial intelligence-driven diagnostics to generate a volumetric 3D bone model and automatically identify fractures. The smartphone application provides real-time visualization, annotated 3D imaging and diagnostic reporting, thereby enabling on-the-spot orthopaedic assessment. Designed as a pocket-sized alternative to bulky X-ray systems, the invention offers a radiation-free, affordable and accessible solution, particularly suited for field deployments, emergency medical response, sports injury evaluation and rural healthcare applications.

No. of Pages : 13 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092864 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HYBRID DEEP LEARNING FRAMEWORK FOR REAL-TIME ROBUST DEEPFAKE DETECTION

(51) International classification	:G06N0003045000, G06N0003080000, G06N0003044000, G06V0010820000, G06N0003084000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Sakshi**
(33) Name of priority country	:NA	**2)Amit Singh Dalal**
(86) International Application No	:	**3)Ankit Sharma**
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	

(57) Abstract :
The present invention discloses DeepFakeShield, a hybrid multi-modal framework for detecting manipulated multimedia content such as deepfake images, audio, and video. The system integrates convolutional neural networks (CNNs) for extracting spatial features, recurrent neural networks (RNNs) for capturing temporal dependencies, and a generative adversarial network (GAN) discriminator for identifying generative inconsistencies. A preprocessing module standardizes input media by performing frame extraction, resolution normalization, noise reduction, and artifact filtering. The outputs of the CNN, RNN, and GAN modules are combined in a decision fusion layer with predetermined equal weightage to generate a composite authenticity score. A detection output module produces probability-based confidence scores, tamper localization maps, and explanatory reports, while an ethical safeguard layer prevents unauthorized use by restricting API access, logging detection requests, and issuing misuse alerts. The invention provides a real-time, robust, interpretable, and ethically compliant detection framework, provoding significant improvements over existing single-model deepfake detection systems.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092865 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WOMEN SAFETY ALARM SYSTEM

(51) International classification	:A61B0005000000, A61B0005024000, A61B0005020500, A61B0005145000, A61B0005021000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India. Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Devyansh Batra**
(33) Name of priority country	:NA	**2)Sehaj**
(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	

(57) Abstract :
The present invention discloses a women's safety alarm and monitoring system designed for deployment in educational establishments, corporate offices and organizations. The system comprises a wearable ankle bracelet configured to be securely worn during working hours and automatically released upon completion of a user's shift. The bracelet is equipped with sensors to continuously monitor physiological parameters including heart rate, blood pressure, oxygen levels and physical activity. In the event of abnormal physiological signals or detection of distress, the bracelet activates safety alerts through voice and light signals to immediately inform surrounding individuals of potential danger. Additionally, the system records and processes daily physiological data, providing feedback to the wearer regarding periods of stress or elevated health indicators. The system further integrates a feedback mechanism allowing the user to annotate distress events, with repeated occurrences being anonymously communicated to the concerned organization for appropriate action.

No. of Pages : 11 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092825 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE BREATHING TRAINER FOR PATIENTS REQUIRING ENHANCED RESPIRATORY STRENGTH

(51) International classification	:A61B0005000000, A63B0021000000, A63B0023180000, A61B0005020500, G16H0020300000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Dr. AVIJIT MAZUMDER**
(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	

(57) Abstract :

The present invention discloses a portable breathing trainer (100) formulated to strengthen respiratory capacity and overall pulmonary health. The device incorporates an adjustable resistance mechanism (20) for personalized intensity control, a feedback system (40) with integrated sensors (42) for real-time performance monitoring, and dual-mode functionality (82) to support both training and relaxation exercises. A compact housing (60) ensures ease of portability, while a detachable mouthpiece (80) offers hygienic and comfortable use. Integrated connectivity with a mobile application provides tailored training programs, progress tracking, and stress management features, thereby enhancing respiratory strength, user compliance, and therapeutic effectiveness in diverse healthcare and personal settings.

No. of Pages : 22 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092826 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE BEDSIDE URINAL FOR WOMEN DESIGNED FOR CONVENIENT USE

(51) International classification	:E03D0013000000, A61B0005000000, A61G0005100000, A61B0007000000, G16H0010600000
(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 :**
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(72)**Name of Inventor :**
1)Dr. RUPA MAZUMDER
2)Dr. MONIKA

(57) Abstract :
The present invention discloses a portable bedside urinal for women (100) configured to provide an ergonomic and leak-resistant solution for female users with restricted mobility. The device comprises an anatomically contoured body (20) for comfort, a spill-resistant valve system (40), and an anti-splash funnel (60) to minimize mess. An easy-to-grip handle (80) ensures safe handling, while a non-slip base enhances stability during use. Additional features include disposable liners for hygiene, an odor-sealing lid for improved sanitation, and a capacity indicator for monitoring usage. The urinal is lightweight, durable, and suitable for both personal and clinical care settings, promoting independence, comfort, and hygienic management.

No. of Pages : 23 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092827 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN IMPROVED ECO-FRIENDLY INHALER CASE FOR SUSTAINABLE RESPIRATORY HEALTH MANAGEMENT

(51) International classification	:C08L0007000000, B32B0027360000, A61M0015000000, C08L0067040000, G01L0009000000
(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 :**
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Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. RUPA MAZUMDER
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The present invention discloses an improved eco-friendly inhaler case (100) formulated for sustainable respiratory health management. The case comprises a structural body made of polylactic acid (50%), recycled polyethylene terephthalate (30%), plant-based fibers (10%), natural rubber (5%), and antimicrobial additives (3%). A desiccant layer (2%) is integrated for moisture resistance, while modular components enhance replaceability and long-term use. Its ergonomic design ensures portability, durability, and hygiene, reducing plastic waste and environmental impact. The invention provides enhanced inhaler protection with biodegradability, supporting both patient convenience and eco-sustainability.

No. of Pages : 24 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092828 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A URINARY HEALTH TRACKER DEVICE FOR MONITORING BLADDER AND KIDNEY FUNCTIONS

(51) International classification	:A61B5/20, G16H50/20, G16H50/30
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. RUPA MAZUMDER
2)Dr. MONIKA

(57) Abstract :
The present invention discloses a urinary health tracker device (100) configured for non-invasive and continuous monitoring of bladder and kidney functions. The device comprises a multi-sensor system (20) for detecting and analyzing urinary health indicators, a data processing unit (40) for real-time analysis and predictive health insights, and a mobile application interface (60) for displaying results and issuing alerts. By supporting early detection of potential health risks and enabling seamless data-sharing with healthcare providers, the device enhances personalized health management and promotes preventative care.

No. of Pages : 25 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092393 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Moringa Oleifera Microsponge Gel for Sustained Topical Delivery in Cellulitis Treatment

(51) International classification	:A61K0009000000, A61K0009060000, A61K0047100000, A61K0036185000, A61K0047320000	(71)**Name of Applicant :** **1)Meerut Institute of Engineering & Technology, Meerut** Address of Applicant :N.H. 58, Delhi-Roorkee Highway, Baghpat Bypass Road Crossing, Meerut, Uttar Pradesh-250005 Uttar Pradesh India **2)Km. Baby**
(31) Priority Document No	:NA	**3)Dr. Anita Singh**
(32) Priority Date	:NA	**4)Mr. Kartik Sharma**
(33) Name of priority country	:NA	**5)Sourabh Kumar**
(86) International Application No	:	**6)Ms. Lalita Tyagi**
Filing Date	:01/01/1900	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)Km. Baby**
(61) Patent of Addition to Application Number	:NA	**2)Dr. Anita Singh**
Filing Date	:NA	**3)Mr. Kartik Sharma**
(62) Divisional to Application Number	:NA	**4)Sourabh Kumar**
Filing Date	:NA	**5)Ms. Lalita Tyagi**

(57) Abstract :
The present invention discloses a novel pharmaceutical topical gel formulation for the treatment of cellulitis, comprising Moringa oleifera leaf extract encapsulated in polymeric microsponges. The microsponges are developed using a quasi-emulsion solvent diffusion technique with ethyl cellulose as the encapsulating polymer and polyvinyl alcohol as the stabilizing agent. These microsponges are then incorporated into a Carbopol 940-based gel, with added excipients for pH adjustment, skin penetration enhancement, and preservation. The formulation offers controlled and sustained drug release, enhanced dermal penetration, and improved bioavailability of Moringa actives. In vitro studies demonstrated prolonged release over several hours, making the formulation effective for localized therapy with minimal systemic exposure. The invention provides a cost-effective, biocompatible, and stable solution for cellulitis management, representing a significant advancement in herbal topical therapeutics. This system is also adaptable for broader dermatological applications involving antimicrobial or anti-inflammatory treatment.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092456 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD FOR GREEN SYNTHESIS OF SILVER-ZINC NANOPARTICLES USING DATURA STRAMONIUM SEED EXTRACT

(51) International classification	:A61K0036810000, A61K0009510000, A61P0031040000, C01G0009020000, C08K0003220000
(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)Career Point University Hamirpur, Himachal Prdaesh, India
Address of Applicant :Career Point University Hamirpur, Himachal Prdaesh, India, MDR 35, kharwarian, Tikker, Bhoranj, Hamirpur, Himachal Pradesh 176041 Hamirpur Himachal Pradesh India
(72)**Name of Inventor :**
1)Shriyanshu Thakur
2)Dr. Rolika Gupta

(57) Abstract :
The present invention discloses a green synthesis method for silver-doped zinc oxide nanoparticles (Ag-ZnO NPs) using Datura stramonium seed extract as a natural reducing and stabilizing agent. The synthesized nanoparticles exhibit controlled size, morphology, and high stability, with silver oxide as the primary component and zinc oxide as a dopant to enhance biological efficacy. Ag-ZnO NPs demonstrate potent broad-spectrum antibacterial activity against Gram-positive (Bacillus subtilis, Staphylococcus aureus) and Gram-negative (Pseudomonas aeruginosa, Pseudomonas mendocina) bacteria, including multidrug-resistant strains. Additionally, the nanoparticles show significant antioxidant potential, effectively scavenging free radicals as confirmed by DPPH assays. The eco-friendly synthesis avoids toxic chemicals, is cost-effective, and scalable, making the nanoparticles suitable for biomedical, pharmaceutical, and nutraceutical applications. This dual antibacterial and antioxidant functionality highlights their promise as sustainable therapeutic and protective agents.

No. of Pages : 17 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092493 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART PHYTO FARM SYSTEM FOR HIGH DENSITY CROP CULTIVATION IN CONTROLLED ENVIRONMENTS

(51) International classification	:A01G0009240000, G06Q0050020000, A61M0011040000, A01G0031060000, A01G0007020000	(71)**Name of Applicant :** **1)INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)** Address of Applicant :KRISHI BHAWAN, 1, DR. RAJENDRA PRASAD ROAD, NEW DELHI-110001 Delhi India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)ER. RONGALI MAHESH**
(32) Priority Date	:NA	**2)DR. MURTAZA HASAN**
(33) Name of priority country	:NA	**3)DR. D.K. SINGH**
(86) International Application No	:NA	**4)DR. R.N. SAHOO**
Filing Date	:NA	**5)DR. SOORA NARESH KUMAR**
(87) International Publication No	: NA	**6)DR. MD. YEASIN**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
This invention presents a smart Phyto farm system for efficient and controlled indoor crop cultivation. The system employs polyurethane foam panels for enhanced insulation and structural integrity. A sophisticated automatic light management system regulates photoperiod and light intensity using LEDs, optimizing plant growth. Precise climate control is achieved through an air conditioning system, exhaust fan, and wall fan, ensuring optimal temperature, humidity, and air circulation. A fertigation system delivers nutrients while EC and pH levels are continuously monitored. This integrated approach addresses the limitations of traditional farming methods, providing a reliable and sustainable solution for year-round crop production in controlled environments.

No. of Pages : 29 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092866 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT-BASED WEATHER MONITORING SYSTEM WITH SOLAR POWER AND CLOUD CONNECTIVITY

(51) International classification	:G01W1/02, G01W1/00, G08B21/18
(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

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(72)**Name of Inventor :**

1)Deepak Kumar

2)Shubham Saurav

3)Abhishek Bankoti

4)Yogesh Kohli

5)Jyoti Kumari

(57) Abstract :

This invention introduces a solar-powered, IoT-based weather monitoring system. It measures and transmits real-time environmental data for remote and off-grid applications. The system is built around the ESP32 microcontroller and integrates multiple sensors, including DHT11 for temperature and humidity, BMP280 for atmospheric pressure, an LDR for light intensity, and a rain sensor. It features a DS3231 real-time clock (RTC) module for accurate time stamping, a Micro-SD card module for offline data logging, and an OLED display for immediate on-site visualization. It is powered by an 18650 rechargeable battery and TP4056 charging module, supported by a 5V solar panel, the system is designed for continuous autonomous operation. Data is transmitted in real time to the Blynk IoT platform and is accessible through mobile and web interfaces. A buzzer and relay module offer automated alerts when predefined environmental thresholds are crossed. This compact, energy-efficient, and cost-effective solution is ideal for smart agriculture, environmental research, and rural weather monitoring.

No. of Pages : 11 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092871 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : ANTIMICROBIAL COMPOSITIONS FROM TERMINALIA SPECIES AND METHOD FOR COMBATING MULTIDRUG-RESISTANT CELLULOSIMICROBIUM CELLULANS

(51) International classification	:A61K0036185000, A61P0031040000, C12N0001200000, C12Q0001180000, A61K0038140000
(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 :**

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Address of Applicant :MDR 35, Kharwarian, Tikker, Bhoranj, Hamirpur, Himachal Pradesh 176041, India Hamirpur Himachal Pradesh India

(72)**Name of Inventor :**

1)Dr. Shikha kumari

2)Jyoti Kumari

3)Niharika Sharma

4)Anju Bala

5)Isha sharma

(57) Abstract :

The present invention relates to novel antimicrobial compositions derived from Terminalia species for combating multidrug-resistant bacteria, particularly Cellulosimicrobium cellulans. The invention provides a method for isolating MDR bacteria from hospital soil samples using serial dilution agar plate technique followed by antibiotic susceptibility testing and molecular identification through 16S rDNA sequencing. The isolated Cellulosimicrobium cellulans strain demonstrated resistance to multiple antibiotics including Amoxyclave, Ampicillin, Oxacillin, Tetracycline, and Vancomycin. Ethanolic leaf extracts of Terminalia bellerica and Terminalia chebula were evaluated against the MDR isolate using agar well diffusion method. Terminalia bellerica extract exhibited maximum antimicrobial activity with zone of inhibition of 22.83 ±0.706 mm, while Terminalia chebula showed 18.5 ±0.462 mm. The plant extracts offer promising natural alternatives to conventional antibiotics for treating nosocomial infections caused by MDR bacteria, addressing the critical global challenge of antibiotic resistance through sustainable, eco-friendly therapeutic solutions.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092874 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR AI-DRIVEN WASTE CLASSIFICATION WITH VISUAL TRANSPARENCY FOR ORGANIC AND RECYCLABLE MATERIAL SEPARATION

(51) International classification	:G06N0003080000, G06N0003045000, G06T0005400000, G06N0005045000, B07C0005342000	(71)**Name of Applicant :** **1)THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY** Address of Applicant :THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, BHADSON RD, ADARSH NAGAR, PREM NAGAR, PATIALA, PUNJAB, INDIA, 147004 Patiala Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Ravneet Kaur** **2)Dr. Shalini Batra** **3)Dr. Rajendra Kumar Roul**
(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	

(57) Abstract :

The invention relates to an AI-driven waste classification system that integrates digital imaging with advanced deep learning and explainability features to separate organic from recyclable materials. An image acquisition unit (110) equipped with a high-resolution camera and adaptive lighting system (120) captures precise waste images under varying conditions. A preprocessing module (130) applies noise removal, brightness adjustment, spatial filtering, and histogram equalization to produce standardized images, which are analyzed by a feature extraction module (140) to compute multidimensional feature vectors based on texture, color, and shape descriptors. A classification unit (150), incorporating a ResNet-50 based convolutional neural network and an extreme learning machine, assigns waste categories, while an explainability module (160) employs techniques such as LIME, Grad-CAM, or SHAP to generate annotated overlays indicating influencing regions. An integration module (180) facilitates real-time transmission to automated sorting mechanisms.

No. of Pages : 23 No. of Claims : 14

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092829 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN IMPROVED CUSTOMIZABLE CATHETER COVER FOR SAFETY AND PATIENT COMFORT

(51) International classification	:G01R0033280000, A47G0009100000, A61M0025020000, A61F0013840000, A61N0001320000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. MONIKA**
(33) Name of priority country	:NA	**2)Dr. AVIJIT MAZUMDER**
(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	

(57) Abstract :
The present invention discloses a customizable catheter cover (100) designed to enhance patient safety, hygiene, and comfort. The cover comprises an antimicrobial, moisture-wicking inner lining (20) that minimizes bacterial growth, an outer detachable sleeve (40) with customizable aesthetics, and a user-friendly attachment mechanism (60) for ease of application. Its adjustable design accommodates various catheter types, while a cushion layer reduces skin irritation. Constructed from durable, machine-washable materials, the invention promotes safe, long-term catheterization while supporting both functional protection and personalization.

No. of Pages : 24 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092830 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DRUG DISPENSING DEVICE FOR PATIENT COMPLIANCE MONITORING

(51) International classification	:G16H0020130000, A61J0007040000, G16H0040670000, A61J0007000000, A61B0005000000
(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 :**

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(72)**Name of Inventor :**

1)Dr. AVIJIT MAZUMDER

2)Dr. SWARUPANJALI PADHI

(57) Abstract :

The present invention discloses a portable drug dispensing device (100) designed for patient compliance monitoring. The device comprises multiple drug compartments (110), a controlled dispensing mechanism (120), and compliance sensors (130) that detect retrieval of dispensed medication. It further integrates an alert system including audio (140), vibration (150), and visual indicators (160) to notify patients. A communication module (170) transmits adherence data to caregivers, while a rechargeable battery unit (180) ensures portability. The device enhances adherence, reduces dosage errors, and improves healthcare outcomes through real-time monitoring.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092831 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A WEARABLE INSULIN DELIVERY DEVICE WITH AUTOMATED GLUCOSE MONITORING

(51) International classification	:A61M5/142, A61M5/172, G16H20/17, A61B5/145
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. AVIJIT MAZUMDER
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The present invention relates to a wearable insulin delivery device with integrated automated glucose monitoring. The system comprises a glucose sensor (101), microprocessor control unit (102), insulin reservoir (103), infusion pump (104), wireless communication module (105), power unit (106), and display/alert interface (107). The device operates as a closed-loop platform, continuously monitoring glucose levels and delivering insulin accordingly. It improves glycemic control, minimizes hypoglycemia risks, reduces manual intervention, and enhances patient compliance, providing a compact, user-friendly, and intelligent diabetes management solution.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092832 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A HANDHELD DRUG SOLUBILITY TESTING DEVICE FOR CLINICAL LABS

(51) International classification	:B01L0003000000, A61B0090000000, G06F0003034600, G01N0033150000, C12Q0001540000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Dr. AVIJIT MAZUMDER**
(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	

(57) Abstract :
The present invention provides a handheld drug solubility testing device for clinical laboratories. The device integrates microfluidic chambers (101), a multi-sensor array (102), digital interface (103), wireless module (104), and battery-operated power (105). It enables real-time, accurate determination of drug solubility using minimal sample volumes through advanced optical and conductivity sensors. Results are displayed immediately on the digital interface (103) and can be wirelessly transmitted for record-keeping. The compact, portable design ensures clinical applicability, especially in point-of-care and resource-limited settings.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092833 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART INHALATION DEVICE WITH REAL-TIME DOSAGE TRACKING

(51) International classification	:A61M15/00, A61B5/087, G16H20/13, G16H40/67
(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 :**
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(72)**Name of Inventor :**
1)Dr. AVIJIT MAZUMDER
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The present invention relates to a smart inhalation device (100) for real-time dosage tracking and patient compliance monitoring. The device comprises a housing (101), inhaler cartridge (102), mouthpiece (103), flow sensor (110), dosage tracking unit (120), and wireless module (130). Feedback indicators (140) ensure correct inhalation, while data is transmitted via mobile application (170) for remote monitoring. The rechargeable battery (151) ensures portability. The invention enhances adherence, reduces inhalation errors, and improves clinical decision-making in chronic respiratory disease management.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092834 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A TEMPERATURE-CONTROLLED STORAGE DEVICE FOR PHARMACEUTICAL VIALS

(51) International classification	:G06Q0030024100, A01G0031060000, B82Y0040000000, F25D0011020000, G08B0025100000
(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

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(72)**Name of Inventor :**
1)Dr. AVIJIT MAZUMDER
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The invention discloses a temperature-controlled storage device (100) for pharmaceutical vials, integrating an insulated housing (101), cooling unit (102), heating unit (103), and control module (104). Vials are secured in modular compartments (105) with trays (106) and temperature channels (107). Real-time monitoring is achieved via sensors (117), digital display (109), and alert system (118). A rechargeable battery (113), solar interface (114), and wireless module (111) enable portability and data logging (119). The invention ensures safe, reliable, and compliant preservation of pharmaceutical vials under diverse environmental conditions.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092835 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE ANTIBIOTIC SENSITIVITY DETECTION DEVICE FOR RAPID TESTING

(51) International classification	:B01L0003000000, G01N0033500000, G08B0007060000, G01N0033569000, G16B0025100000
(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 :**
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(72)**Name of Inventor :**
1)Dr. RAKHI MISHRA
2)Dr. MONIKA

(57) Abstract :
The invention relates to a portable antibiotic sensitivity detection device (100) for rapid testing at the point of care. The device integrates a microfluidic chip (110), biosensor array (120), and data display unit (130) within a portable housing (160). It provides real-time bacterial response profiles against multiple antibiotics within minutes to hours, reducing reliance on conventional culture methods. The inclusion of a connectivity module (140) and rechargeable power source (150) ensures usability in rural and emergency settings, enhancing antibiotic stewardship and combating resistance.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092836 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A WEARABLE PATCH DEVICE FOR TRANSDERMAL DRUG DELIVERY APPLICATIONS

(51) International classification	:A61M37/00, A61M35/00
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
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(72)**Name of Inventor :**
1)PENTELA BHAVANI
2)Dr. SALAHUDDIN

(57) Abstract :
The present invention discloses a wearable patch device for transdermal drug delivery applications. The device comprises micro-reservoirs (101) containing pre-measured drug doses, a diffusion membrane (102) for controlled release, and a permeation enhancer layer (103) to improve skin absorption. An adhesive backing (104) ensures secure application, while an optional biosensor (106) enables real-time monitoring. The invention provides painless, sustained, and user-friendly drug delivery, improving therapeutic outcomes and patient compliance across a wide range of pharmaceutical applications.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092838 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART INTRAVENOUS INFUSION DEVICE WITH PRESSURE MONITORING SYSTEM

(51) International classification	:A61M5/168, A61M5/142, G16H20/17
(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 :**
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(72)**Name of Inventor :**
1)PENTELA BHAVANI
2)Dr. SALAHUDDIN

(57) Abstract :
The present invention discloses a smart intravenous infusion device (100) with an integrated pressure monitoring system (101). The device incorporates pressure sensors (104), a microcontroller (105), alarms (102), and an automated flow regulator (103) to ensure safe intravenous therapy. Real-time pressure monitoring enables early detection of infiltration, occlusion, or air embolism. Upon detecting anomalies, the device triggers alerts and automatically adjusts infusion flow. Compact design (110), affordability, and portability make the device suitable for hospitals, emergency care, and home healthcare environments.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092494 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A GATE STACKED HETERO-JUNCTION TFET ON SELBOX SUBSTRATE (GSHJ-STFET)

(51) International classification	:H01L0029739000, H01L0029786000, H03F0003450000, G11C0011412000, H01L0029490000
(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 :**
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Address of Applicant :566/6, Bell Road, Clement Town, Dehradun – 248002, Uttarakhand, India Uttarakhand India
(72)**Name of Inventor :**
1)Dr. Ashish Kumar Singh
2)DR. RAMESH KUMAR

(57) Abstract :
The present invention relates to gate stacked hetero-junction TFET on SELBOX substrate (GSHJ-STFET) has been proposed. Comparative electrical performance analysis has been performed between proposed GSHJ-STFET structure with fully depleted SOITFET. The optimized proposed TFET structure has been explored for DC, and RF/analog performance matrix such as ION, IOFF, ION/IOFF ratio, subthreshold swing (SS), transconductance (gm), threshold voltage (VT), cut-off frequency (fT), transit time (t), gain bandwidth product (GWB), maximum oscillating frequency (fMAX), TGF, and TFP. It has been found that proposed TFET with SELBOX shows better static performance compared to conventional fully depleted SOI-TFET (FD-SOITFET). Further, the temperature reliability analysis has been extensively investigated for both conventional fully depleted SOI TFET and proposed TFET, respectively.

No. of Pages : 16 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092496 A

(19) INDIA

(22) Date of filing of Application :26/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A NANOEMULSION-BASED DUAL ENCAPSULATION OF PREBIOTIC AND PHYTOESTROGEN FOR ENHANCING POSTMENOPAUSAL GUT HEALTH AND MANAGING ASSOCIATED COMPLICATIONS

(51) International classification	:A61K0031352000, A61K0009107000, A61P0001000000, A61K0031702000, A61K0031050000
(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 :**

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(72)**Name of Inventor :**

1)SEEMA BANSAL

2)RISHABH CHAUDHARY

3)AMANPREET KAUR

4)NITIN BANSAL

5)SUMEET GUPTA

(57) Abstract :

The present invention relates to a novel nanoemulsion-based dual encapsulation system comprising a prebiotic, fructooligosaccharide (FOS), and a phytoestrogen, soy isoflavone, aimed at improving postmenopausal gut health and managing associated complications. The formulation is prepared by dissolving the active compounds in water, incorporating a surfactant, and emulsifying with a pharmaceutically acceptable oil phase. The resulting coarse emulsion is subjected to probe ultrasonication to achieve nanoscale droplet size, yielding a clear, stable, and homogeneous nanoemulsion. This dual encapsulation enhances the bioavailability, stability, and targeted delivery of active ingredients, providing improved therapeutic efficacy. The invention offers a safe and effective nutraceutical formulation with potential applications in gut health management, hormonal balance, and the alleviation of postmenopausal symptoms.

No. of Pages : 20 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092497 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PROCESS FOR OXIDATIVE TRANSFORMATION OF ETHYLBENZENE USING METAL-BOUND IMMOBILIZED CATALYSTS

(51) International classification	:C07C0029480000, C07C0049780000, B01J0031160000, C07F0013000000, C07C0045280000
(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 :**
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(72)**Name of Inventor :**
1)DR. PRAVEEN KUMAR GUPTA
2)SAVITA KUMARI

(57) Abstract :
The present invention relates to a novel and eco-friendly process for the oxidative transformation of ethylbenzene using metal-bound immobilized catalysts supported on functionalized polystyrene beads. The process involves a multi-step synthesis wherein chloromethylated polystyrene is first converted into aldehyde-functionalized polystyrene (PS-CHO), which is subsequently reacted with 2-aminothiophenol (ATP) to form a Schiff base ligand (PS-ATP). The PS-ATP is then coordinated with transition metal salts selected from copper(II) chloride dihydrate, manganese(II) acetate tetrahydrate, and vanadyl sulfate pentahydrate, yielding heterogeneous catalysts PS-ATP-Cu, PS-ATP-Mn, and PS-ATP-V. These catalysts are employed for the selective oxidation of ethylbenzene using tert-butyl hydroperoxide or hydrogen peroxide as oxidants under mild reaction conditions at 60°C for 3–8 hours, resulting in the formation of valuable products such as acetophenone and ethylbenzene hydroperoxide. The catalysts are easily recovered, washed, and reused over multiple cycles without significant loss of activity. This process provides high conversion efficiency, product selectivity, operational simplicity, and reduced environmental impact, making it highly suitable for industrial-scale applications in fine chemicals, pharmaceuticals, and petrochemical industries.

No. of Pages : 27 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092839 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PHARMACEUTICAL POWDER INHALATION DEVICE WITH PARTICLE SIZE CONTROL

(51) International classification	:A61M0015000000, A61M0011000000, A61K0009000000, A61M0016080000, G16H0040670000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. AVIJIT MAZUMDER**
(33) Name of priority country	:NA	**2)Dr. SWARUPANJALI PADHI**
(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	

(57) Abstract :
The present invention discloses a pharmaceutical powder inhalation device (100) with integrated particle size control for enhanced pulmonary drug delivery. The device (100) comprises a powder chamber (140), dispersion mechanism (110), micro-mesh filter (120), airflow regulator (130), and mouthpiece (150). The dispersion mechanism (110) ensures powder breakdown, while the micro-mesh filter (120) selectively permits therapeutic particles of 1–5 µm. The airflow regulator (130) provides adjustable resistance, ensuring uniform dosing across patients. The invention improves therapeutic efficacy, minimizes variability, and enhances patient compliance.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092840 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DISPOSABLE INJECTION DEVICE WITH INTEGRATED DOSAGE INDICATOR

(51) International classification	:A61M0005500000, A61M0005320000, A61M0005315000, A61M0005310000, A61M0005142000
(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

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(72)**Name of Inventor :**
1)PENTELA BHAVANI
2)Dr. SALAHUDDIN

(57) Abstract :
The invention relates to a disposable injection device with an integrated dosage indicator (101) for accurate drug administration. The device comprises a syringe body (102), plunger assembly (103), needle assembly (104), and a dosage-indicating window (105). The plunger's movement activates the dosage indicator (101), allowing real-time visualization of liquid dispensed. The needle assembly (104) incorporates an auto-disable feature, preventing reuse. The device ensures precise dosage delivery, improves patient compliance, reduces overdose risks, and offers a cost-effective, single-use solution suitable for healthcare and self-administration applications.

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092843 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-NLP CONTROLLED ELECTROMAGNETIC SMART COMMAND BOARD WITH DYNAMIC CIRCUIT PATTERNING AND DEVICE REWIRING CAPABILITY

(51) International classification	:G06F0003048200, G10L0015260000, H04L0065103300, H04L0045280000, E03C0001050000	(71)**Name of Applicant :** **1)Chandigarh University,** Address of Applicant :Chandigarh University, National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Pankaj Sharma**
(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	

(57) Abstract :

The present disclosure relates to a smart programmable control board that enables real-time circuit path modification through NLP-based voice commands. The system comprises an NLP voice recognition module, an electromagnetic pop-in/pop-out switching mechanism, and a dynamic wiring matrix. Voice commands are processed to physically reconfigure internal wire pathways using electromagnetically actuated plates, allowing users to replace button functions, create or break electrical connections, and dynamically reroute signals to various output devices. The invention supports custom circuit logic, macro programming, and parallel wire manipulation to external systems or devices. This hands-free, adaptive system is ideal for industrial, educational, or embedded applications requiring flexible circuit configuration without manual rewiring, enhancing both usability and automation in electronic control environments.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092844 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED CANINE FEEDING SYSTEM

(51) International classification	:G06N0003045000, G06N0003080000, G06V0010820000, G06F0018214000, A01K0027000000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Devyansh Batra**
(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	

(57) Abstract :
The present invention discloses a smart automated feeding system for stray dogs that integrates machine learning, hydraulics, and a conveyor-based mechanism to ensure safe, efficient, and personalized feeding. Utilizing a pre-trained Convolutional Neural Network (CNN) model, the system classifies dogs based on physical attributes such as height, weight, and breed to determine the appropriate food quantity. A smart bowl, mounted on a hydraulic lift, adjusts its height to suit the dog's size, enhancing feeding comfort. The feeding station includes a conveyor belt system that holds the bowl in place during feeding and then gently moves the dog away, allowing smooth transition for the next. This intelligent, automated process minimizes human intervention, prevents accidents, and promotes organized feeding. The system offers a scalable, humane solution ideal for shelters, urban feeding zones, and animal welfare initiatives.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092880 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DEVICE FOR DETECTING SUBSTANDARD GENERIC DRUGS

(51) International classification	:G01J0003020000, F24F0011520000, B07C0005360000, B60K0035280000, A61K0047120000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. RUPA MAZUMDER

(57) Abstract :
The present invention discloses a portable device (100) for detecting substandard generic drugs in field settings. The device integrates a sensor module (110), a spectroscopic unit (120), and a data processing system (130) for rapid drug quality assessment. Results are displayed on a user interface (140) and can be transmitted via a cloud connectivity module (160) to regulatory databases. Powered by a rechargeable unit (150), the device provides affordable, accurate, and user-friendly detection of poor-quality medicines, ensuring improved healthcare safety and regulatory enforcement.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092881 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR FIELD-BASED DRUG QUALITY CONTROL

(51) International classification	:B01L0003000000, G16H0040670000, G01N0033940000, G01N0033000000, G16B0030000000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)SOUMYA MISHRA TRIPATHI**
(33) Name of priority country	:NA	**2)Dr. AVIJIT MAZUMDAR**
(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	

(57) Abstract :
The present invention provides a device for field-based drug quality control comprising a microfluidic chamber (101), drug sample slots (102), biosensor modules (103), an electronic processing unit (104), wireless communication unit (105), rechargeable battery (106), and rugged casing (107). The device enables rapid, on-site assessment of pharmaceutical authenticity, potency, and safety, particularly in resource-limited settings. By integrating biosensors and wireless connectivity, the invention offers real-time reporting to regulatory databases, ensuring efficient surveillance, reduced reliance on laboratories, and improved public health protection against counterfeit medicines.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092882 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR AUTOMATED FILLING OF ORAL LIQUID MEDICINES

(51) International classification	:A61K0009000000, A61J0001200000, A61J0001140000, A61J0001160000, A61M0005142000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. RUPA MAZUMDER

(57) Abstract :
The invention relates to a device for automated filling of oral liquid medicines, ensuring accuracy, sterility, and efficiency. The device includes a dispensing nozzle (101), electronic volume sensor (102), microcontroller unit (103), conveyor mechanism (104), and sealing unit (105). Calibration module (108) manages viscosity variations, while enclosure (110) and UV sterilization (111) maintain hygiene. A waste collection unit (112) reduces spillage. The invention provides a compact, cost-effective, and adaptable solution for pharmaceutical industries, suitable for both small and large-scale production environments.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092883 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DEVICE FOR REAL-TIME DETECTION OF DRUG ADULTERATION

(51) International classification	:B01L0003000000, H04N0001000000, G01N0021640000, B01L0007000000, C12Q0001700000
(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

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1)PENTELA BHAVANI

(57) Abstract :
The present invention discloses a portable device (100) for real-time detection of drug adulteration. The device includes an input chamber (101), grinding unit (102), optical sensors (110), microfluidic channels (120), and an AI processor (130) for analyzing pharmaceutical samples. A wireless module (140) transmits results to external systems, while a touchscreen display (160) provides user-friendly output. Powered by a rechargeable unit (150), the device ensures rapid, accurate, and field-deployable drug quality testing, enhancing patient safety and supporting regulatory compliance.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092884 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART MEDICINE DISPENSING DEVICE WITH AUTOMATIC ALERT SYSTEM

(51) International classification	:A61J7/04, G16H20/13
(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

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2)Dr. SALAHUDDIN

(57) Abstract :
The present invention relates to a smart medicine dispensing device designed for enhancing patient medication compliance. The device comprises multiple compartments (101), a microcontroller (102), a dispensing mechanism (103), and a tray (104). It integrates an alert system (105) with audio, vibration, and mobile notifications, along with sensors (107) for retrieval detection. A connectivity module (108) ensures caregiver alerts, while a rechargeable battery (109) supports portability. The invention ensures accurate dosage, timely reminders, and real-time adherence tracking, reducing errors and improving healthcare outcomes.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092885 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART DEVICE FOR TRACKING PATIENT DRUG ALLERGY RESPONSES

(51) International classification	:G16H0010600000, A61B0005000000, G16H0040670000, G16H0040200000, G16H0050200000
(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

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(72)**Name of Inventor :**
1)Dr. RAJNISH KUMAR
2)Dr. AVIJIT MAZUMDER

(57) Abstract :
The present invention discloses a smart device for tracking patient drug allergy responses comprising biosensors (1), a microcontroller (2), a wireless module (3), an alert system (4), and a patient data storage unit (5). The device continuously monitors physiological parameters, analyzes them with AI-driven algorithms, and transmits data wirelessly to healthcare providers. Real-time alerts are generated upon detecting abnormal allergy responses. The system securely records patient-specific data for predictive clinical analysis, enhancing patient safety, personalized care, and effective drug therapy management.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092886 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR RAPID INJECTION NEEDLE STERILITY TESTING

(51) International classification	:B01L0003000000, C12Q0001040000, G01N0033569000, C12M0001340000, C12M0001120000
(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

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(72)**Name of Inventor :**
1)Dr. MONIKA
2)Dr. AVIJIT MAZUMDER

(57) Abstract :
The present invention discloses a device (100) for rapid injection needle sterility testing, integrating a micro-chamber (101), microfluidic channels (102), and an optical biosensor unit (103). The device enables real-time detection of microbial contaminants through optical or electrochemical signals, providing results within 3–5 minutes. A portable housing (104), digital display (105), rechargeable battery (107), and connectivity module (108) enhance usability across hospitals, clinics, and field applications. The invention reduces infection risks and provides a cost-effective, accurate alternative to conventional culture-based sterility testing methods.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092891 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR RAPID ANALYSIS OF DRUG-BINDING INTERACTIONS

(51) International classification	:B01L0003000000, G01N0033543000, G01N0021770000, C12M0003060000, C12Q0001000000
(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 :**
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(72)**Name of Inventor :**
1)Dr. AVIJIT MAZUMDER
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention provides a device (100) for rapid analysis of drug-binding interactions, integrating microfluidic channels (101), a biosensor array (102), a computational module (103), a display unit (104), and a sample input port (105). The device enables real-time monitoring of molecular interactions using electrochemical or optical sensors, requiring minimal sample volumes. The computational module (103) processes binding data to generate kinetic and thermodynamic parameters. The portable and cost-efficient design improves reproducibility, accelerates drug discovery, and facilitates collaborative research across pharmaceutical and clinical applications.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092892 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR STERILE PREPARATION OF EYE DROPS

(51) International classification	:A61K0009000000, A61F0009000000, A61P0027020000, A61J0001140000, C12M0001120000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. RUPA MAZUMDER

(57) Abstract :
The present invention relates to a device for sterile preparation of eye drops integrating a sterilization chamber (101), filtration unit (102), mixing module (103), dispensing nozzle (104), and sealing unit (105). The system ensures aseptic processing of ophthalmic solutions by combining UV/heat sterilization (108, 109), microfiltration (111), sterile mixing (114–117), and contamination-free dispensing (118–121). With real-time monitoring, automation, and portability, the device enables safe preparation of personalized or bulk eye drop formulations, eliminating reliance on expensive cleanroom infrastructure while ensuring sterility and ophthalmic safety.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092893 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART DEVICE FOR MONITORING MEDICATION EFFECTIVENESS IN PATIENTS

(51) International classification	:A61B5/00, G16H40/67
(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

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(72)**Name of Inventor :**
1)PRIYANKA BANSAL
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention discloses a smart device for monitoring medication effectiveness in patients. The device comprises biosensors (1), a microprocessor unit (2), a correlation engine (3), a wireless communication module (4), a display interface (5), and a cloud integration system (6). It continuously monitors physiological parameters, correlates them with therapeutic drug outcomes, and provides real-time feedback to both patients and healthcare providers. The device enhances medication adherence, enables remote monitoring, and ensures accurate assessment of drug effectiveness through adaptive analytics and secure data communication.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092894 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR REAL-TIME MONITORING OF DRUG RELEASE KINETICS

(51) International classification	:G01N0033574000, G01N0033000000, B01L0003000000, G01N0033543000, C12M0001340000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. RUPA MAZUMDER

(57) Abstract :
The present invention discloses a device for real-time monitoring of drug release kinetics, comprising a microfluidic chamber (101), optical sensors (102), electrochemical sensors (103), a data acquisition unit (104), and a fluid-handling system (105). The device further integrates wireless connectivity (106) and a software analytics module (107) for continuous, accurate, and rapid analysis of drug release profiles. This non-destructive system provides enhanced monitoring for pharmaceutical research, drug development, clinical validation, and personalized medicine, offering multi-modal sensing and automated data interpretation in real-time.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092895 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR AUTOMATED TRACKING OF PHARMACEUTICAL WASTE DISPOSAL

(51) International classification	:H04W0004029000, H04W0004020000, G06Q0050260000, A61B0090000000, G06Q0010300000
(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

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(72)**Name of Inventor :**
1)PRIYANKA BANSAL
2)Dr. RUPA MAZUMDER

(57) Abstract :
The present invention discloses a device for automated tracking of pharmaceutical waste disposal, comprising a waste disposal bin (1), sensor module (2), RFID scanner (3), weighing system (4), microcontroller unit (5), and cloud connectivity module (6). The system ensures accurate detection, categorization, and quantification of disposed pharmaceuticals, while transmitting real-time data for compliance monitoring. Features such as tamper-proof locking (9), geo-tagging (10), and machine learning analytics (11) enhance safety, transparency, and accountability, thereby reducing environmental risks and ensuring efficient pharmaceutical waste management.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092896 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR RAPID CAPSULE DISSOLUTION MONITORING

(51) International classification	:B01L0003000000, C12M0001000000, G01N0035000000, G01N0033150000, G01N0013000000
(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 :**
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Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. RUPA MAZUMDER

(57) Abstract :
The present invention discloses a device (100) for rapid capsule dissolution monitoring that integrates a dissolution chamber (101), microfluidic channel network (102), optical sensor unit (103), data acquisition system (104), microcontroller (105), stirring mechanism (106), wireless communication module (107), and software interface (108). The device enables real-time, accurate, and automated dissolution monitoring of capsules, reducing manual errors and enhancing pharmaceutical quality control. Its portability and wireless connectivity allow laboratory and field-based applications, making it a reliable tool for pharmaceutical research and regulatory compliance.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092897 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR PORTABLE PRODUCTION OF INFUSION MEDICINES

(51) International classification	:C02F0001440000, A61M0001160000, A61J0001140000, A61M0005168000, B05B0011100000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. ANJNA RANI**
(33) Name of priority country	:NA	**2)Dr. RUPA MAZUMDER**
(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	

(57) Abstract :
The invention discloses a portable device (100) for the automated preparation of sterile infusion medicines. The device integrates a dosing chamber (110), sterile filtration unit (120), mixing chamber (130), dispensing module (140), rechargeable power unit (150), and digital control interface (160). It enables precise solute measurement, sterile fluid preparation, and contamination-free dispensing into infusion containers. Designed for hospitals, ambulances, disaster relief, and remote healthcare, the device provides on-demand, customizable infusion medicines with enhanced accuracy, sterility, and portability.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092905 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PROCESS FOR THE SYNTHESIS OF 1H-PYRAZOLE DERIVATIVES AS ANTHELMINTIC AGENTS AND THEREOF

(51) International classification	:A61P0033000000, A61P0033100000, A61K0009000000, A61P0003100000, A61P0031040000
(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

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5)Nikita Devi
6)Ashok Kumar Yadav
7)Shailendra Kumar Dwivedi
8)Imtiyaz Ahmad
9)Waseem Ahmad Khan
10)MD. Babar Siddique

(57) Abstract :
The invention relates to a novel and efficient process for synthesizing 1H-pyrazole derivatives exhibiting potent anthelmintic activity. These derivatives are designed to overcome the limitations of existing anthelmintic agents by providing enhanced efficacy, broad-spectrum activity, and improved safety profiles. The synthetic process employs a straightforward condensation of phenyl hydrazine with substituted acetophenone derivatives under catalytic conditions, followed by isolation and purification steps that are cost-effective and environmentally friendly. The resulting compounds demonstrate significant antiparasitic effects against nematodes and flatworms, making them suitable for the treatment of helminthic infections in humans and animals. The invention also covers pharmaceutical compositions comprising these compounds and methods for their therapeutic application. This novel class of 1H-pyrazole derivatives addresses the urgent need for new anthelmintic agents capable of managing drug resistance and minimizing side effects while ensuring scalable production. Thus, the invention offers a valuable advancement in anthelmintic drug development with potential for improved global health and veterinary outcomes.

No. of Pages : 20 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092922 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Fermented Nutraceutical Composition from Wheat, Moringa, and Tinospora Cordifolia Using Lactic Acid Bacteria

(51) International classification	:A61K0036590000, A61P0031100000, A23L0029000000, C12N0001200000, A61K0035744000
(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

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(72)**Name of Inventor :**
1)Dr. Gulshan Kumar
2)Murtaza Ali Abdullah
3)Dr. Arti Sharma
4)Dr. Priyanka Sharma

(57) Abstract :
The present invention discloses a method for preparing a fermented nutraceutical composition comprising wheat grains (5 kg), Moringa oleifera powder (0.5 kg), and Tinospora cordifolia powder (0.25 kg) subjected to anaerobic fermentation at 30-33°C for 36 hours. The process utilizes naturally occurring lactic acid bacteria to convert wheat lactogen into probiotic compounds. The fermented mixture undergoes grinding, sieving, and solar drying to produce approximately 1 kg of dried flat structures containing viable lactic acid bacteria and enhanced nutritional components. The invention provides a standardized method for producing probiotic-enriched food compositions with consistent quality and nutritional profile.

No. of Pages : 9 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092923 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR PRECISION MICROENCAPSULATION OF ACTIVE PHARMACEUTICAL INGREDIENTS

(51) International classification	:B01F0101220000, A61K0047320000, A61K0047260000, A61K0009500000, C12N0005000000
(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

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(72)**Name of Inventor :**
1)Dr. RAKHI MISHRA
2)Dr. SWARUPANJALI PADHI

(57) Abstract :
The present invention relates to a device (100) for precision microencapsulation of active pharmaceutical ingredients (APIs), comprising microfluidic channels (101), a temperature-regulated chamber (102), an in-line spectroscopic monitoring unit (103), an interchangeable nozzle assembly (104), a pumping module (105), and a collection chamber (106). The device ensures uniform particle size, real-time quality monitoring, and adaptability for hydrophilic and hydrophobic APIs. Experimental validation confirms high encapsulation efficiency, reproducibility, and controlled drug release, making the invention suitable for pharmaceutical research, industrial production, and regulatory compliance.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092924 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DEVICE FOR RAPID PHARMACEUTICAL TABLET DISINTEGRATION TESTING

(51) International classification	:A61K0009200000, G06Q0030018000, H04W0024060000, H02J0007000000, A61L0002240000
(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

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(72)**Name of Inventor :**

1)Dr. RAKHI MISHRA

2)Dr. CHANDANA MAJI

(57) Abstract :

The present invention relates to a portable device (100) for rapid pharmaceutical tablet disintegration testing, ensuring compliance with pharmacopeial standards in decentralized environments. The device comprises a microcontroller-based control unit (101), rechargeable battery pack (102), digital display (103), heating chamber (200), tablet holders (104), and sensor array (201) for automated endpoint detection. It enables accurate, reproducible, and real-time testing, with wireless data logging for traceability. The device is lightweight, user-friendly, and suitable for regulatory inspections, pharmacies, and mobile healthcare applications.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092925 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A HANDHELD DEVICE FOR PHARMACEUTICAL TABLET HARDNESS MEASUREMENT

(51) International classification	:A61K0009200000, G01N0003400000, G01N0003080000, G01N0035000000, B60G0017019000
(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

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(72)**Name of Inventor :**
1)PENTELA BHAVANI
2)Dr. RAJNISH KUMAR

(57) Abstract :
The present invention discloses a handheld device (100) for pharmaceutical tablet hardness measurement, comprising a housing unit (110), digital force sensor (120), compression jaw assembly (130), microcontroller (140), display screen (150), and rechargeable power source (160). The device enables accurate measurement of tablet breaking force by applying controlled compression through jaws (131, 132). An auto-calibration mechanism (180) ensures accuracy, while wireless connectivity (170) allows real-time data transfer. Compact and ergonomic, the device (100) offers portability, reliability, and compliance with pharmaceutical quality assurance standards.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092926 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR STERILE HANDLING OF BIOLOGICALLY ACTIVE DRUGS

(51) International classification	:B01D0046000000, H05B0003340000, G01N0001100000, G01N0015060000, G01N0021010000
(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

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(72)**Name of Inventor :**
1)Dr. SALAHUDDIN
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention discloses a device for sterile handling of biologically active drugs, comprising a sealed chamber (101), laminar airflow unit (102), HEPA/ULPA filtration assembly (103), robotic manipulators (104), input/output ports (105), monitoring sensors (106), and sterilization modules (108). The device ensures contamination-free preparation, transfer, and dispensing of biologically active drugs while safeguarding operators from exposure. Real-time environmental monitoring and automated sterilization cycles improve reliability, safety, and efficiency. The invention is applicable in hospitals, research laboratories, and pharmaceutical industries for sterile drug handling.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092927 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART DEVICE FOR REAL-TIME TRACKING OF MEDICATION TEMPERATURE

(51) International classification	:G16H0020130000, G06F0003010000, A61B0005024000, A61B0005010000, H04W0004800000
(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

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1)Dr. RUPA MAZUMDER
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention discloses a smart device for real-time tracking of medication temperature, comprising a precision temperature sensor (101), wireless communication module (102), display unit (103), rechargeable power unit (104), and mobile application interface (105). The device continuously monitors drug storage conditions, transmits data in real time, and provides instant local and remote alerts when medications exceed safe temperature thresholds. It is portable, cost-effective, and suitable for institutional as well as patient use, thereby ensuring medication safety, compliance, and improved therapeutic outcomes.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092928 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR AUTOMATED PACKAGING OF PRESCRIPTION DRUG STRIPS

(51) International classification	:G16H0020100000, G16H0010600000, B65B0005100000, B65B0005060000, B01L0003000000
(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

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(72)**Name of Inventor :**
1)PRIYANKA BANSAL
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention relates to a device for automated packaging of prescription drug strips comprising a counting and alignment unit (101), a sealing unit (102), a labeling unit (103), a dispensing chute (104), and a digital control system (105). The device ensures accurate counting, sterile sealing, personalized labeling, and organized dispensing of drug strips. It minimizes human errors, improves hygiene, and enhances efficiency in pharmacies and pharmaceutical distribution centers. The invention is adaptable for multiple strip sizes and integrates with digital prescription management systems.

No. of Pages : 16 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092929 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEVICE FOR AUTOMATED DETECTION OF DRUG FORMULATION CONTAMINANTS

(51) International classification	:B01L0003000000, G01N0033569000, C12Q0001040000, G06T0007000000, C12Q0001020000
(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 :**
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(72)**Name of Inventor :**
1)Dr. RAKHI MISHRA
2)Dr. CHANDANA MAJI

(57) Abstract :
The present invention provides a device for automated detection of drug formulation contaminants, comprising microfluidic channels (101), optical sensor module (102), spectroscopy unit (103), microbial detection chamber (104), and AI-based data processing unit (105). The device enables real-time detection of physical, chemical, and biological contaminants, ensuring pharmaceutical safety and compliance. By integrating microfluidics, biosensors, and AI-based data analysis, the invention reduces testing time, enhances accuracy, and provides an efficient, cost-effective, and portable solution for laboratory and industrial pharmaceutical environments.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092932 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DEVICE FOR RAPID DRUG DISSOLUTION RATE ANALYSIS

(51) International classification	:G01N0033150000, A61K0009200000, H04W0072200000, G01N0021310000, H04L0005000000
(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 :**
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(72)**Name of Inventor :**
1)PENTELA BHAVANI
2)Dr. SALAHUDDIN

(57) Abstract :
The invention discloses a portable device (100) for rapid drug dissolution rate analysis, comprising a dissolution chamber (101), stirring mechanism (102), sensor array (103), control unit (104), and display interface (105). The device integrates heating elements (106) to maintain physiological conditions and wireless connectivity (107) for data transfer. It provides real-time dissolution profiling, enabling accurate, rapid, and portable testing of pharmaceutical formulations. The device ensures compliance, supports counterfeit detection, and enhances pharmaceutical quality control in field, clinical, and regulatory environments.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092933 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART INJECTION DEVICE FOR PAINLESS DRUG DELIVERY APPLICATIONS

(51) International classification	:A61M0005320000, A61M0005500000, A61M0005200000, A61M0037000000, A61M0005240000
(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)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)
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(72)**Name of Inventor :**
1)Dr. RUPA MAZUMDER
2)Dr. SALAHUDDIN

(57) Abstract :
The present invention discloses a smart injection device comprising a microneedle array (100), biosensors (101), control circuitry (102), digital interface (103), and retractable housing (104). The device ensures painless drug delivery by minimizing penetration depth and regulating pressure through electronic actuators. Real-time monitoring and feedback improve dosage accuracy and user confidence. Safety is enhanced with automatic needle retraction and auto-disable features. Wireless connectivity further enables remote healthcare monitoring, making the device suitable for clinical use and home-based self-administration.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092936 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PHARMA DEVICE FOR AUTOMATED CAPSULE COUNTING AND PACKAGING

(51) International classification	:H01L0021670000, G16H0020100000, B65B0057200000, B65B0031020000, A61J0001140000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. ANJNA RANI

(57) Abstract :
The present invention discloses a pharma device for automated capsule counting and packaging integrating a capsule feeding unit (101), sensor module (102), error detection system (104), transfer conveyor (105), packaging chamber (106), and control unit (107). The device ensures accurate counting, contamination-free packaging, and real-time monitoring through a user interface (108). Designed with adaptive feeders and sterile housing (109), the invention provides high accuracy, efficiency, and compliance with pharmaceutical standards. It is suitable for large-scale manufacturing units and small pharmacy operations.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092937 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A WEARABLE DRUG MONITORING DEVICE WITH WIRELESS DATA TRANSMISSION

(51) International classification	:A61B0005145000, G16H0040670000, A61B0005000000, A61M0005142000, G16H0010600000	(71)**Name of Applicant :** **1)NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY (PHARMACY INSTITUTE)** Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)SOUMYA MISHRA TRIPATHI**
(33) Name of priority country	:NA	**2)Dr. ANJNA RANI**
(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	

(57) Abstract :
The present invention discloses a wearable drug monitoring device comprising a biosensor module (101), processing unit (102), wireless transmission module (103), power management system (104), and user interface application (105). The device continuously measures drug concentrations from biological fluids such as sweat, saliva, or interstitial fluid. Real-time data is processed and securely transmitted via Bluetooth or Wi-Fi to smartphones or cloud servers. The invention enhances patient safety, improves medication compliance, and enables remote healthcare management through continuous, non-invasive drug monitoring and wireless data integration.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092938 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE DEVICE FOR DRUG CRYSTALLINITY AND PURITY ANALYSIS

(51) International classification	:G01N0021650000, A61B0005000000, G01N0033020000, A61N0001360000, G01J0003440000
(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

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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. ANJNA RANI

(57) Abstract :
The present invention discloses a portable device (100) for drug crystallinity and purity analysis, integrating Raman spectroscopy (103), near-infrared sensors (106), and thermal analysis modules (107) within a handheld housing (101). A microcontroller (108) processes data, displaying results on a touchscreen (110) and transmitting wirelessly via module (114). The modular sample holder (105) accommodates powders (111), tablets (112), and liquids (113), enabling versatile testing. The invention ensures rapid, non-destructive, and accurate determination of drug crystallinity and purity, supporting pharmaceutical quality control, regulatory compliance, and clinical research applications.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092939 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SMART DRUG RECONSTITUTION DEVICE FOR HOSPITAL PHARMACY USE

(51) International classification	:A61J0001200000, A61J0001140000, A61J0001100000, G16H0040200000, G16H0020100000
(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 :**
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(72)**Name of Inventor :**
1)SOUMYA MISHRA TRIPATHI
2)Dr. ANJNA RANI

(57) Abstract :
The present invention relates to a smart drug reconstitution device (100) for hospital pharmacy use. The device (100) comprises an automated diluent delivery module (110), sterile mixing chamber (120), drug identification system (130), and wireless communication unit (140). It ensures accurate diluent measurement, standardized mixing, and sterility using disposable cartridges (150). The device (100) integrates with hospital pharmacy systems for digital traceability, reduces preparation time, and minimizes contamination risks, thereby enhancing safety, efficiency, and consistency in drug preparation for clinical applications.

No. of Pages : 16 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092965 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Oraprint: A 14 gene signature for prognostication in oral cancer

(51) International classification	:C12Q0001688600, G01N0033574000, C12Q0001680600, G01N0033680000, C07K0016180000
(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)BANARAS HINDU UNIVERSITY
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(72)**Name of Inventor :**
1)Manoj Pandey
2)Keshav Murthy
3)Nishant Batta
4)Paras Kumar
5)Ruhi Dixit

(57) Abstract :
The present invention discloses a non-surgical diagnostic and prognostic 14-gene signature panel for oral cancer, utilizing next-generation sequencing (NGS) technologies. The panel targets mutations in the samples derived from formalin-fixed, paraffin-embedded (FFPE) tissue samples. These genetic alterations, cataloged in COSMIC and ClinVar databases, serve as biomarkers for early detection and patient stratification. Statistical analysis, including Kaplan-Meier and log-rank tests, demonstrates a significant association between the gene signature, high tumor mutation burden, and reduced survival rates (32% vs. 68.3%, $p \approx 0.02$). The invention further enables the development of a diagnostic kit for rapid, cost-effective, and personalized prognosis and treatment planning in oral cancer.

No. of Pages : 19 No. of Claims : 11

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092966 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Novel Se100-xCex Alloys for Better Radiation Shielding Against High-Energy Radiation

(51) International classification	:C22C43/00, G21F1/00
(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

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(72)**Name of Inventor :**
1)Vishnu Saraswat
2)Neeraj Mehta

(57) Abstract :
The present invention relates to novel binary alloy compositions comprising selenium (Se) and cerium (Ce), designed for enhanced radiation shielding against high-energy gamma and X-ray photons. By incorporating an optimized 10% cerium concentration, the glass exhibits superior photon attenuation properties compared to conventional shielding materials. The invention further describes a melt-quenching synthesis method to achieve a uniform and stable glass matrix, ensuring optimal shielding performance. The present invention relates to a cerium-doped selenium-based chalcogenide glass composition comprising selenium (Se) and cerium (Ce) (Se100-xCex) alloys for radiation shielding against high-energy radiation. More particularly, the present invention relates to the development of a chalcogenide glass composition comprising selenium (Se) and cerium (Ce) (Se100-xCex) alloys, which significantly enhances radiation-shielding efficiency against high-energy gamma and X-ray photons and provides a cost-effective, lightweight, non-toxic, and lead-free alternative to traditional shielding materials. The present invention also relates to a method for synthesizing the chalcogenide glass composition of cerium dispersion within the selenium matrix.

No. of Pages : 34 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092979 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Method for Constructing Probability Distributions from Minimal Data Sets

(51) International classification	:G06F0030200000, G06N0007010000, G06F0111080000, G16H0050300000, G16H0050200000
(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 :**
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2)Dr. Neetu Dhiman
(72)**Name of Inventor :**
1)Dr. Shalini Gupta
2)Dr. Neetu Dhiman

(57) Abstract :
The invention provides a method and system for constructing probability distributions from minimal data sets. Conventional statistical techniques require large-scale data to produce reliable probability estimates, limiting their applicability where only sparse information is available. The invention overcomes these limitations by integrating a Minimal Data Input Acquisition Module, Preprocessing System, Adaptive Statistical Estimation Engine, Sparse Data Augmentation Processor, Bayesian Prior Integration, and Entropy-Based Regularization. These components work in synergy to generate reliable probability distributions even under data scarcity. A Multi-Distribution Comparison Analyzer, Confidence Interval Generator, and Validation Framework further refine accuracy and reliability. The invention is applicable to predictive analytics, medical diagnostics, and financial risk assessment. Experimental validation shows accurate distribution estimation with less than 5% divergence compared to large-data models. This approach enables robust probability modeling from limited inputs, providing an efficient and reliable alternative to conventional methods.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092980 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Herbal Formulation Comprising Ayurvedic Bhasma and Plant Extracts for the Management of Cancer

(51) International classification	:A61K0036810000, A61K0036185000, A61K0036290000, A61K0036480000, A61K0036906600
(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)Dr. Ram Avtar
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2)Dr. Sanjeev Kumar Sharma
3)Dr. Rahul Sharma
(72)**Name of Inventor :**
1)Dr. Ram Avtar
2)Dr. Sanjeev Kumar Sharma
3)Dr. Rahul Sharma

(57) Abstract :
The present invention relates to an innovative Ayurvedic and herbal-based pharmaceutical formulation for the supportive management and treatment of cancer. The formulation combines selected mineral bhasmas Ras Kapur Bhasma (Calcinated Camphor), Shuddh Gandhak (Purified Sulphur), and Fitkari Bhasma (Calcined Alum) with a synergistic blend of medicinal plant extracts, including Tecomella undulata (Red Sandalwood bark), Fagonia cretica (Wild Indigo), Moringa oleifera (Drumstick bark), Bauhinia variegata (Mountain Ebony), Solanum nigrum (Black Nightshade), Boerhavia diffusa (Punarnava), Berberis aristata (Indian Barberry), Vachellia nilotica (Desi Kikar bark), Azadirachta indica (Neem bark), Curcuma longa (Turmeric), Tagetes erecta Tagetes patula (Marigold), and Citrus limon (Lemon peel). The ingredients are processed using standardized purification, calcination, and extraction methods to enhance safety, bioavailability, and therapeutic efficacy. The formulation exhibits antioxidant, immunomodulatory, cytoprotective, and anti-inflammatory activities, making it suitable as a complementary therapy alongside conventional cancer treatments. It provides a natural, safe, and holistic approach to support prevention, management, and treatment of various cancer types, with reduced side effects and improved patient tolerance. By integrating classical Ayurvedic principles with modern therapeutic requirements, the invention offers a scientifically validated, reproducible, and cost-effective alternative to conventional oncological therapies.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093023 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Advanced Route Detection and Mapping Using CNN-R2U-Net Approach

(51) International classification	:G06N0003045000, G06N0003080000, G06T0007110000, G06V0010820000, G06N0003044000	(71)**Name of Applicant :** **1)Priti Nahar** Address of Applicant :Senior DGM, Power Grid Corporation of India Ltd, Corporate Planning, Gurgaon, Haryana, India. Gurgaon Haryana India (72)**Name of Inventor :** **1)Priti Nahar**
(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	

(57) Abstract :
The rapid expansion of autonomous navigation systems and intelligent transportation frameworks has heightened the demand for accurate, robust, and real-time route detection and mapping solutions. Traditional image segmentation and feature extraction approaches often struggle with complex road environments, occlusions, varying illumination, and noisy data, leading to incomplete or inaccurate mapping results. To overcome these challenges, this research proposes an advanced route detection and mapping framework using a CNN-R2U-Net approach, which integrates the feature learning capacity of Convolutional Neural Networks (CNNs) with the recurrent residual U-Net (R2U-Net) architecture to enhance spatial and contextual representation of routes. The CNN module enables efficient hierarchical feature extraction from high-resolution aerial and ground-based images, while the R2U-Net structure with recurrent residual blocks ensures better gradient flow, deeper contextual learning, and improved segmentation accuracy even under dynamic environmental variations. This hybrid design not only enhances pixel-wise segmentation of routes but also refines boundary localization, enabling precise delineation of complex road networks including intersections, curves, and narrow lanes. Experimental validation on benchmark datasets demonstrates that the CNN-R2U-Net approach outperforms conventional U-Net and other state-of-the-art models .

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092498 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD FOR SYNTHESIS OF MACROCYCLIC COBALT(II) COMPLEX AND EVALUATION OF ITS ANTI-INFLAMMATORY POTENTIAL THROUGH DOCKING STUDY

(51) International classification	:A61P0029000000, C07F0015060000, G01N0033280000, G01N0021170000, C07K0001020000
(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

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(72)**Name of Inventor :**
1)PURTI MISHRA
2)DR. POOJA SETHI
3)DR. SUMEET GUPTA

(57) Abstract :
The present invention relates to the synthesis, characterization, and biological evaluation of a novel cobalt(II)-based macrocyclic complex, [Co(C20H18N6)(OAc)2], developed through a metal template synthesis method. The synthesis process involves the condensation of o-phenylenediamine, succinimide, and cobalt acetate tetrahydrate in methanol under controlled conditions, resulting in a plum-colored complex with a 52% yield and solubility in acetonitrile, DMF, and DMSO. The structure of the complex was confirmed through spectroscopic and analytical techniques, including IR, FAR-IR, UV-Visible spectroscopy, Mass spectrometry, Molar Conductance, Magnetic Moment Measurement, and Elemental Analysis, revealing an octahedral geometry. In vivo evaluation using a carrageenan-induced paw edema model in Wistar rats demonstrated significant anti-inflammatory activity, with the high-dose group showing maximum edema inhibition (p 0.0001). Additionally, molecular docking studies against the COX-1 enzyme revealed a strong binding affinity with a binding energy of -6.9 kcal/mol, involving hydrogen bonding and hydrophobic interactions with key amino acids. These results establish that the synthesized macrocyclic cobalt(II) complex is a promising lead compound for the development of novel, safe, and effective anti-inflammatory drugs.

No. of Pages : 25 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092504 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED INSULATOR COATING APPARATUS AND METHOD THEREOF

(51) International classification	:B05B0013020000, B05B0013040000, H02J0009060000, A61M0011000000, B82Y0020000000
(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

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(72)**Name of Inventor :**
1)N. V. RAMKUMAR

(57) Abstract :
The present invention relates to an Automated Insulator Coating Apparatus and Method thereof for applying room-temperature vulcanizing (RTV) or equivalent coatings to electrical insulators. The apparatus (100) comprises a spray delivery unit (110), a spray applicator assembly (120), a traveller unit (130), a slide mechanism unit (140), and an insulator support assembly (150) driven by a motor system. A control panel synchronizes the rotation of the insulator with traversal of the spray applicator to ensure uniform coating deposition. A dual-bed configuration, including a fixed bed and a portable bed, provides flexibility for in-situ curing as well as uninterrupted coating cycles. Additional features such as dust protection, uninterrupted power supply, and dual-mode drive operation enhance industrial scalability and reliability. The method includes securing the insulator, rotating it, traversing the applicator assembly, and spraying the coating material in a synchronized manner, thereby achieving repeatable, durable, and internationally compliant coating. Figure 1

No. of Pages : 45 No. of Claims : 16

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202513074785 A
(19) INDIA
(22) Date of filing of Application :06/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Hybrid Torricelli Vacuum System (HTVS) for Efficient Vacuum Generation, Storage, Transportation, and Applications thereof

(51) International classification	:F04B37/14, F04B37/10, F03G7/00
(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	:202111004175
Filed on	:01/01/1900
(62) Divisional to Application Number	:NA
Filing Date	:NA

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1)Surinder K. Sharma

(57) Abstract :
Hybrid Torricelli Vacuum System (HTVS) for Efficient Vacuum Generation, Storage, Transportation, and Applications thereof A Hybrid Torricelli Vacuum System (HTVS) for efficient vacuum generation, storage, transport, and application. The system combines gravity-based Torricelli vacuum creation with mechanical and cryogenic enhancements and integrates a SCADA system for intelligent, automated control. Vacuum is stored in modular, optimized vessels with secure coupling for transport. Applications span high-tech, industrial, and research sectors. The system delivers superior vacuum quality with reduced energy and operational costs.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511073701 A
(19) INDIA
(22) Date of filing of Application :02/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHODS OF PROBABILISTIC POOLING CNN FOR ENHANCED IMAGE CLASSIFICATION

(51) International classification	:G06N3/02, G06N3/045, G06V10/82, G06F18/25
(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 :**
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2)JAWAHARLAL NEHRU UNIVERSITY
3)INDRAPRASTHA INSTITUTE OF INFORMATION TECHNOLOGY DELHI
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(72)**Name of Inventor :**
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2)PUSHPENDRA SINGH
3)ANUBHA GUPTA
4)SHIV DUTT JOSHI

(57) Abstract :
The present invention provides a system and methods for enhanced image classification, introducing a Probabilistic Pooling Convolutional Neural Network (PPCNN). The PP-CNN integrates probabilistic outputs from three distinct pooling architectures: MaxPooling, MinPooling, and MaxMinPooling layers. By averaging the probabilities fromthese layers, the model achieves superior classification accuracy compared to standalone pooling methods.

No. of Pages : 28 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511077657 A
(19) INDIA
(22) Date of filing of Application :14/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A TRANSITION STRUCTURE FROM A MICROSTRIP LINE TO AN EMPTY SUBSTRATE INTEGRATED WAVEGUIDE (ESIW)

(51) International classification	:H01P0003080000, G01R0031280000, H01P0005107000, H01L0023498000, H01P0003120000
(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

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(72)**Name of Inventor :**
1)SINGH, Rishi Raj
2)MOHAN, Akhilesh

(57) Abstract :
The present disclosure provides a transition structure from a microstrip line to an empty substrate integrated waveguide (ESIW) that incorporates a metallized stepped dielectric profile protruding into the ESIW. This profile may be designed and manufactured with relative ease, and may be suitable for use with thinner substrates. The transition structure may function as a DC short, potentially making it applicable for various devices such as mixers, frequency multipliers, and detectors. The structure may be adaptable, allowing for redesign to operate over different frequency bands as needed. Unlike some prior designs, this structure may not require additional vias on both sides of the dielectric profile. These features may contribute to improved performance and flexibility in high-frequency applications, while potentially simplifying the manufacturing process.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511088180 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A BLOCKCHAIN-BASED CARBON CREDIT TRADING AND VERIFICATION SYSTEM AND A METHOD THEREOF

(51) International classification	:H04L0009000000, G06Q0040040000, H04L0009080000, H04L0009320000, G06Q0020060000
(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

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(72)**Name of Inventor :**
1)PAL, Kuldeep
2)JAIN, Lovish
3)AKLAVYA
4)MISHRA, Renu
5)NAND, Parma
6)SINGH, Murari Kumar

(57) Abstract :
The present disclosure provides a blockchain-based carbon credit trading and verification system (106) and a method (300) thereof. The system (106) receives information associated with one or more users and authenticates the one or more users. The information includes metadata associated with the one or more users. The system (106) receives one or more submissions from the one or more users and in response to verification of the one or more submissions, records the updated one or more submissions on the decentralized server (112-A). The system (106) in response to verification of the one or more submissions, generates one or more carbon credits as blockchain tokens, where the blockchain tokens are tradable through the decentralized server (112-A). The system (106) discards the generated one or more carbon credits upon request and record the discarded transaction on the decentralized server (112-A).

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202512037791 A
(19) INDIA
(22) Date of filing of Application :18/04/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MULTI-LAYERED REPLACEABLE FILTER ASSEMBLY AND A MICROFILTER ASSEMBLY IMPLIED WITH BATTERY POWERED SUCTION FAN

(51) International classification	:B01D46/10, B01D46/00, F24F8/10, B01D46/42
(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	:202011041818
Filed on	:25/09/2020

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2)Pushpa Rani Shukla
(72)**Name of Inventor :**
1)Ashok Shukla
2)Pushpa Rani Shukla

(57) Abstract :
A multi-layered replaceable filter assembly (100) and a microfilter assembly (200) for providing safety from external exposure. The multi-layered micro filter assembly includes plurality of filter membranes. A first filter membrane (104) prevents particles greater than 10 micron from entering the multi-layered replaceable filter assembly (100). A second filter membrane (106) has embedded 10 activated carbon that destroys micro-organisms including viruses and bacteria. As we go further downstream, the fiber density per cm keeps increasing with the filter membranes. A fifth filter membrane (112) made up of a combination of crabyon fiber and electro-spun nano fibers provides comfort and anti-allergic effect. A sixth filter membrane (114) lowers the velocity of air that occurs from breathing and a method thereof. FIG. 1 will the reference figure.

No. of Pages : 18 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511085710 A
(19) INDIA
(22) Date of filing of Application :09/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DIGITAL TWIN EMPOWERED DRONES TO ASSIST THE FARMERS TO OPTIMIZE THE AGRICULTURAL FIELD YARD

(51) International classification	:G06Q0050020000, G06Q0010040000, B64C0039020000, G06V0020100000, H04W0004700000
(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)DIVYASAMPARK IHUB ROORKEE FOR DEVICES MATERIALS AND TECHNOLOGY FOUNDATION
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(72)**Name of Inventor :**
1)DR. DEEPAK KUMAR
2)DR. RAJESWARI D
3)DR. RAMAMOORTHY S
4)DR. PUSHPALATHA M

(57) Abstract :
The present invention relates to a system and method for optimizing crop monitoring and yield prediction through a digital twin-empowered system, coupled with real-time data acquisition and predictive analytics. The system comprises IoT sensors (1) to capture environmental parameters such as soil moisture, temperature, and humidity, while drones (2a, 2b…) equipped with high-resolution cameras (3a, 3b….) provide aerial images of the agricultural field. These images are processed by the YOLOv11 model to classify and analyze crop health and growth patterns. Real-time data is synchronized with the digital twin model and processed in the cloud, enabling farmers to monitor field conditions virtually and make data-driven decisions. To be Published with Figure 1

No. of Pages : 27 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511089776 A
(19) INDIA
(22) Date of filing of Application :20/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-INTEGRATED REMOTE PATIENT MONITORING SYSTEM FOR DIABETES MANAGEMENT

(51) International classification	:G16H0040670000, A61B0005000000, G16H0010600000, A61B0005020500, A61P0003100000	(71)**Name of Applicant :** **1)Lovely Professional University** Address of Applicant :Lovely Professional University, Delhi-Jalandhar GT road Phagwara- 144411. Phagwara Punjab India (72)**Name of Inventor :** **1)Mrinmoy Roy** **2)Maninder Singh** **3)Mahender Singh Kaswan**
(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	

(57) Abstract :
The invention discloses a Remote Patient Monitoring System (100) for diabetes integrating a wearable sensor module (102), a data transmission and storage module (104), an AI and analytics engine module (106), a user interface module (108), and an alerting system (110). The wearable sensor module (102) collects biometric and lifestyle data, while the data transmission and storage module (104) ensures secure encrypted transfer and storage. The AI and analytics engine module (106) provides diagnostic insights and predictive recommendations. The user interface module (108) supports multilingual interaction for patients and providers. The alerting system (110) delivers real-time notifications. The system (100) incorporates interoperability (112), ethical considerations (114), patient-centric design (116), and quality by design (118), thereby offering a secure, scalable, and clinically effective solution for diabetes monitoring and management. FIG.1 Dated This ……...day of September, 2025 Dr. Monica Gulati Registrar Lovely Professional University

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202517074428 A
(19) INDIA
(22) Date of filing of Application :05/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ELECTRODE FOR LITHIUM SULFUR BATTERY AND HIGH ENERGY DENSITY LITHIUM SULFUR BATTERY COMPRISING SAME

(51) International classification	:H01M 4/36, H01M 4/38, H01M 4/62, H01M 4/13, H01M 10/052
(31) Priority Document No	:10-2023-0167317
(32) Priority Date	:27/11/2023
(33) Name of priority country	:Republic of Korea
(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 :**
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(72)**Name of Inventor :**
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2)KIM, Bong-Soo

(57) Abstract :
The present invention relates to an electrode for a lithium sulfur battery, the electrode being for improving energy density, and comprising a current collector and an electrode active material layer disposed on at least one surface of the current collector, wherein the electrode active material layer contains a sulfur-carbon composite and a binder, the sulfur-carbon composite includes a porous carbon material and a sulfur-based material, and the current collector includes aluminum (Al) and has a thickness of about 9 μm or less.

No. of Pages : 41 No. of Claims : 16

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511085872 A
(19) INDIA
(22) Date of filing of Application :10/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR GENERATING SELF-SIMILAR COMPLEX FRACTAL GEOMETRIES FOR ANTENNA DESIGN

(51) International classification	:H01Q0001240000, H01Q0009040000, A61C0013000000, G06F0030000000, H01Q0005371000
(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

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(72)**Name of Inventor :**
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2)Prof. Rajeevan Chandel
3)Dr. Rohit Dhiman
4)Dr. Ashwani Rana

(57) Abstract :
The present invention discloses a system and method for generating self-similar complex fractal patterns or geometries for multiband antenna applications. The system comprises a modular architecture including a design parameters unit (101), a coordinate generation unit (102), a manufacturing integration unit (103), an antenna feed unit (104), a performance control unit (105), a quality control unit (106), and an AI integration unit (107). Unlike conventional IFS methods requiring recursive transformations, the disclosed invention directly computes geometric coordinates using parametric formulations $C_n = f(h, r, \Theta_0)$, where h represents Gasket height, r is a scaling factor (0.1-0.9), and Θ_0 is flare angle (30°-90°). The method supports second, third, and fourth iterations for dual-band, triple-band, and quad-band antenna designs, respectively, with precise coordinate determination for 6, 14, and 42 points. The system enables real-time performance analysis, seamless CAD/CAM integration, AI-driven optimization, and automated fabrication, significantly reducing antenna design time.

No. of Pages : 29 No. of Claims : 12

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511093030 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PROCESS FOR PRODUCING LIGHTWEIGHT CONCRETE USING RECYCLED PLASTIC WASTE

(51) International classification	:B29B0017000000, C04B0028040000, B29B0017040000, C04B0018200000, C10G0001000000
(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

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(72)**Name of Inventor :**
1)Dr. BHEEM PRATAP

(57) Abstract :
The present invention relates to a process for producing lightweight concrete using recycled plastic waste as partial aggregate replacement. The process includes cleaning unit (101), shredding machine (102), aggregate mixing unit (103), binder mixing tank (104), concrete mold (106), and curing chamber (107). Recycled plastic particles (105) reduce density, improve sustainability, and enhance thermal performance of concrete. The invention provides a cost-effective, eco-friendly solution for utilizing plastic waste in construction, reducing natural resource depletion, and offering lightweight concrete suitable for non-structural and semi-structural applications.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202517067983 A
(19) INDIA
(22) Date of filing of Application :16/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : THERMAL ENERGY STORAGE SYSTEMS FOR USE IN MATERIAL PROCESSING

(51) International classification	:H02J 15/00, F28D 20/00
(31) Priority Document No	:63/434919
(32) Priority Date	:22/12/2022
(33) Name of priority country	:U.S.A.
(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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(72)**Name of Inventor :**
1)O'DONNELL, John Setel
2)FERHANI, Yusef Desjardins

(57) Abstract :
An energy storage system (TES) converts variable renewable electricity (VRE) to continuous heat at over 900°C. Intermittent electrical energy heats a solid medium. Heat from the solid medium is delivered continuously on demand. Heat delivery via flowing gas establishes a thermocline which maintains high outlet temperature throughout discharge. The delivered heat which may be used for processes including power generation and cogeneration. In one application, thermal energy storage systems are used to improve efficiency and reduce carbon emissions associated with processing materials or other industrial applications.

No. of Pages : 74 No. of Claims : 25

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511092845 A

(19) INDIA

(22) Date of filing of Application :27/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART WI-FI-ENABLED TRASH BIN: REVOLUTIONIZING WASTE MANAGEMENT WITH AI-POWERED SORTING, IOT MONITORING

(51) International classification	:B65F0001140000, B65F0001000000, G06V0010820000, B65F0001160000, H04W0084120000	(71)**Name of Applicant :** **1)Chandigarh University** Address of Applicant :Chandigarh University National Highway 05, Chandigarh-Ludhiana Highway, Mohali, Punjab -140413, India Mohali Punjab India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Abhishek Yadav**
(33) Name of priority country	:NA	**2)Prof. (Dr.) Ashish Sharma**
(86) International Application No	:	**3)Rinku Sharma**
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	

(57) Abstract :

The present invention proposes a Wi-Fi-enabled smart trash bin designed to revolutionize waste management in India, particularly in eco-sensitive and tourist-heavy regions. The system integrates AI-powered waste classification (YOLOv8) and IoT-based real-time monitoring to enable efficient sorting and timely collection. Users are incentivized to dispose of waste responsibly by receiving free Wi-Fi access via a one-time password (OTP). The smart bin features infrared, capacitive, and weight sensors for effective segregation of recyclables and non-recyclables. It is solar-powered for sustainable, off-grid operation and includes an animal-proof design to prevent wildlife interference. A multilingual LED display enhances user interaction, especially for tourists. Fill-level alerts are automatically sent to authorities, supporting cleaner environments and aligning with smart city and Swachh Bharat initiatives.

No. of Pages : 13 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202511092846 A
(19) INDIA
(22) Date of filing of Application :27/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SELF-CLEANING AIR POLLUTION MONITORING AND PURIFICATION SYSTEM

(51) International classification	:G01N0033000000, C02F0103000000, B01D0046000000, F24F0110500000, H04L0009400000
(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

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2)Uday Thakur
3)Shivani Mahendru
4)Sattwik Samui
5)Rohan Kumar
6)Prasant Kumar Singh

(57) Abstract :
The present invention relates to an AI-Powered Self-Cleaning Air Pollution Monitoring and Purification System designed to enhance air quality in residential, commercial, and industrial environments. The system comprises a network of advanced air quality sensors capable of detecting pollutants in real time. Sensor data is continuously analyzed by an integrated AI control unit, which determines pollutant thresholds and dynamically activates an air purification system when necessary. The purification system utilizes a combination of HEPA filters, activated carbon filters and UV-based photocatalytic purification technologies to efficiently remove harmful particulates and gases. An automated self-cleaning mechanism periodically cleans filters and recalibrates sensors to maintain consistent performance and reduce manual maintenance requirements. The system further includes cloud-based software for remote monitoring and control, accessible via mobile and web applications. Users can monitor air quality data, schedule purification cycles, receive alerts, and access detailed performance analytics.

No. of Pages : 12 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202513066430 A
(19) INDIA
(22) Date of filing of Application :11/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR DETECTING DIABETES FROM BREATH SAMPLE OF AN INDIVIDUAL

(51) International classification	:A61B5/00, A61B5/08, A61B5/09, G01N33/497, G06F3/01, G06N20/00
(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	:202411028030
Filed on	:01/01/1900
(62) Divisional to Application Number	:NA
Filing Date	:NA

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3)Dr. Vikrant Kanwar
4)Dr. Bhupinder Kumar
5)Mr. Ritik Sharma
6)Mr. Yashwant Kumar
7)Ms. Shivani Sharma

(57) Abstract :
Embodiments disclose a non-invasive glucometer system (100) for real-time estimation of blood glucose levels from exhaled breath. The system comprises a breath collection unit (101) connected to a volatile organic compound (VOC) analyzer (103) housing a radial array of six optimized MOS gas sensors (105) selected for diabetes-related volatile biomarkers. An axial fan (106) ensures consistent airflow across the sensor array. Analog signals from the sensors are digitized using a 16-bit ADC (108) and processed by a Wi-Fi-enabled microcontroller (109). Sensor data is transmitted via MQTT to a cloud server, where a multi-model ensemble machine learning engine (202) predicts blood glucose concentration and stage-wise diabetic status. Results are rendered in real-time via a web dashboard interface (203) linked to a time-series database (205). The system supports quantitative glucose estimation and multi-stage classification, providing a significant advancement over binary-classification breath analyzers. Figure 1 illustrates the system hardware layout and airflow pathway. FIG. 1

No. of Pages : 30 No. of Claims : 21

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202421054471 A
(19) INDIA
(22) Date of filing of Application :17/07/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR FACILITATING RECIPROCAL ASSISTANCE AND TRANSACTIONAL INTERACTIONS AMONG USERS

(51) International classification	:G06Q0030060000, G06Q0030020000, G06Q0010020000, H04L0067000000, G06Q0050140000	(71)**Name of Applicant :** **1)INTELLISERVE ANALYTICS & SOLUTIONS PRIVATE LIMITED** Address of Applicant :FLAT NO.M-04/302, HILLS & DALES-III, UNDRI, S.NO.13,14,15, 19, Pune, Maharashtra, India - 411028 Maharashtra India (72)**Name of Inventor :** **1)Mohak Narkhede**
(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	

(57) Abstract :
ABSTRACT SYSTEM AND METHOD FOR FACILITATING RECIPROCAL ASSISTANCE AND TRANSACTIONAL INTERACTIONS AMONG USERS
Disclosed is a system (100) for facilitating reciprocal assistance and transactional interactions among users of a travel, comprising server (106) that is configure to collect information representing including travel dates, destinations, transportation modes, and uploaded travel tickets from a first user by way of a first user device (102), compare collected information with a prestored database and identifies one or more first outputs such as personalized recommendations, and recommends a second user with the one or more first outputs by way of the second user device (104). The present disclosure also relates to a method (200) for facilitating reciprocal assistance among users of a travel and recommendation platform. Figure 1 will be the reference.

No. of Pages : 26 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202421070291 A

(19) INDIA

(22) Date of filing of Application :17/09/2024

(43) Publication Date : 07/11/2025

(54) Title of the invention : INTEGRATED MICROALGAE CULTIVATION DEVICE FOR ENHANCED CARBON DIOXIDE ABSORPTION AND OXYGEN PRODUCTION

(51) International classification	:C12M0001000000, B01D0053620000, B01D0053140000, F21Y0115100000, C25B0001040000
(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

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(72)**Name of Inventor :**

1)Hridank Garodia

(57) Abstract :

The present invention discloses a microalgae cultivation device designed to maximize carbon dioxide (CO2) absorption and oxygen production through an integrated system of tanks. The device features an aeration system, carbon dioxide monitoring, LED illumination, solar power integration, and a modular cartridge design for ease of maintenance. These features collectively enhance the efficiency of photosynthesis, provide detailed performance data, and offer flexibility for both indoor and outdoor applications. The device addresses limitations of existing systems by optimizing key parameters and improving operational longevity.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202421081597 A
(19) INDIA
(22) Date of filing of Application :25/10/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : CONTROLLED RELEASE PARENTERAL COMPOSITION OF AN ANTIEMETIC DRUG

(51) International classification	:A61K9/06, A61K47/36, A61K47/38, A61K47/34, A61K47/10, A61K31/79, A61K31/4184, A61K31/4375	(71)**Name of Applicant :** **1)All India Shri Shivaji Memorial Society's College of Pharmacy** Address of Applicant :Kennedy road, Near RTO, Pune-411001, Maharashtra, India. Pune Maharashtra India (72)**Name of Inventor :** **1)Dr. Ashwini Madgulkar** **2)Mirajkar Reshma** **3)Padalkar Rahul R**
(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	

(57) Abstract :
ABSTRACT CONTROLLED RELEASE PARENTERAL COMPOSITION OF AN ANTIEMETIC DRUG 5 10 The present invention relates to a controlled release parenteral in-situ gel composition comprising dolasetron mesylate, polymer and other pharmaceutically acceptable excipients. The in-situ gel composition injected into body, it solidifies upon contact with body fluid to form solid implant. The in-situ gel composition release the drug slowly for prolonged period of time. The in-situ gel composition improves the patient compliance and decrease the dosing frequency. The in-situ gel composition used to treat Chemotherapy induced nausea vomiting.

No. of Pages : 25 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521018337 A
(19) INDIA
(22) Date of filing of Application :03/03/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND METHOD FOR HIGH-PRECISION DOUBLE WIRE DRAWING

(51) International classification	:B21C1/02, B21C9/00, B21C47/00, B21C1/04, B21C1/34	(71)**Name of Applicant :** **1)Suresh Narain Bhatnagar** Address of Applicant :6, Green Park, Near Nizampura, Vadodara, Gujarat-390002 vadofdra Gujarat India **2)Shivansh Sumit Bhatnagar**
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Suresh Narain Bhatnagar**
(33) Name of priority country	:NA	**2)Shivansh Sumit Bhatnagar**
(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	

(57) Abstract :
A SYSTEM AND A METHOD OF DOUBLE WIRE DRAWING MACHINE Disclosed is a double wire drawing machine (101) designed for high-precision wire drawing with enhanced stability and defect minimization. The machine (101) includes a main body (101) supporting operational components, and bearing housings (102) with protective covers (103) enclosing shaft bearings (106) for low-friction rotation of main shafts (107). Drawing gears (115) are mechanically linked to the main shafts (107) and rotating die gears (112), ensuring synchronized motion. Rotating die holders (113) secure the die gears, while drawing rings, including outer rings (109) and inner rings (110), incrementally reduce wire diameter. A lubricating pipe system (128) provides precise lubrication, complemented by a gear lubricating system (120) with sprockets (129). Additionally, a die cooling trough (134) which maintains optimal temperatures. A coiling mechanism, including a payoff device (130) and guide rollers (132, 133), ensures accurate wire coiling, enhancing productivity.

No. of Pages : 14 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521001085 A
(19) INDIA
(22) Date of filing of Application :06/01/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A method of using gene expression to differentiate tumor and non-tumor tissues in oral squamous cell carcinoma (OSCC).

(51) International classification	:C12Q0001688600, A61K0039395000, C12Q0001680600, A61K0045060000, A61P0001020000	(71)**Name of Applicant :** **1)Gujarat Biotechnology R** Address of Applicant :Gujarat Biotechnology Research Centre (GBRC) 6th Floor MS Building, Sector 11, Gandhinagar, Gujarat, India Pin: 382011 Gandhinagar Gujarat India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Gupta Kashish**
(33) Name of priority country	:NA	**2)Raval Ishan**
(86) International Application No	:	**3)Puvar Apurvasinh**
Filing Date	:01/01/1900	**4)Shah Siddharth**
(87) International Publication No	: NA	**5)Shah Anand**
(61) Patent of Addition to Application Number	:NA	**6)Pandya Shashank**
Filing Date	:NA	**7)Joshi Madhvi**
(62) Divisional to Application Number	:NA	**8)Joshi Chaitanya**
Filing Date	:NA	

(57) Abstract :
Oral cancer is one of the most prevalent cancers, often characterized by a poor prognosis and a high recurrence rate. Through RNA isolation, next-generation sequencing, and transcriptomic analysis, significant differentially expressed genes between tumor and adjacent normal oral tissue samples, which have the potential to serve as effective biomarkers for distinguishing between tumor and non-tumor tissue were identified. Notably, the genes ADAM12, PDPN, LAMC2, COL1A1, COL1A2, COL3A1, COL4A1, COL4A2, MMP10, MMP13, and POSTN showed promise. Further, qRT-PCR method was developed for distinguishing tumor and non-tumor oral tissue through analysing differential expression of the selected potential biomarkers between oral tumor and adjacent normal RNA samples. In summary, this qRT-PCR method can distinguish between tumor and non-tumor oral tissue through the identified significant genes. This could serve as a valuable method for demarcation of tumor and non-tumor oral tissue, improving margin clearance and addressing concerns related to the high recurrence rate of oral squamous cell carcinoma (OSCC), ultimately benefiting patient prognosis.

No. of Pages : 19 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521024268 A
(19) INDIA
(22) Date of filing of Application :18/03/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ADAPTER, SYSTEM, AND METHOD FOR CONTINUOUS CEREBROSPINAL FLUID ANALYTE MONITORING

(51) International classification	:A61B0005145000, A61B0005000000, A61M0001000000, A61M0027000000, H04Q0009000000	(71)**Name of Applicant :** **1)IITI DRISHTI CPS Foundation** Address of Applicant :IIT Indore, Khandwa Road Simrol, Indore, Madhya Pradesh, 453552, India Indore Madhya Pradesh India (72)**Name of Inventor :** **1)Deepak Agrawal**
(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	

(57) Abstract :
Disclosed is a system (100) for monitoring cerebrospinal fluid (CSF). The system (100) includes a drainage apparatus (102) for collecting CSF from a user and an adapter (108) coupled to the drainage apparatus (102). The adapter (108) includes a housing (200), one or more sensors (204) within the housing (200) for sensing analyte levels in CSF, and a connector (202) for directing CSF flow. Processing circuitry (206) determines readings from sensed signals, determine a threshold value, performs linear trend analysis on recent readings, predicts a future time when the analyte level will reach the threshold, and generates an alert when the predicted time is within a predetermined timeframe. The system enables continuous monitoring of CSF analyte levels and early detection of potential issues. FIG. 1 is selected

No. of Pages : 29 No. of Claims : 24

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521080901 A
(19) INDIA
(22) Date of filing of Application :26/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PROCESS AND COMPOSITION FOR HIGH PERFORMANCE POLYURETHANE BASED BIO-ADHESIVE

(51) International classification	:C09J0175040000, C08G0018480000, C08G0018760000, C08G0018100000, C08K0003200000
(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

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(72)**Name of Inventor :**
1)Dr. Bharatkumar Z. Dholakiya
2)Mansi Mistry
3)Dr. Vimalkumar Prajapati
4)Viren Mevada
5)Dr. Harit Raval

(57) Abstract :
ABSTRACT A PROCESS AND COMPOSITION FOR HIGH PERFORMANCE POLYURETHANE BASED BIO-ADHESIVE The present invention relates to a process and composition within the field of bio-based adhesives, specifically a method of preparing a polyurethane polyol from hemp seed oil via controlled epoxidation and ring-opening reactions followed by removal of acidic byproducts. The process, executed in a reaction vessel (steps (a)-(e)), employs controlled temperature conditions—particularly during the dropwise addition of hydrogen peroxide—to ensure safe reaction kinetics. The resultant bio-based polyol is then reacted with methylene diphenyl diisocyanate (MDI) in a near-stoichiometric ratio, forming a crosslinked polyurethane network with incorporated acetone as a viscosity regulator. This novel adhesive composition enables effective substrate bonding under ambient curing conditions while offering an environmentally sustainable alternative to conventional polyurethane adhesives.

No. of Pages : 26 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202421100277 A
(19) INDIA
(22) Date of filing of Application :18/12/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : PHARMACEUTICAL TOPICAL GEL COMPOSITION COMPRISING CURCUMIN AND QUERCETIN LOADED MIXED MICELLES

(51) International classification	:A61K9/107, A61K31/12, A61K31/353, A61K47/38, A61K47/34, A61K47/10, A61K9/06
(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 :**
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(72)**Name of Inventor :**
1)Dr. Ashwini Madgulkar
2)Dr. Monica RP Rao
3)Ms. Pranjali Gaikwad

(57) Abstract :
ABSTRACT PHARMACEUTICAL TOPICAL GEL COMPOSITION COMPRISING CURCUMIN AND QUERCETIN LOADED MIXED MICELLES The present invention relates to the composition of a pharmaceutical topical gel 5 comprises curcumin and quercetin loaded mixed micelles. Also, the present invention relates to formulate pharmaceutical topical gel with dual action of sun protection and antioxidant potential using polymeric mixed micelles (PMMs) are nanocarriers. Furthermore, the polymeric mixed micelles (PMMs) enhances the antioxidant and skin protective effect of curcumin and quercetin

No. of Pages : 27 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521063189 A
(19) INDIA
(22) Date of filing of Application :02/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Controlling analysis of Buck-Boost Converter Single and Three Phase Supply with Solar and Fuel cell Connected System

(51) International classification	:H02M1/10, H02M3/155, H02M3/158, H02J3/38, G05F1/67, G05B13/02
(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 :**
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5)Dr. Anurag S D Rai
(72)**Name of Inventor :**
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2)Dr. C S Rajeshwari
3)Dr. Anjali Potnis
4)Dr. Anurag S D Rai

(57) Abstract :
An intelligent control scheme incorporating techniques such as Maximum Power Point Tracking (MPPT) for solar energy, and adaptive current control for fuel cells, ensures optimal energy extraction and power sharing. The system further includes a real-time monitoring and feedback mechanism to regulate output voltage, support dynamic load conditions, and ensure system stability across both single-phase and three-phase output configurations. The control strategy is capable of managing source transitions, maintaining voltage balance in three-phase operation, and handling standalone or grid-connected modes effectively. Simulation results validate the converter's performance in maintaining voltage regulation, improving efficiency, and enabling reliable integration of solar and fuel cell sources. The proposed system demonstrates significant potential for use in smart grids, hybrid microgrids, remote area power supply, and renewable energy-based backup systems, offering a flexible, robust, and intelligent solution for modern power management challenges.

No. of Pages : 15 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096401 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A Self Microemulsifying Mouth Dissolving Film

(51) International classification	:A61K0009000000, A61K0009700000, A61K0009480000, A61K0009107000, A61K0047100000
(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

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(72)**Name of Inventor :**
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2)Dr. Karimunnisa Sameer Shaikh
3)Dr. Praveen Digambar Chaudhari
4)Yashoda Navnath Tidake

(57) Abstract :
The present invention relates to a self microemulsifying mouth dissolving film of cyclooxygenase-2 (COX- 2) inhibitor. More specifically, the present invention relates to a stable self microemulsifying mouth dissolving film comprising etoricoxib and pharmaceutically acceptable excipients to treat the symptoms associated with gingival tissues, like swelling, redness, tenderness, a shiny surface, and bleeding upon gentle probing. The present invention also relates to a method of preparing a self microemulsifying mouth dissolving film of etoricoxib.

No. of Pages : 33 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096734 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN ACCIDENT-AVOIDANCE SYSTEM FOR HYBRID BIKES USING FACIAL EXPRESSION DETECTION

(51) International classification	:G06V0040160000, A61B0005160000, B60Q0009000000, B60W0050000000, G10L0025630000
(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

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3)GOVARDHAN, Shaswat Chandrashekhar
4)TAMBE, Saksham Pankaj
5)GAWANDE, Snehal Panjabrao
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3)GOVARDHAN, Shaswat Chandrashekhar
4)TAMBE, Saksham Pankaj
5)GAWANDE, Snehal Panjabrao

(57) Abstract :
The present invention is related to an accident-avoidance system for hybrid bikes using facial expression detection, this system designed to enhance rider safety, comfort, and engagement by integrating facial emotion recognition with motor speed control and environmental sensing. The system employs a Raspberry Pi 4 as the central processor, interfacing with a high-resolution camera, infrared sensors, motor drivers, and Light Dependent Resistors (LDRs). Real-time facial expression analysis detects emotions such as fatigue, stress, happiness, and anger, allowing automatic adjustment of motor speed to match the rider's emotional state. Infrared sensors enable obstacle detection and proactive hazard avoidance, while LDRs control headlight intensity based on ambient lighting conditions and the rider's mental state. The system also provides a user-friendly interface delivering real-time feedback on facial emotions, detected obstacles, and system status. By combining intelligent motor control, adaptive lighting, and safety mechanisms, the invention offers a personalized, intuitive, and secure hybrid biking experience suitable for diverse riding conditions.

No. of Pages : 14 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096735 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SEMI-DESTRUCTIVE CONCRETE STRENGTH ASSESSING DEVICE

(51) International classification	:E21B0044000000, C04B0040000000, G01R0015180000, E21B0007000000, G01L0003260000
(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

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(72)**Name of Inventor :**
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2)SARVE, Shivam
3)KALE, Yogesh
4)GUDADHE, Sameer
5)WAIKAR, Vinod
6)RAUT, Jayant
7)BHAGAT, Rajesh
8)YADAV, Amruta

(57) Abstract :
The present invention is related to a semi-destructive concrete strength assessing device, this semi-destructive device for estimating the compressive strength of concrete during drilling operations using real-time monitoring of electrical and mechanical parameters. The system comprises a drilling machine (1), an IR proximity sensor (2) for RPM measurement, a main system enclosure (3) housing a voltage sensor (5), current sensor (7), microcontroller (8), driver circuit (9), and Wi-Fi module (10). The drilling machine is connected via a secure socket (6) and power cable (13), enabling safe monitoring of load conditions. During operation, voltage (5) and current (7) are measured to calculate power, while RPM (2) is recorded for torque estimation using the microcontroller (8). Data is transmitted wirelessly via module (10) to cloud storage (11) through a communication path (12), where results are logged and visualized. The device enables depth-wise assessment of concrete compressive strength, supporting quality control, retrofitting, and structural diagnostics with minimal material disturbance.

No. of Pages : 21 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096736 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPOSITION FOR PREPARING NON-FIRED BRICKS

(51) International classification	:C04B0111000000, C04B0028260000, C04B0028040000, C04B0028000000, C04B0020000000
(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 :**
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2)PANDE, Prashant, B.
3)BHAGAT, Rajesh M.
4)YADAV, Amruta A.
5)HIREKHAN, Sneha G.
6)CHIB, Shiney V.
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1)RAUT, Jayant M.
2)PANDE, Prashant, B.
3)BHAGAT, Rajesh M.
4)YADAV, Amruta A.
5)HIREKHAN, Sneha G.
6)CHIB, Shiney V.

(57) Abstract :
The present invention relates to a composition for preparing non-fired bricks using an optimized mixture of soil, cement, fly ash, cow dung, wheat husk, and sodium silicate. The composition for preparing non-fired bricks 63% soil, 10% cement, 10% cow dung, 4% wheat husk, 3% sodium silicate, and 10% fly ash. The method involves thoroughly mixing these components to form a homogeneous blend, followed by compacting the mixture into molds under manual or mechanical pressure. The molded bricks are then cured at ambient temperature without kiln firing, wherein sodium silicate acts as a curing agent to enhance early strength and water resistance. Cement provides binding strength, fly ash improves durability and reduces density, and organic additives such as cow dung and wheat husk enhance thermal insulation and workability. The resulting bricks are lightweight, durable, water-resistant, and thermally insulating, offering an eco-friendly, cost-effective, and environmentally responsible alternative to conventional fired bricks for sustainable construction practices.

No. of Pages : 10 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096737 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SENSOR-BASED CRICKET BAT FOR DECISION REVIEW SYSTEM

(51) International classification	:A63B0102200000, G01H0001000000, A61B0005000000, A63B0059550000, A63B0071060000	(71)**Name of Applicant :** **1)GAIKWAD, Amol Dilipkumar** Address of Applicant :Department of Information Technology, Yeshwantrao Chavan College of Engineering, Hingna Road, Wanadongri, Nagpur, Maharashtra, India - 441110 Maharashtra India
(31) Priority Document No	:NA	**2)DHARMIK, R. C.**
(32) Priority Date	:NA	**3)SAWARKAR, Nikhil**
(33) Name of priority country	:NA	**4)WALKE, Kriti**
(86) International Application No	:	(72)**Name of Inventor :**
Filing Date	:01/01/1900	**1)GAIKWAD, Amol Dilipkumar**
(87) International Publication No	: NA	**2)DHARMIK, R. C.**
(61) Patent of Addition to Application Number	:NA	**3)SAWARKAR, Nikhil**
Filing Date	:NA	**4)WALKE, Kriti**
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention is related to a sensor-based cricket bat for decision review system (DRS), provides an advanced method for edge detection in cricket. Traditional DRS systems rely on sound or heat signatures, which are affected by ambient noise and environmental factors, often resulting in disputed decisions. The invention embeds a vibration sensor (103) within a cricket bat (101) to directly detect physical vibrations caused by ball-to-bat contact. A microcontroller (102) processes the sensor data in real-time to identify edge events with high accuracy, achieving ≥95% reliability across diverse playing conditions. The system includes a compact battery unit for portability and a wireless communication module for transmitting data to external displays or decision review panels. A user interface enables calibration and monitoring of vibration thresholds. By measuring vibrations internally rather than relying on external signals, this invention provides precise, reliable, and cost-effective edge detection, suitable for professional and amateur cricket, enhancing fairness and decision-making integrity.

No. of Pages : 19 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202421083943 A
(19) INDIA
(22) Date of filing of Application :04/11/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : ONTOLOGY-BASED CONTEXT EXTRACTION AND SCENARIO GENERATION SYSTEM AND METHOD FOR MANUFACTURING SIMULATION

(51) International classification	:G06F0111100000, G06F0016360000, G06F0030270000, G06F0040300000, G06T0019000000
(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

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2)Makarand S. Kulkarni
3)Bhupesh Kumar Lad

(57) Abstract :
Disclosed is a system (100) for ontology-based context extraction and scenario generation in manufacturing simulation. The system includes one or more manufacturing assets (102) and a data processing apparatus (106) with processing circuitry (114). The processing circuitry (114) is configured to receive real-time operational data from the manufacturing assets (102), generate asset ontologies, integrate them into a combined upper level ontology, extract relevant context based on a simulation objective, generate simulation scenarios, execute a simulation model using the generated scenarios, and display simulation results. The system transforms operational data into probabilistic distributions, updates ontologies, executes SPARQL queries for context extraction, identifies influential variables, substitutes non-critical variables with averaged values, and continuously updates the combined ontology with real-time data from digital twins or Manufacturing Execution Systems (MES). FIG. 1 is selected

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521074149 A
(19) INDIA
(22) Date of filing of Application :04/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A CYCLONE SEPARATOR ASSEMBLY AND A METHOD THEREOF

(51) International classification	:A47L0009160000, B04C0005280000, B04C0005185000, B04C0005260000, B04C0005040000	(71)**Name of Applicant :** **1)Ravindra Sudhakar Belsare** Address of Applicant :518 Sadashiv Peth, Ramprasad, Pune-411030, Maharashtra, India. Pune Maharashtra India (72)**Name of Inventor :** **1)Ravindra Sudhakar Belsare**
(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	

(57) Abstract :
ABSTRACT A CYCLONE SEPARATOR ASSEMBLY AND A METHOD THEREOF Disclosed is a cyclone separator assembly (100) and a method (200) thereof. The cyclone separator (100) comprises one or more immovable cylindrical units (14), one or more barrel units (17), one or more movable conical units (11) connected to a powder collection tray (10), a lowering mechanism (21) and a tilting mechanism (15) to move and tilt the one or more conical units (11), a locking mechanism to hold the one or more cylindrical units (14) and the conical units (11) firmly, a cleaning mechanism to clean the conical units (11) internally and a frame (13) to provide a stable structural foundation to the constituent components of cyclone separator assembly (100). The cyclone separator (100) can be implemented in mono, dual, or multi-cyclone configuration. The cyclone separator (100) simplifies cleaning and maintenance tasks, reducing downtime, the requirement of an external vacuum cleaning arrangement, and manual labor. [To be published with Figure 1.]

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096741 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COLUMN FILLING MACHINE

(51) International classification	:E04G0013020000, E04C0005060000, G01N0033380000, B01D0015220000, G01N0001280000
(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
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(62) Divisional to Application Number	:NA
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5)MAHAKALKAR, Sachin Girish

(57) Abstract :
The present invention relates to a column filling machine designed to automate and simplify the process of pouring concrete into column formworks at construction sites. The machine comprises a cone-shaped concrete container (101) configured to receive concrete directly from a feeder truck, a flexible discharge pipe (102) for directing the flow into the column mold, and an adjustable support mechanism (103) for regulating height and discharge angle as per site conditions. The invention ensures a controlled, continuous, and uniform flow of concrete, thereby eliminating air pockets and reducing the need for external compaction tools such as vibrators. Its customizable design allows adjustment of height, pipe diameter, and number of outlets, making it suitable for varied project requirements. The machine is portable, economical, and easy to operate, significantly reducing manual labour, construction time, and material wastage while improving the structural integrity, surface finish, and overall quality of concrete columns.

No. of Pages : 14 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096738 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A GRAPHENE-EMBEDDED CERAMIC FILTRATION SYSTEM FOR REMOVAL OF ARSENIC AND FLUORIDE FROM GROUNDWATER

(51) International classification	:C02F0101100000, C02F0001280000, C02F0103060000, C02F0001720000, C02F0101200000
(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

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(57) Abstract :
The present invention is related to a graphene-embedded ceramic filtration system for removal of arsenic and fluoride from groundwater, particularly in rural and decentralized regions. The system is based on a graphene-doped zonal ceramic matrix (GDZCM) fabricated by differential sintering (103), wherein reduced graphene oxide functionalized with iron and magnesium ions is embedded into hierarchically porous ceramic zones. This configuration enables selective and high-efficiency adsorption of arsenic (As^{3+}, As^{5+}) and fluoride (F^-) while maintaining long operational life. A pH-responsive ion-tunable graphene interface layer provides adaptive adsorption across a wide pH range (5.5–8.5) without external adjustment. The invention further incorporates a Solar-Regenerative Ceramic Cartridge System for chemical-free regeneration using solar heating, ensuring reusability and sustainability. an integrated graphene electrochemical sentinel enables real-time monitoring of contaminant saturation and user alerts. the invention offers a cost-effective, modular, and scalable solution for safe drinking water in arsenic- and fluoride-affected rural regions.

No. of Pages : 23 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096739 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN AUTOMATED PRINTED CIRCUIT BOARD ETCHING MACHINE

(51) International classification	:H05K0003060000, H01L0021670000, C23F0001080000, C23F0001460000, H05K0003000000
(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

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(57) Abstract :
The present invention relates to an automated printed circuit board etching machine. that integrates programmable control over temperature, agitation frequency, and process duration to achieve precise and uniform copper removal. The system comprises a header probe (101) serving as a heating element to indirectly warm the etching solution (102), an etching tray (102) designed for efficient chemical usage, and a guide rail (103) ensuring stable linear motion of the tray. A crankshaft mechanism (104), driven by a motor, provides controlled oscillation of the etching tray to enhance solution agitation and prevent stagnant zones. A speed controller (105) regulates the frequency of agitation, while a programmable timer automates the etching cycle to prevent over-etching or under-etching. Real-time feedback from sensors allows dynamic adjustment of parameters and optional logging of process data. The invention provides a cost-effective, scalable, and safe alternative to conventional PCB etching systems.

No. of Pages : 17 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521096740 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MEMBRANE BIOREACTOR SYSTEM FOR WASTEWATER TREATMENT

(51) International classification	:C02F0003120000, B01D0067000000, B01D0065020000, C02F0003200000, B01D0065080000
(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

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7)YADAV, Amruta

(57) Abstract :
The present invention relates to a membrane bioreactor system for wastewater treatment. The system comprises a 1000 L HDPE bioreactor tank containing 30 flat-sheet ceramic membranes (102) made of Al_2O_3 with 0.1 µm pore size, exhibiting wide pH tolerance and thermal resistance up to 100°C. An aeration system, including an air diffuser (103) and blower (104), maintains aerobic microbial activity and provides membrane surface scouring to reduce fouling. Filtration is automated through a control system (106) with cycles of 8 minutes filtration and 2 minutes hydraulic backwash, while periodic chemical cleaning using sodium hypochlorite and citric acid restores membrane flux (100 LMH post-cleaning). The system integrates real-time monitoring via flow meters (105), pressure gauges (107), valves (108), and pumps (101, 109) to ensure stable operation. Pilot-scale testing demonstrated 90% removal of BOD, COD, and TSS with sustained flux of 40–45 LMH, offering a compact, robust, and sustainable solution.

No. of Pages : 17 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521067656 A
(19) INDIA
(22) Date of filing of Application :15/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD OF PREPARING SELF-CURING SELF-COMPACTING GEOPOLYMER CONCRETE

(51) International classification	:C04B0028000000, C04B0028080000, C04B0012000000, C04B0111000000, C04B0111720000	(71)**Name of Applicant :** **1)National Institute of Technology Raipur** Address of Applicant :National Institute of Technology, G.E. Road, Raipur, Chhattisgarh, India Chattisgarh India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)AFRIN, Huma**
(32) Priority Date	:NA	**2)BANO, Alfia**
(33) Name of priority country	:NA	**3)DEO, Shirish V.**
(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	

(57) Abstract :
The present invention relates to a method of preparing self-curing self-compacting geopolymer concrete. The method comprises Class F fly ash, micro ground granulated blast furnace slag (micro GGBS), and an alkaline activator solution consisting of sodium hydroxide and sodium silicate in specific ratios. The blend also includes fine and coarse aggregates in predetermined proportions with an optimized liquid-to-binder ratio. The fly ash and micro GGBS react with the alkaline solution to form a dense alumino-silicate network, providing high early strength, durability, and environmental sustainability. The mix design enabling self-curing under ambient conditions, while the tailored rheology ensures self-compaction without vibration. The invention significantly reduces carbon emissions by replacing cement with industrial by-products and simplifies the concrete casting process in remote or large-scale construction applications. The SCGC offers enhanced mechanical properties, and long-term durability.

No. of Pages : 22 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097150 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPACT ELECTRO-MECHANICAL WINCH SYSTEM FOR LIFTING AND PULLING LOADS

(51) International classification	:B66D0001140000, B66D0001280000, B66D0001300000, B66D0001120000, F16H0001160000	(71)**Name of Applicant :** **1)GIRI, Jayant P.** Address of Applicant :Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering, Hingna Road, Wanadongri, Nagpur, Maharashtra, India - 441110 Maharashtra India
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(32) Priority Date	:NA	**3)CHADGE, Rajkumar B.**
(33) Name of priority country	:NA	**4)GIRI, Pallavi**
(86) International Application No	:	**5)KHEDKAR, Sandip S.**
Filing Date	:01/01/1900	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)GIRI, Jayant P.**
(61) Patent of Addition to Application Number	:NA	**2)SUNHERIYA, Neeraj**
Filing Date	:NA	**3)CHADGE, Rajkumar B.**
(62) Divisional to Application Number	:NA	**4)GIRI, Pallavi**
Filing Date	:NA	**5)KHEDKAR, Sandip S.**

(57) Abstract :
The present invention relates to a compact electro-mechanical winch system for lifting and pulling loads. The system designed for lifting and pulling heavy loads. The system comprises a rope drum (1) supported by bearing blocks (2) and wound with metallic rope (3). Power is supplied by an AC/DC motor (4), whose output is transmitted through a worm gear assembly (5) that shifts rotation by 90° while initiating torque multiplication. The worm gear output drives a planetary gear set (6), providing additional speed reduction and torque amplification. A coupling shaft (7) transfers the compounded output to the drum (1), ensuring controlled low-speed, high-torque operation. The entire mechanism is enclosed in a sealed housing (8) for protection against dust and environmental conditions. This two-stage reduction arrangement reduces motor strain, enables stable load handling, and ensures compactness. The invention is suitable for off-road recovery, construction hoisting, industrial handling, and defense logistics applications.

No. of Pages : 16 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097153 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPOSITION AND METHOD FOR PREPARING SUSTAINABLE CONCRETE USING METAKAOLIN AND WASTE GLASS POWDER

(51) International classification	:C04B0028040000, C04B0018140000, C04B0111000000, C04B0007020000, C04B0014220000
(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

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(57) Abstract :
The present invention is related to a composition and method for preparing sustainable concrete using metakaolin (MK) and waste glass powder (WGP) as partial replacements for ordinary Portland cement (OPC). The invention addresses the environmental impact of cement production, which contributes significantly to global CO_2 emissions, and the increasing problem of non-biodegradable waste glass. The developed concrete incorporates 5% metakaolin with 3%, 6%, or 9% waste glass powder, replacing a portion of cement in M30 grade concrete. Experimental evaluation demonstrates that the concrete exhibits enhanced compressive and flexural strength compared to conventional concrete, with maximum performance observed at 5% MK and 9% WGP. The composition promotes recycling of post-consumer glass, reduces cement consumption, and supports sustainable construction practices. The method involves collection, pulverization of waste glass, and mixing with cement, aggregates, and water to produce concrete with improved mechanical properties, durability, and environmental benefits.

No. of Pages : 15 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097154 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PHOTOVOLTAIC-POWERED CIRCULATORY SOLAR THERMAL WATER HEATING SYSTEM

(51) International classification	:F24S0060300000, F24S0010700000, F24S0010750000, F24D0017000000, F28D0020000000
(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

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6)GIRI, Pallavi

(57) Abstract :
The present invention relates to a photovoltaic-powered circulatory solar thermal water heating system, comprising a flat plate solar collector with an absorber plate (1) and integrated riser tubes (2), covered by a transparent cover plate (3) and thermally insulated with rockwool material (4). A DC pump (5), powered directly by a solar photovoltaic (PV) panel (6), circulates cold water (15) from an insulated storage tank (7) through the riser tubes, establishing forced convection. The circulated water absorbs heat and exits via an outlet pipe (10) into a hot water tank (17). An electrical regulator (8) stabilizes pump operation, while a pressure gauge (11) and flow sensor (12) monitor system performance. Optionally, an Arduino-based circuit (13) may automate pumping based on temperature or flow feedback. The system provides uniform, efficient heating, operates entirely off-grid without batteries or external power, and is suitable for rural and remote locations. The invention offers a cost-effective, eco-friendly, and reliable water heating solution.

No. of Pages : 15 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097155 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MUSCLE STRENGTH MEASURING DEVICE

(51) International classification	:A63B0023120000, A61B0005000000, A63B0021000000, A61B0005220000, A63B0021060000
(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
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(57) Abstract :
The present invention relates to a muscle tone and strength measuring device designed to assess human arm strength, particularly in patients with paralysis, fractures, or muscular impairments. The device comprises a base (105) with suction clamps for stable attachment to a flat surface, a handle (104) connected to a rope (101) passing over a pulley (102), a load sensor (103), and a measuring unit (106) with an LED display. The patient pulls the handle (104), generating tension in the rope (101), which is transmitted via the pulley (102) to the load sensor (103). The sensor converts mechanical force into an electrical signal processed by the measuring unit (106) and displayed in real time. The device measures parameters including peak force, sustained pulling force, and recovery progression. The rope (101) is 1 m long, the pulley (102) diameter is 3 cm, and the load sensor (103) has a 20 kg capacity. The portable, ergonomic design allows use in clinical, home-based, and remote rehabilitation settings.

No. of Pages : 17 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097156 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SUSTAINABLE PAVER BLOCK COMPOSITION

(51) International classification	:C04B0028040000, C04B0028020000, C04B0014060000, C04B0018140000, C04B0028140000	(71)**Name of Applicant :** **1)MENDHE, Vaishali N.** Address of Applicant :Department of Civil Engineering, Yeshwantrao Chavan College of Engineering, Hingna Road, Wanadongri, Nagpur, Maharashtra, India - 441110 Maharashtra India
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(32) Priority Date	:NA	**3)BHAGAT, Madhuri S.**
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(86) International Application No	:	**5)BHADKE, Sanjay K.**
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(61) Patent of Addition to Application Number	:NA	**2)NANDURKAR, Bhupesh P.**
Filing Date	:NA	**3)BHAGAT, Madhuri S.**
(62) Divisional to Application Number	:NA	**4)MESHRAM, Sangita S.**
Filing Date	:NA	**5)BHADKE, Sanjay K.**

(57) Abstract :
The present invention relates to a sustainable paver block composition and its method of preparation, which partially replaces conventional cement and natural sand with industrial and natural waste materials. The composition comprises 30% fly ash as a pozzolanic cement substitute, quarry dust replacing fine aggregate in proportions ranging from 0% to 50%, and optionally 5% to 10% Surkhi (finely ground burnt clay) to enhance strength, reduce water absorption, and improve microstructural bonding. Coarse aggregates are mixed with the binder and water to achieve desired workability, followed by casting into molds and curing under standard or ambient conditions for 28 days. Paver blocks produced using this composition exhibit high compressive strength (≥30 MPa), low water absorption (≤6%), and improved durability. The invention promotes the utilization of industrial and natural waste, reduces environmental impact, supports circular economy practices, and provides a cost-effective, eco-friendly alternative for manufacturing M40-grade paver blocks suitable for modern construction applications.

No. of Pages : 16 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521035966 A
(19) INDIA
(22) Date of filing of Application :14/04/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PROCESS FOR PREPARATION OF LIGNIN-REINFORCED NATURAL RUBBER (NR) LATEX COMPOSITE

(51) International classification	:C08L 7/00, C08C 1/04, C08L 7/02, C12N 15/82, C08C 1/00
(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

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4)PRATIK BAGUL
5)VIRENDRA SWAMY
6)ROHAN RATHOD
7)PARIKSHIT PANDE

(57) Abstract :
ABSTRACT A PROCESS FOR PREPARATION OF LIGNIN-REINFORCED NATURAL RUBBER (NR) LATEX COMPOSITE The present invention discloses a process for preparation of lignin-reinforced natural rubber (NR) latex composite. The present invention is particularly related to a process for preparation of lignin-reinforced natural rubber (NR) latex composite; wherein said natural rubber (NR) latex is selected from Hevea brasiliensis, Parthenium argentatum (Guayule) and Taraxacum kok-saghyz (TK). Furthermore, the present invention is related to a process for preparation of lignin-reinforced natural rubber (NR) latex composite for providing enhance thermal stability, mechanical strength and antimicrobial properties.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097559 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN ADJUSTABLE DIE PUNCH FOR LABORATORY PELLET PREPARATION

(51) International classification	:G01N0023223000, H01L0021760000, F16C0019260000, C01B0035020000, B33Y0030000000
(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

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1)Manjusha P. Gandhi

(57) Abstract :
The present invention relates to an adjustable die punch (101, 102) for laboratory pellet preparation, designed for versatile applications in research laboratories. The device comprises a pump (101) with a plunger (102) mounted on a mild steel (MS) rod of 60 mm diameter and 100–120 mm length, supported by two cylindrical roller bearings. The plunger (102) applies pressure under a hydraulic press, forming pellets of adjustable diameter ranging from 1 mm to 25 mm. The precision gap of 0.001 mm between the plunger and pump block ensures minimal powder wastage. Cylindrical rollers may be cut to produce tablets of 5–8 mm thickness. The device is durable, cost-effective (Rs 1000–1500), and resistant to abrasive or toxic materials such as iodine, boron powder, hygroscopic substances, and metal powders. The die punch is suitable for IR characterization (10 mm, 10 ton), electrical parameter measurements (1–10 mm), and high-temperature X-ray analysis (12 mm), providing a low-cost, reliable solution for laboratory pellet formation.

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521097560 A

(19) INDIA

(22) Date of filing of Application :09/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPOSITION FOR PRODUCING SUSTAINABLE CONCRETE INCORPORATING AGRICULTURAL WASTE AND METAKAOLIN

(51) International classification	:C04B0028040000, C04B0014100000, C04B0040000000, C04B0111000000, C04B0028020000
(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

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3)NIKHADE, Harshal

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(57) Abstract :

The present invention is related to a composition for producing sustainable concrete incorporating agricultural waste and metakaolin, the composition includes Ordinary Portland Cement (OPC), fine and coarse aggregates, Sugarcane Bagasse Ash (SCBA) (15% replacement), Metakaolin (5% replacement), Rice Husk Ash (RHA) (5–20% replacement), water, and a superplasticizer. The invention aims to reduce the reliance on traditional cement, minimize carbon emissions, and promote eco-friendly construction practices. The concrete mixes were developed and tested for fresh, mechanical, and durability properties, including compressive strength, flexural strength, splitting tensile strength, chloride penetration, and water absorption under both normal and acidic curing conditions. Results demonstrated that the optimized mix, comprising 15% SCBA, 5% Metakaolin, and 10% RHA, achieved superior strength, reduced permeability, and improved durability compared to control concrete. The invention provides a practical and scalable solution for producing high-performance, sustainable concrete, thereby contributing to environmentally responsible and durable construction materials.

No. of Pages : 20 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097158 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD OF PREPARING THE GRAPHITE-ADMIXED CONCRETE

(51) International classification	:C04B0028040000, C04B0028020000, C04B0111000000, B32B0005180000, C04B0111940000
(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

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3)UCHIBAGLE, Minakshi

(57) Abstract :
The present invention relates to a method of preparing the graphite-admixed concrete. The invention incorporates graphite at 0.5%–2% by weight of cement into a concrete mix comprising Ordinary Portland Cement, fine aggregates, coarse aggregates, and water. Graphite forms conductive pathways within the concrete matrix, enabling uniform dissipation of static charges, enhancing safety in high-risk areas such as airports, industrial zones, and smart infrastructure, and facilitating de-icing of pavements in cold climates. The method involves preparing each component separately, ensuring proper gradation, specific gravity, and removal of deleterious materials; blending the components with graphite for uniform dispersion; and casting and curing the concrete under standard conditions. Experimental results demonstrate that controlled graphite addition maintains compressive, tensile, and flexural strength while providing electrical conductivity. Excess graphite beyond 2% reduces workability and mechanical performance. The invention provides a cost-effective, durable, and multifunctional pavement solution combining safety, conductivity, and structural performance.

No. of Pages : 12 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097159 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD OF PREPARING SUSTAINABLE SELF-COMPACTING CONCRETE

(51) International classification	:C04B0028040000, C04B0111000000, C04B0111400000, C04B0028020000, C04B0014020000	(71)**Name of Applicant :**
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(33) Name of priority country	:NA	**2)PATIL, Abhay V.**
(86) International Application No	:	**3)JAYALE, Vivek D.**
Filing Date	:01/01/1900	**4)RAHATE, Vaishali**
(87) International Publication No	: NA	(72)**Name of Inventor :**
(61) Patent of Addition to Application Number	:NA	**1)LUNGE, Payal D.**
Filing Date	:NA	**2)PATIL, Abhay V.**
(62) Divisional to Application Number	:NA	**3)JAYALE, Vivek D.**
Filing Date	:NA	**4)RAHATE, Vaishali**

(57) Abstract :
The present invention relates to a method of preparing the sustainable self-compacting concrete. The SCC composition comprises Ordinary Portland Cement (53 grade), fine aggregates, coarse aggregates, recycled coarse aggregates (RCA) from bituminous roadside debris as partial replacement of natural coarse aggregates (up to 35%), fly ash as partial cement replacement (0–30%), PCE-based superplasticizer, and potable water. The composition exhibits excellent fresh properties, validated through V-Funnel (12–30 seconds) and L-Box (H2/H1 ratio 0.8–1.01) tests, ensuring self-compacting behavior without vibration. Optimum performance is achieved with 25% RCA and 20% fly ash, demonstrating a 15.8% improvement in compressive strength compared to conventional SCC at 28 days. The method involves drying, sieving, blending, and mixing of aggregates, cement, fly ash, superplasticizer, and water to obtain a homogeneous, high-strength, and sustainable SCC. The invention promotes green construction, reduces reliance on natural resources, and utilizes value-added waste materials for enhanced mechanical and durability performance.

No. of Pages : 10 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097470 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART CITY PATTERN WITH RRR TECHNOLOGY AND INTEGRATED SUSTAINABILITY SYSTEMS

(51) International classification	:C02F0011040000, G06Q0050260000, H02J0003380000, H02S0010120000, C12P0005020000
(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

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(72)**Name of Inventor :**
1)SHARMA, Dharmendrakumar

(57) Abstract :
SMART CITY PATTERN WITH RRR TECHNOLOGY AND INTEGRATED SUSTAINABILITY SYSTEMS The present invention provides a smart city system (100) integrating RRR Technology with sustainability systems for autonomous urban infrastructure management. The system (100) comprises RRR Technology renewable energy generation module (102) incorporating solar and wind energy systems positioned throughout urban infrastructure to generate renewable energy and eliminate dependency on fossil fuels. The system comprises a rainwater harvesting module (104) with collection infrastructure spanning building rooftops and dedicated catchment areas with filtration mechanisms. The system comprises a renewable fuel generation module (106) with biomass processing units for biogas production through anaerobic digestion chambers. The system includes a waste management module (108) implementing Three R Concept methodologies with automated sorting mechanisms. The system integrates Panch tatva principles harmonizing technological systems with natural elemental principles comprising agni, vayu, akash, jal, and pruthvi elements to create a self-sustainable and decarbonized urban framework achieving energy independence, water security, clean fuel supply, and zero-waste management. Fig.1

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097562 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SOLAR BASED WATER DISTILLATION SYSTEM WITH SPIRAL TUBE FLAT PLATE COLLECTOR

(51) International classification	:C02F0001140000, B01D0005000000, C02F0001040000, B01D0001000000, C02F0103080000
(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

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5)Giri, Pallavi
6)Khedkar, Sandip S.
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3)Sunheriya, Neeraj
4)Chadge, Rajkumar B.
5)Giri, Pallavi
6)Khedkar, Sandip S.
7)Korde, Madhav B.

(57) Abstract :
The present invention relates to a solar based water distillation system for producing clean and potable water from saline or contaminated sources using renewable solar energy. The system comprises a saline (1) water storage tank positioned at an elevated location to allow gravitational flow, a spiral tube flat plate solar collector (2) connected via a pipeline, wherein a copper spiral tube embedded on an absorber plate maximizes heat transfer and uniform heating, a modified tubular solar still (3) connected through a hot water pipeline, comprising a transparent dome and a blackened copper basin with a black metallic scrubber sponge sheet for thermal energy storage, a water sprinkler system (4) above the dome to enhance condensation, a distilled water collection unit (5) to collect fresh water droplets, K-type thermocouples (6) and a data logger (7) for real-time monitoring. The system achieves a freshwater yield of 7.98 L/m²/day with energy and exergy efficiencies of 74.08% and 6.35%, respectively, providing a self-sustained, cost-effective, and environmentally friendly solution for water-scarce regions.

No. of Pages : 14 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097563 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A FLEXIBLE AND REUSABLE NECK ORTHOSIS

(51) International classification	:A61F0005055000, A61F0005010000, A47G0009100000, A61B0017000000, A61F0005058000
(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

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(57) Abstract :
The present invention relates to a flexible and reusable neck orthosis designed to provide customizable neck support and enhanced comfort. The system comprises a collar body conforming to the patient's cervical, shoulder, and skull anatomy, integrated support segments to maintain cervical spine alignment, ventilation apertures for airflow, a cushioning layer to minimize pressure and irritation, and an adjustable fastening mechanism for secure placement. Additive manufacturing techniques enable precise customization based on digital scans, ensuring a perfect fit without the need for subsequent adjustments. The cervical collar provides stability during neck movements while being lightweight, durable, and reusable. This approach overcomes limitations of conventional collars, including discomfort, poor ventilation, and the risk of skin ulcers or muscle atrophy during prolonged use. The invention also allows iterative modifications for optimal fit and patient satisfaction, offering a reliable, ergonomic, and patient-friendly solution for rehabilitation, recovery, and long-term cervical support.

No. of Pages : 14 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097564 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A VERTICAL MODIFIED ROUGHING FILTER FOR THE TREATMENT OF WATER

(51) International classification	:C02F0003120000, C02F0103000000, C02F0001000000, C02F0003100000, C02F0003200000
(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

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8)SHAHARE, Yogesh
9)WARGHANE, Rishabh

(57) Abstract :
The present invention relates to a vertical modified roughing filter for the treatment of water. designed for the treatment of water, wastewater, and greywater. The system comprises a vertical treatment chamber (104) having an inlet (101) at the upper portion and an outlet (106) at the lower portion. An aeration unit (102) connected through an aeration pipe network (103) introduces air at multiple depths within the chamber to maintain aerobic conditions. The chamber is divided into compartments containing filter media (105) such as ceramic tiles supported on perforated plates for efficient filtration and biological oxidation. The aeration promotes oxygen transfer, mixing, and oxidation of dissolved organic and inorganic substances, thereby improving contaminant removal efficiency. The treated effluent is discharged through the outlet for reuse or further treatment. The invention provides an economical, compact, and sustainable solution for decentralized water and wastewater treatment applications.

No. of Pages : 14 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097565 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PERSONAL PROTECTIVE EQUIPMENT KIT FOR MINERS

(51) International classification	:A41D0013050000, B82Y0030000000, A41D0013080000, A41D0019000000, A61B0005022000
(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

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5)GIRI, Jayesh
6)KHOND, Akash
7)MANDEKAR, Ankita S.

(57) Abstract :
The present invention relates to a personal protective equipment kit for miners comprising a jacket (101), gloves (1–4), and a mask with a graphene-based filtration layer. The jacket includes shoulder guard (101), sleeve outer layer (102), cuff section (103), high-collar (104), upper arm flex zone (105), and pocket assembly (106), providing full upper body protection with flexibility. The gloves comprise palm protection layer (1), finger sheaths (2), cuff reinforcement (3), and moisture barrier layer (4) for dexterity and cut resistance. The multilayered fabric integrates an outer graphene layer, a mid-layer with multi-walled carbon nanotubes (MWCNTs), and a breathable antimicrobial inner layer, achieving UTS of 22.8–26.6 N/mm², elongation up to 17%, and peak load of 365 N. Fabrication involves slurry formation (2–5% by weight nanomaterials), ultrasonication, brush/dip coating, air drying, and heat curing. The kit provides enhanced mechanical, thermal, and chemical protection while ensuring ergonomics, sustainability, and wearability for hazardous mining environments.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097566 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A UV-BASED PORTABLE HUMIDIFIER FOR MEDICAL OXYGEN CYLINDERS

(51) International classification	:A61M0016000000, A61M0016160000, A61M0016100000, A61M0016120000, A61M0016060000	(71)**Name of Applicant :** **1)GAWANDE, Ujwalla H.** Address of Applicant :Department of Information Technology, Yeshwantrao Chavan College of Engineering, Hingna Road, Wanadongri, Nagpur, Maharashtra, India - 441110 Maharashtra India
(31) Priority Document No	:NA	**2)SHAHARE, Devendra Y.**
(32) Priority Date	:NA	**3)THAKRE, Avinash A.**
(33) Name of priority country	:NA	**4)MAHAKALKAR, Sachin G.**
(86) International Application No	:	**5)BANKAR, Nandkishor**
Filing Date	:01/01/1900	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)GAWANDE, Ujwalla H.**
(61) Patent of Addition to Application Number	:NA	**2)SHAHARE, Devendra Y.**
Filing Date	:NA	**3)THAKRE, Avinash A.**
(62) Divisional to Application Number	:NA	**4)MAHAKALKAR, Sachin G.**
Filing Date	:NA	**5)BANKAR, Nandkishor**

(57) Abstract :
The present invention relates to a UV-based portable humidifier for medical oxygen cylinders. designed to deliver sterile and optimally humidified oxygen for respiratory therapy. The system comprises a pressure-compatible water reservoir attached to standard oxygen cylinder regulators, and a dual UV-C sterilization unit that irradiates both the incoming oxygen gas and the humidification water. Pressurized oxygen first passes through a gas-phase UV chamber, inactivating microorganisms, and then bubbles through UV-sterilized water, achieving physiological humidity levels (34 g/m³ at 37 °C). The flow pathway is calibrated to maintain therapeutic oxygen flow rates from 0.5 to 15 L/min while ensuring effective UV exposure. Safety features include UV containment shields, pressure relief valves, and automatic shutoff mechanisms triggered by lamp failure or pressure anomalies. The invention offers single-use or reusable options, minimizes infection risks, reduces maintenance requirements, a compact, cylinder-mounted solution that advances hygiene and safety in clinical and home oxygen therapy applications.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097568 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN AUTONOMOUS DEPTH CONTROL AND BLOCKAGE DETECTION OF TRACTOR OPERATED SOWING MECHANISM

(51) International classification	:A01C0007200000, A01C0005060000, A01C0007000000, A01C0001060000, A01C0007100000	(71)**Name of Applicant :**
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(33) Name of priority country	:NA	**2)KHEDKAR, Pranali Sandip**
(86) International Application No	:	(72)**Name of Inventor :**
Filing Date	:01/01/1900	**1)KHEDKAR, Sandip Sudhakarrao**
(87) International Publication No	: NA	**2)KHEDKAR, Pranali Sandip**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention relates to an autonomous depth control and blockage detection system for a tractor-operated sowing mechanism. The system comprises a sharp sensor (102) mounted on the sowing equipment (103) to measure the distance from the ground and send a digital signal to an embedded system/microcontroller circuit (101). The microcontroller processes the signal and sends control commands via a digital-to-analog converter to a lever controlling unit (104), which adjusts the tractor lever to maintain the desired sowing depth for various crops. An electronic seed tube blockage detector consisting of an incandescent lamp and LDR monitors seed flow, generating a signal upon obstruction. A photoelectric seed level sensor with an LED and LDR monitors the storage tank and triggers an alert when seeds are depleted. The system ensures uniform seed depth, detects tube blockages in real time, and maintains uninterrupted sowing operation, thereby improving yield, reducing seed wastage, and minimizing labor dependency.

No. of Pages : 17 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097569 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN AUTOMATED AIRPORT BAGGAGE DIVERTER AND TRACKING SYSTEM

(51) International classification	:B64F0001360000, G06Q0010080000, G06Q0010083200, G06Q0010083300, B65G0043080000	(71)**Name of Applicant :** **1)SAHARE, Shilpa Bhimrao** Address of Applicant :Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering, Hingna Road, Wanadongri, Nagpur, Maharashtra, India - 441110 Maharashtra India
(31) Priority Document No	:NA	**2)KAMBLE, Prashant D.**
(32) Priority Date	:NA	**3)MUNGLE, Nischal P.**
(33) Name of priority country	:NA	(72)**Name of Inventor :**
(86) International Application No	:	**1)SAHARE, Shilpa Bhimrao**
Filing Date	:01/01/1900	**2)KAMBLE, Prashant D.**
(87) International Publication No	: NA	**3)MUNGLE, Nischal P.**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention relates to an automated airport baggage diverter and tracking system designed to enhance efficiency, security, and passenger satisfaction in baggage handling operations. The system utilizes QR codes affixed to individual baggage items for unique identification, combined with a network of sensors such as photoelectric, proximity, and motion detectors to monitor luggage flow, location, and security in real time. An ESP32-CAM module with conveyor, DC motor, and diverter mechanism automates sorting and routing decisions based on QR data and sensor input, thereby minimizing manual handling and errors. A centralized web-based application provides instant baggage status updates to airport staff, airline operators, and passengers, improving transparency and coordination. The invention further incorporates tamper-detection and unauthorized access alerts to strengthen baggage security. Designed to be scalable, portable, cost-effective, and energy-efficient, the system offers a reliable alternative to existing RFID-based solutions, optimizing airport operations while improving passenger experience.

No. of Pages : 18 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097570 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A TWO-WHEELER FALL DETECTION SYSTEM

(51) International classification	:G08B0021040000, G08B0025010000, H04W0004900000, G08G0001000000, G08B0025100000
(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
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(57) Abstract :
The present invention is related to a two-wheeler fall detection system, designed to enhance rider safety by providing real-time accident detection and emergency notifications. The system integrates an Arduino Uno (101) as the central microcontroller to process data from multiple sensors, including an ADXL335 accelerometer (102) and an LM393 vibration sensor (105), for detecting sudden falls, tilts, or impacts of the two-wheeler. A 6MV2 GPS module (104) provides precise location tracking, while a SIM7670C GSM module (103) enables automated SMS alerts and phone calls to designated guardians or emergency contacts upon detecting an accident. The system also incorporates a push-button feature to cancel false alerts. By combining motion detection, GPS tracking, and cellular communication, the invention ensures prompt assistance and minimizes response time during emergencies.

No. of Pages : 14 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097571 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPOSITION FOR SUSTAINABLE QUATERNARY CONCRETE

(51) International classification	:C04B0028040000, C04B0028080000, C04B0018140000, C04B0024160000, C04B0024260000
(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

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9)KHERDE, Yogesh P.

(57) Abstract :
The present invention relates to a composition for sustainable quaternary concrete wherein Ordinary Portland Cement (OPC) is partially replaced with a synergistic blend of sugarcane bagasse ash (SCBA), copper slag (CS), and eggshell powder (ESP). The optimized composition comprises 320 kg/m³ OPC, 48 kg/m³ SCBA (12%), 20 kg/m³ CS (5%), 12 kg/m³ ESP (3%), combined with 1150 kg/m³ coarse aggregate, 650 kg/m³ fine aggregate, and 180 L/m³ water. SCBA provides pozzolanic activity due to high silica content, CS enhances mechanical strength and density, and ESP contributes calcium carbonate for early strength development. Fresh concrete properties, including slump flow, T500, V-funnel, and L-box ratio, were evaluated as per EFNARC guidelines. Hardened concrete exhibited up to 49.42 MPa compressive strength, 5.0 MPa flexural strength, and 4.81 MPa split tensile strength at 28 days, outperforming conventional OPC concrete. This invention valorizes agro-industrial and metallurgical wastes, offering an eco-friendly, high-performance, and cost-effective solution for sustainable construction.

No. of Pages : 18 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521095265 A
(19) INDIA
(22) Date of filing of Application :03/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A TEETHING PAIN RELIEF DEVICE

(51) International classification	:A61J0017020000, A61K0009000000, A61J0017000000, A61K0047440000, A61K0008978900
(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

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2)MOHANDAS, Rahul

(57) Abstract :
ABSTRACT A TEETHING PAIN RELIEF DEVICE The Present invention disclosed a teething pain relief device is designed to provide mechanical relief to an infant's or baby's oral cavity during teething and other oral irritation. It features a chewable article with a reservoir (106) pre-filled with a soothing plant-based substance, and a refill container (116) storing extra quantity of the soothing plant-based substance, offering targeted relief. The device may be shaped in a character or animal or other shapes. The soothing substance may include natural remedies or preparations in a gel form, pre-filled in the reservoir (106). The device is constructed from safe, durable, and hygienic materials, such as BPA-free, food-grade materials.

No. of Pages : 12 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521098038 A
(19) INDIA
(22) Date of filing of Application :10/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Modular System for Manufacturing Composite Surface Sheets Using Pressing and Adhesive Techniques

(51) International classification	:E04F0013080000, B32B0037120000, B32B0027320000, B32B0027080000, B32B0007120000	(71)**Name of Applicant :** **1)ALIZADAH HEDAYETULLAH** Address of Applicant :MOLSTRAAT 2, 1531 CP WORMER NEDERLAND Country: Netherlands Netherlands (72)**Name of Inventor :** **1)ALIZADAH HEDAYETULLAH**
(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	

(57) Abstract :
A modular and eco-friendly system for producing decorative composite surface sheets using recycled and mixed materials. The process combines a base sheet—made from plastic, paper, or agricultural residues—with a decorative surface layer of films, recycled grains, or textures. Bonding is achieved through pressing or adhesive techniques, optionally assisted by heat or vacuum. The invention offers a simple, low-cost, and scalable solution for manufacturing durable and aesthetic panels for walls, floors, and furniture applications.

No. of Pages : 8 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521098134 A
(19) INDIA
(22) Date of filing of Application :11/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Flexible and Environmentally Sustainable Process for Producing Composite Boards from Agricultural Residues

(51) International classification	:C08B0037000000, C12P0007040000, A23K0010300000, C08B0001000000, C08L0097020000	(71)**Name of Applicant :** **1)ALIZADAH HEDAYETULLAH** Address of Applicant :MOLSTRAAT 2, 1531 CP WORMER NEDERLAND Country: Netherlands Netherlands (72)**Name of Inventor :** **1)ALIZADAH HEDAYETULLAH**
(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	

(57) Abstract :
Abstract The invention provides a flexible and sustainable process for manufacturing composite decorative and structural boards from agricultural residues such as rice straw, wheat stalks, sugarcane bagasse, and similar fibrous materials. The process includes collecting, shredding, drying, and mixing residues with adhesive or resin, followed by moulding and pressing under variable temperature and pressure conditions. The parameters are fully adaptable, enabling production under both cold and hot conditions using manual or automated systems. Optional additives like waterproofing, fire-retardant, or insect-resistant agents, and surface coatings or laminations, may be incorporated. The resultant boards serve as eco-friendly substitutes for MDF or plywood, reducing deforestation and open-field residue burning while supporting rural livelihoods through sustainable material innovation.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521098135 A
(19) INDIA
(22) Date of filing of Application :11/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Functional Coffee Composition, Method, Kit, and System

(51) International classification	:A47J0031000000, A61B0005000000, A23L0027100000, A47G0009000000, D04H0001425000	(71)**Name of Applicant :** **1)ALIZADAH HEDAYETULLAH** Address of Applicant :MOLSTRAAT 2, 1531 CP WORMER NEDERLAND Country: Netherlands Netherlands
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)ALIZADAH HEDAYETULLAH**
(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	

(57) Abstract :
The invention discloses a novel system for developing, packaging, and distributing functional coffee compositions enriched with natural ingredients offering physiological and psychological benefits. The composition combines coffee with one or more plant-based ingredients such as herbs, seeds, fruits, roots, or nuts to enhance energy, focus, metabolism, and relaxation while maintaining a desirable taste profile. The functional mixture comprises 0.02% to 10% by weight of natural ingredients according to consumer preference, with the remaining portion consisting of coffee and water mixture. The invention further provides a method of preparation, packaging kits, and a modular system for consumer customization across home, retail, and commercial applications. It allows blending, infusion, or grinding of ingredients before or after roasting or brewing, ensuring natural quality and sensory integrity. The system supports adaptive formulation, future ingredient incorporation, and sustainable packaging solutions for industrial scalability and consumer wellbeing.

No. of Pages : 9 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521075676 A
(19) INDIA
(22) Date of filing of Application :08/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR REAL-TIME VEHICLE OCCUPANCY MONITORING AND ALERT GENERATION

(51) International classification	:G06V0020520000, H04W0004020000, H04N0007180000, G08B0021020000, H04W0004029000	(71)**Name of Applicant :** **1)IITI DRISHTI CPS FOUNDATION** Address of Applicant :IIT Indore, Khandwa Road, Simrol, Indore, Madhya Pradesh, 453552, India Indore Madhya Pradesh India **2)Indian Institute of Technology Roorkee**
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Amit Agarwal**
(33) Name of priority country	:NA	**2)Karthik Krishnan O**
(86) International Application No	:	**3)Ritesh Singh**
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	

(57) Abstract :
Disclosed is a system (100) for monitoring vehicle occupancy in real-time. The system (100) includes at least one imaging unit (110) disposed over at least one door of a vehicle (102) for capturing real-time images or videos. A location tracking unit (112) obtains real-time location and corresponding time. An edge device (104) with a processing unit (106) receives the real time images or videos, the real-time location data and the time, and processes the images or videos, determines passenger entry/exit events, and calculates real-time occupancy count. An information processing apparatus (120) with processing circuitry (122) receives the occupancy count and location data, generates alerts based on vehicle conditions and occupancy levels, and identifies occupancy patterns. The system (100) further includes a local database (128) at a vehicle depot (126) for storing data, and an interface (114) for notifying the vehicle managing authority about alerts. FIG. 1 is selected

No. of Pages : 33 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521078836 A
(19) INDIA
(22) Date of filing of Application :20/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM FOR TEMPERATURE-CONTROLLED WATER MANAGEMENT AND A METHOD THEREOF

(51) International classification	:C02F0001000000, F24D0017000000, F25B0041200000, E03C0001050000, F24D0019100000
(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

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4)HARSHA VINAYAK TALELE

(57) Abstract :
A SYSTEM FOR TEMPERATURE-CONTROLLED WATER MANAGEMENT AND A METHOD THEREOF The current invention relates to a smart water diversion system for solar water heaters, aimed at stopping the loss of initial cold water prior to the delivery of hot water. The setup includes an overhead tank, solar storage tank, mechanical valve, fluid pipes, temperature sensor, microcontroller and a pair of solenoid valves. Water from the overhead tank is warmed in the solar tank and its temperature is observed. Cold water that falls below a set threshold is redirected to a secondary storage tank through the first solenoid valve, while hot water that meets or exceeds the threshold is sent to the outlet through the second solenoid valve. The system ensures effective hot water supply, saves water and allows for the recycling of redirected cold water, thus improving sustainability and user comfort.

No. of Pages : 29 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099209 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A System for Personalized Fan Control Based on Emotion, Gesture, Age, and Environmental Data

(51) International classification	:G06F0003010000, G06V0040160000, G06F0003160000, G06N0003080000, G10L0015240000
(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

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4)CHIMURKAR, Bhairavi P
5)POTE, Vishakha A
(72)**Name of Inventor :**
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2)CHIMURKAR, Bhairavi P
3)POTE, Vishakha A

(57) Abstract :
The present invention relates to a system (100) for personalized fan control based on emotion, gesture, age, and environmental data. The system (100) includes a fan unit (20), a camera module (30) for capturing facial image data, a microphone (40) for audio input, and a gesture sensor (50) for detecting hand movements. One or more environmental sensors (60) measure temperature, humidity, air quality, and proximity. The processing unit (70) executes an artificial intelligence model (72) to determine a user's emotional state, age classification, gestural command, and environmental comfort index. Based on the processed data, control signals are generated to adjust the fan's behaviour. A visual display module (80) outputs age-personalized visual information, and a speaker (90) emits audio content in response to emotional state. A control module (95) modifies fan speed, oscillation, lighting, or sound output in real time, improving user comfort and interactivity through multimodal inputs.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099210 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A System for Performing a Digital Payment Transaction

(51) International classification	:G06Q0020400000, G06F0021320000, G06V0040160000, G06Q0020320000, G06V0040120000
(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
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3)LALA, Grisha

(57) Abstract :
The present invention relates to a system (100) for performing a digital payment transaction. The system (100) includes a fingerprint scanner (10), a camera (20), an authentication module (30), a payment processing module (40), and a memory module (50). The fingerprint scanner (10) is configured to capture unique fingerprint patterns of a user. The camera (20) is configured to capture facial features of the user. The authentication module (30) is configured to perform multi-factor authentication by comparing the captured fingerprint and facial data with pre-registered biometric data. The payment processing module (40) is configured to initiate and complete a transaction upon successful authentication. The memory module (50) is configured to store pre-registered biometric data and transaction instructions. The system (100) eliminates the need for QR code scanning or PIN entry and supports offline operation, thereby ensuring secure and inclusive digital transactions.

No. of Pages : 19 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099230 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SHOCK ABSORBER FOR THREE WHEELED AND LIGHT COMMERCIAL VEHICLES

(51) International classification	:F16F0009360000, F16F0009320000, F16F0009540000, A61M0005315000, F16F0009400000
(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

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(72)**Name of Inventor :**
1)Nilesh V. Patil
2)Vishal K. Pimple

(57) Abstract :
ABSTRACT Title : Shock Absorber for Three Wheeled and Light Commercial Vehicles A shock absorber (10) for three wheeled and light commercial vehicles is configured to have a uniquely profiled piston rod assembly (50) wherein said assembly (50) comprises of a piston rod (45), a shell cap (46), an oil seal (70), an oil seal support plate (71), a hydraulic lock load assembly (60), a piston assembly (P), and a bump stopper (35). The piston rod (45) of said piston rod assembly (50) has a cylindrical stepped profile throughout its length forming a proximal portion (45P1), a central portion (45P2) and a distal portion (45P3). The hydraulic lock load assembly (60) has a uniquely profiled rod guide (75), a rod guide bush (47), a washer (150) and an elastomeric cap (250) wherein said rod guide (75) has a stepped cylindrical body having a first cylindrical body portion (75S1), a second cylindrical body portion (75S2) and a third cylindrical body portion (75S3) and these body portions (75S1, 75S2, 75S3) are configured to seamlessly merged with each other in a given order thereby forming a three stepped cavity (75C) inside the rod guide (75). The washer (150) is configured to have a cylindrical body (150B) with a thorough opening (150C) at its center and said body portion (150B) of the washer (150) is divided into upper half (H1) and the lower half (H2).

No. of Pages : 31 No. of Claims : 12

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099231 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BODYCAM WITH ADAPTIVE VIDEO COMPRESSION AND ENCRYPTION

(51) International classification	:H04L0009300000, H04N0023500000, G06F0007720000, G06N0003006000, B60R0011040000	(71)**Name of Applicant :** **1)LNCT University** Address of Applicant :JK Town Sarvadharam C Sector, Kolar Road, Bhopal, Madhya Pradesh India-462024. Bhopal Madhya Pradesh India (72)**Name of Inventor :** **1)Maya Chouksey** **2)Dr. Vikas Sakalle**
(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	

(57) Abstract :
A bodycam with adaptive video compression and encryption, comprising a multi- lens adaptive recording arrangement is configured in the bodycam 102 to authenticate the personnel, a cuboidal transparent enclosure 103 housing wide angle lens and zoom lens is arranged above the camera 101, an automated lens cleaning arrangement is integrated in the bodycam 102 to ensure clear video capture under various environmental conditions, a Bluetooth module is integrated in the bodycam 102, a processing module integrated with the bodycam 102 and embedded with Adaptive Particle Swarm Optimization (APSO) model, H.264 video compression framework, elliptical curve cryptography (ECC) protocols and Rivest-Shamir-Adleman protocols, a moisture sensor to detect the presence of rain droplets accumulated on the lenses, and a dust IQ sensor is arranged within the framework 106 to detect the presence of dust particles on the lenses.

No. of Pages : 24 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202421048102 A
(19) INDIA
(22) Date of filing of Application :22/06/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED METHOD AND SYSTEM FOR EXPORTING SAS 9.4 CONTENT TO SAS VIYA 4

(51) International classification	:H04W0012060000, G06F0016248000, G06F0021310000, B23K0009000000, G06K0007100000
(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

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2)Renu Sane

(57) Abstract :
ABSTRACT AUTOMATED METHOD AND SYSTEM FOR EXPORTING SAS 9.4 CONTENT TO SAS VIYA 4 The present disclosure pertains to a migration system (100) and method (200) for migrating content from SAS 9.4 to SAS Viya 4. The migration system (100) includes a user device (102) and a server (104), which are communicatively coupled through a network. The user device (102) is equipped with various components including input, output, memory, communication, and processing units. The processing unit (112) is further divided into multiple specialized engines such as the inventory assessment engine, profile assessment engine, code compatibility assessment engine, error detection engine, summary creation engine, SAS applications explorer, project validation engine, report data creation engine, and package creation engine. Figure 1 will be the reference.

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521098866 A
(19) INDIA
(22) Date of filing of Application :13/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A film forming spray formulation comprising Ocimum tenuiflorum

(51) International classification	:A61K0036530000, A61K0009000000, A61K0047100000, A61P0017000000, A61K0047320000	(71)**Name of Applicant :** **1)Pande Ankita D.** Address of Applicant :Department of Pharmaceutical Sciences, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur Maharashtra India **2)Prasad Satyendra K.** **3)Akojwar Natasha S.** **4)Prasad Rupali S.**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:	(72)**Name of Inventor :** **1)Pande Ankita D.** **2)Prasad Satyendra K.** **3)Akojwar Natasha S.** **4)Prasad Rupali S.**
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	

(57) Abstract :
A film forming spray formulation comprising Ocimum tenuiflorum The present invention relates to a film forming spray formulation comprising Ocimum tenuiflorum and one or more excipient. The present invention relates to a film forming spray formulation comprising 2 to 6 % w/w of ethanolic extract of Ocimum tenuiflorum, 8-12 % w/w of polyvinylpyrrolidone K30 (PVP K30), 1-3 % w/w of polyethylene glycol 400, 0.2-0.8 % w/w of camphor, 0.2-0.8 % w/w of menthol and a mixture of ethanol and isopropyl alcohol in a ratio of 1:1. The present invention also relates to a method of treating a subject suffering from atopic dermatitis comprising applying a film forming spray formulation comprising ethanolic extract of Ocimum tenuiflorum to the affected area.

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521099086 A

(19) INDIA

(22) Date of filing of Application :14/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : "DATA INTERCEPTION DEVICE FOR UNIVERSAL LOW-POWER LONG-RANGE COMMUNICATION WITH MULTIPLE WIRELESS DEVICES"

(51) International classification	:H04W0088060000, H04B0001000000, H04L0009400000, H04W0084120000, H04B0001403000	(71)**Name of Applicant :** **1)Indian Institute of Technology Bombay** Address of Applicant :IITB, Powai, Mumbai-400076, Maharashtra, India Mumbai Maharashtra India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Kavi Arya**
(33) Name of priority country	:NA	**2)Lohit Penubaku**
(86) International Application No	:	**3)Siddharth Yogesh Kulkarni**
Filing Date	:01/01/1900	**4)Maryam Shojaei Baghini**
(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	

(57) Abstract :

"DATA INTERCEPTION DEVICE FOR UNIVERSAL LOW-POWER LONG-RANGE COMMUNICATION WITH MULTIPLE WIRELESS DEVICES" The present invention relates to a data interception device (200) for multiple wireless devices (100). The data interception device (200) includes a multi-band radio frequency (RF) transceiver (201) that intercepts signals broadcasted from the multiple wireless devices (100) operating at multiple frequency bands. The multi-band RF transceiver (201) is capable of operating in the multiple frequency bands. A data interception controller (202) decodes the intercepted signals from the multiple wireless devices (100) operating in the multiple frequency bands, detects custom packet formats from the decoded signals of the multiple wireless devices (100), and extracts data from the custom packet formats of the intercepted signals corresponding to the multiple wireless devices (100) using at least one LSTM model. A multi-mode communication interface (203) transmits the data to a cloud server (300) using a communication mode from multiple communication modes supported by the multi-mode communication interface (203). FIG. 2

No. of Pages : 37 No. of Claims : 15

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099109 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Predictive Cache Prefetching System Using Advanced Data Structures and Machine Learning

(51) International classification	:G06F0012086200, G06N0020000000, G06F0009500000, H04L0067568100, G06F0009380000
(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

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6)Samiksha Jamdade

(57) Abstract :
The invention discloses a Predictive Cache Prefetching System that integrates advanced data structures with machine learning to optimize cache performance and reduce memory latency. The system comprises a Cache Prediction Engine (CPE) and a Prediction Logic Unit (PLU) working together within a Cache Management Unit (CMU). The CPE employs a Custom Trie, Bloom Filter, and Pattern Hash Map to efficiently log, validate, and retrieve access patterns. The PLU utilizes sequence prediction models, such as LSTM or Transformer networks, to forecast future memory accesses based on historical data. The system operates in two complementary modes: (1) Reactive Mode, triggered by cache misses, which predicts the next likely data request and initiates prefetch operations concurrently with data retrieval; and (2) Proactive Mode, executed during idle cycles, which performs batch predictions and prefetches high-utility data in advance. A continuous feedback loop updates the predictive model and data structures based on observed accuracy, enabling self-learning and adaptation to changing workloads. This hybrid architecture enhances both cache hit rate and byte-hit rate, effectively hiding main memory latency and improving throughput for memory-bound applications. Experimental evaluations demonstrate substantial gains, including a 30–40% increase in cache hit rate and a 40% reduction in average memory latency. The invention provides a scalable, low-overhead, and high-accuracy prefetching framework applicable to CPUs, GPUs, edge systems, and distributed computing environments, offering a significant advancement in predictive memory management technology.

No. of Pages : 15 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099233 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : FUNCTIONALIZED ACYCLIC DIAMINOCARBENE (ADC) PRECURSOR COMPOUND OF FORMULA (I) OR A SALT THEREOF

(51) International classification	:B01J0031220000, C07F0015000000, C23C0018140000, C07F0015020000, C07C0215140000
(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

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2)Dr. Ramgulam
3)Dr. Preeti Gupta
4)Dr. Mamita Panda

(57) Abstract :
A functionalized acyclic diaminocarbene (ADC) precursor compound of Formula (I), or a salt thereof is disclosed, Wherein, R1 is selected from 2,4,6-trimethylphenyl, 2,6-diisopropylphenyl, 2-pyridyl, and 2-methoxyphenyl, R2 is a methyl group or a 2-pyridylmethyl group, and X^- is a halide or hydrohalide counterion. The ADC precursors are synthesized by reacting an amine of the formula R1-NH_2 with triethyl orthoformate to form a formamidine intermediate, followed by alkylation using an alkylating agent R2-X, a metal complex is formed wherein the ADC ligand coordinates to a metal atom M selected from Ru, Rh, Ir, Pd, Pt, Au, Cu, and Fe, the complex may be monometallic or bimetallic, including cyclometalated structures via C–H bond activation, the metal complex is synthesized by reacting the compound with a metal precursor in the presence of a base to generate the ADC ligand of Formula (I) in situ.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099290 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTONOMOUS E-COMMERCE LOGISTICS MANAGEMENT DEVICE

(51) International classification	:G05D0001000000, G01S0017890000, B64C0039020000, G01S0017931000, A47G0029140000	(71)**Name of Applicant :** **1)Lakshmi Narain College of Technology (MCA)** Address of Applicant :LNCT Campus, Kalchuri Nagar, Raisen Road, P.O. Kolua, Bhopal, Madhya Pradesh, India-462022. Bhopal Madhya Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. Akansha Sharma**
(33) Name of priority country	:NA	**2)Dr. Virendra Kumar Tiwari**
(86) International Application No	:	**3)Dr. Sanjay Bajpai**
Filing Date	:01/01/1900	**4)Prof. Sonal Sharma**
(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	

(57) Abstract :
An autonomous e-commerce logistics management device, comprises of a body 101 installed with a set of encoder wheels 102 for multi-directional manoeuvrability on ground surfaces, an AI (artificial intelligence) camera 103 integrated with a LiDAR sensor positioned at the front portion of the body 101 for capturing real-time 3D mapping of surroundings to facilitate autonomous navigation, obstacle avoidance, and route optimization, an open box delivery and item scanning arrangement integrated at the frontal section of the body 101 for secure package delivery and product authentication, an automatic return pickup and inspection assembly integrated with the frontal section of the body 101 for handling and verifying returned items, and a microcontroller configured to coordinate and manage all operations.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099293 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SPEECH CLARITY AND PRONUNCIATION ENHANCEMENT DEVICE

(51) International classification	:A61B0005000000, G06V0040160000, B25J0011000000, A63B0023030000, A61B0005389000
(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

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2)Dr. Kiran Mani Tripathi
3)Prof. Nagendra Sharma
4)Prof. Pragya Shastri

(57) Abstract :
A speech clarity and pronunciation enhancement device, comprises of a cuboidal structure 101 to accommodate all the components, a user interface interlinked with the device to create a user profile, an artificial intelligence camera 102 integrated with a passive infrared sensor for facial authentication, a microphone 103 and a speaker 104 in conjunction with a display 105 for audio and video interaction with a user, a root diagnosis module including an analysing probe 106 attached to a proximal end of an articulated robotic arm 107 to create 3D map of oral cavity, an EMG sensor on a dual-pincer arrangement 108 integrated on cascading slider 109 on the lateral side of the structure 101 to detect the electrical activity of the facial muscles, a retractable L-shaped link 110 for performing pen exercises, and a processing module for analysing speech and enhancing pronunciation and clarity of the user.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521099296 A

(19) INDIA

(22) Date of filing of Application :14/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : LIGHT-BASED COMMUNICATION SYSTEM UTILIZING THE VISIBLE LIGHT SPECTRUM FOR HIGH-EFFICIENCY DATA TRANSFER

(51) International classification	:H04B0010116000, H04B0010114000, H01L0033060000, H01L0033320000, H04W0072045300	
(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	

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3)Ms. NEHA SHARMA

4)Dr. JAIVEER SINGH

5)Ms. PRIYA RATHORE

6)Mr. HARIOM PATIDAR

(57) Abstract :

Visible Light Communication (VLC) is an advanced form of Optical Wireless Communication (OWC) that enables simultaneous illumination and high-speed wireless data transmission. It offers several notable advantages, including ultra-high data rates, enhanced security, and immunity to electromagnetic (EM) interference, making it suitable for diverse applications. Light-emitting diodes (LEDs) are widely used in VLC systems due to their superior illumination efficiency. However, factors such as the quantum-confined Stark effect (QCSE), crystal orientation, carrier lifetime, and recombination rate limit their modulation bandwidth and overall transmission performance. To overcome these challenges, micro-LEDs (μ-LEDs) and laser diodes (LDs) have emerged as promising alternatives, offering broader bandwidth and faster modulation speeds. Furthermore, advancements in modulation techniques have significantly enhanced system data capacity. This review highlights VLC system performance and explores its potential applications in industrial Internet of Things (IoT), vehicular communication systems, and underwater wireless networking.

No. of Pages : 24 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521099298 A

(19) INDIA

(22) Date of filing of Application :14/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : ML-DRIVEN ANOMALY DETECTION SYSTEM FOR ENHANCING ENTERPRISE NETWORK SECURITY AND PREVENTING CYBER THREATS

(51) International classification	:H04L0009400000, G06F0021600000, G06N0003088000, G06F0021620000, G06Q0020400000	(71)**Name of Applicant :** **1)MEDICAPS UNIVERSITY** Address of Applicant :A B Road, Pigdamber, Rau, Indore - 453331, Madhya Pradesh, India Indore Madhya Pradesh India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Ms. PRIYA RATHORE**
(32) Priority Date	:NA	**2)Mr. HARIOM PATIDAR**
(33) Name of priority country	:NA	**3)Ms. AAYUSHI BHARDWAJ**
(86) International Application No	:	**4)Dr. PUJA SINGH**
Filing Date	:01/01/1900	**5)Mr. PARAG RAVERKAR**
(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	

(57) Abstract :

Anomaly detection plays a vital role in ensuring the integrity and security of data across diverse industries. With the evolution of machine learning (ML), detection systems have become more effective, precise, and adaptive in identifying irregularities. This paper examines the application of ML-driven anomaly detection in private and governmental data systems, beginning with its definition and significance. It explores key ML models—supervised, unsupervised, and semi-supervised learning—highlighting their relevance to anomaly detection. Challenges such as balancing accuracy with ethical concerns like privacy are addressed, particularly within sensitive sectors. Through case studies in IT and financial technology, the effectiveness of ML in network security and fraud prevention is demonstrated. Advancements in algorithms, big data, and computing power are shown to further enhance these systems. Looking ahead, integration of AI, deep learning, and predictive approaches signals a shift toward proactive anomaly detection, supporting secure, efficient, and resilient digital ecosystems.

No. of Pages : 18 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099306 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Gravitational Wave Detection System Using Advanced Signal Processing

(51) International classification	:A61B0005000000, H04L0025030000, G01H0009000000, H04W0024020000, G01N0027740000	(71)**Name of Applicant :** **1)Dr. Kirti M Korot ,** Address of Applicant :Dr. Kirti M Korot , Assistant Professor, Department of Sciences & Humanities, Government Engineering college, Palanpur, Gujarat ,Pin-385001, State -Gujarat , Email - kirtiphysics@gmail.com, Mobile No.-9662467360 Palanpur Gujarat India **2)Dr.Harshad S Bhutadia,** **3)Dr.Ashok K Chaudhari,**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:	(72)**Name of Inventor :** **1)Dr. Kirti M Korot ,** **2)Dr.Harshad S Bhutadia,** **3)Dr.Ashok K Chaudhari,**
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	

(57) Abstract :
7. ABSTRACT OF THE INVENTION The present invention discloses a gravitational wave detection system utilizing advanced signal processing techniques to enhance the sensitivity and accuracy of detecting gravi- tational waves. The system integrates a high-precision interferometric sensor array, an adaptive noise cancellation module, a wavelet-based signal processing unit, and a machine learning classifier. The interferometric sensor array employs a Michelson interferometer configuration with high-reflectivity mirrors and a stabilized Nd:YAG laser to measure minute spacetime distortions. The adaptive noise cancellation module uses a least mean squares algorithm to suppress environmental and instrumental noise in real-time, achiev- ing a signal-to-noise ratio improvement of at least 30

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099374 A
(19) INDIA
(22) Date of filing of Application :15/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD FOR QUANTIFYING ORGANIC ACIDS FROM E-WASTE-GROWN FUNGI USING LOW-COST HPLC ANALYSIS

(51) International classification	:G01N0030020000, C12N0001140000, C12N0001160000, C22B0007000000, C12P0007640900
(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

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2)Dr. Pooja M. Sonawane
3)Dr. Shantikumar. G Gupta
4)Dr Aruna Kumari Nakkella

(57) Abstract :
A cost-effective method is provided for quantifying organic acids produced by filamentous fungi cultivated on powdered electronic waste (e-waste). The method involves culturing fungal isolates in a nutrient-rich medium containing a carbon source, nitrogen source, phosphate, mineral salts, and 0.01–0.1% (w/v) e-waste, maintained at pH 5.0–6.0. The cultures are incubated at 25–35°C with agitation for 5–10 days, followed by separation of the fungal biomass to obtain a filtrate. Organic acids are extracted from the filtrate using a water-methanol solvent system (70:30 to 80:20, v/v) with 0.1–1.0 mM potassium phosphate buffer, pH 2.0–3.0. The extract is analyzed by high-performance liquid chromatography (HPLC) using a reverse-phase amide C16 column (100–250 mm length, 4.0–5.0 mm I.D., 3–5 µm particle size). Organic acids are eluted with the phosphate buffer at 0.3–1.0 mL/min and detected using a UV detector at 200–220 nm. This method offers a reliable and economical alternative to traditional quantification techniques.

No. of Pages : 26 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097572 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A METHOD FOR PRODUCING HYBRID SUSTAINABLE CONCRETE

(51) International classification	:C04B0018167000, C04B0018220000, C04B0028020000, C04B0018160000, C04B0028040000
(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

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(57) Abstract :
The present invention is related to a method for producing hybrid sustainable concrete using recycled coarse aggregate (RCA) derived from construction and demolition waste (CDW) and crumb rubber particles (RP), a by-product of discarded automobile tires, as partial replacements for natural coarse and fine aggregates, respectively. A total of 26 concrete mixes were prepared with RCA replacing natural coarse aggregate from 0% to 100% in increments of 20%, and RP replacing sand from 0% to 20% in increments of 5%. The mixes were designed and tested as per Indian, ASTM, and British standards for fresh, mechanical, and durability properties. Results demonstrated that up to 60% RCA and 10% RP replacement provided satisfactory compressive, flexural, and tensile strength, with acceptable durability performance. The invention reduces construction and automobile waste, conserves natural resources, and provides an eco-friendly, cost-effective alternative to conventional concrete while maintaining the required structural performance.

No. of Pages : 20 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521097471 A
(19) INDIA
(22) Date of filing of Application :09/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : TRANSDERMAL COMPOSITION AND METHOD FOR SUSTAINED DELIVERY OF ANTIHYPERTENSIVE AGENTS

(51) International classification	:A61M0037000000, A61K0009700000, B29C0033380000, A61K0031417800, A61K0009000000
(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

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6)Momin Ishrat Mohd Umar

(57) Abstract :
The present invention relates to a dissolving microneedle transdermal patch for the sustained delivery of antihypertensive agents. It comprises a precisely engineered microneedle array fabricated via precision micromolding using a resin mold defined by a derma stamp, ensuring needles of approximately 1.1 mm in length with controlled base width and spacing. The microneedles are embedded within a drug-loaded polymer matrix formulated from water-soluble, biocompatible polymers (HPMC, PVA), a copolymer (Eudragit S-100), and a plasticizer (PEG 400), encapsulating agents like Amlodipine Besylate and Losartan Potassium. A flexible backing layer secures the patch to the skin, allowing transient microchannel formation and controlled drug release upon dissolution in interstitial fluids.

No. of Pages : 29 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521099422 A

(19) INDIA

(22) Date of filing of Application :15/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND A METHOD FOR REAL-TIME RESEARCH DATA COLLECTION AND ANALYSIS USING A WEARABLE SENSOR DEVICE

(51) International classification	:H04L0009400000, H04L0009320000, G16H0040630000, H04L0009060000, A61B0005000000
(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

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2)Ms. Salma Mohammad Shafi

(72)**Name of Inventor :**

1)Dr. Reshma Lakesh

2)Ms. Salma Mohammad Shafi

(57) Abstract :

ABSTRACT A SYSTEM AND A METHOD FOR REAL-TIME RESEARCH DATA COLLECTION AND ANALYSIS USING A WEARABLE SENSOR DEVICE The current filing is for a system and method to collect and analyze research data in real time, based on a wearable sensor device. The system contains a sensor array able to capture physiological, behavioral and environmental data; an Edge Artificial Intelligence (Edge-AI) processor for contextual inference and adaptive sampling; and a blockchain-based data integrity module for verified research data to be stored in a tamper-proof and traceable manner. The system additionally features a biofeedback-driven adaptive experimentation module capable of changing experimental variables based on physiological feedback in real-time; and a secure communication interface to privacy-protect and encrypted transmission of data to a cloud analytics platform. The method enables low-latency, context-aware, and thus autonomous management of research data, enabling authenticated, energy-efficient, and ethically compliant research experimentation. This invention achieves a technical advancement by integrating Edge-AI intelligence with blockchain validation to securely, adaptively, and verifiably conduct real-time research with wearable technology.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521099139 A
(19) INDIA
(22) Date of filing of Application :14/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Olfactory Device for Insulin Delivery in Diabetes

(51) International classification	:A61K0038280000, A61K0009000000, A61B0005145000, A61P0003100000, A61B0005000000
(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

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7)Ms. Pooja Madan Alone

(57) Abstract :
Olfactory Device for Insulin Delivery in Diabetes Abstract The present invention discloses an olfactory insulin delivery device designed for non-invasive management of diabetes mellitus. The device utilizes the olfactory mucosa as a bio-absorption site for insulin, enabling rapid systemic uptake without injections. It comprises an insulin reservoir containing a nanoparticle-based insulin formulation, a piezoelectric micro-diffusion chamber for generating fine aerosolized particles, a biosensor module for monitoring glucose and respiration levels, and a control microprocessor for dosage regulation. The device directs insulin aerosol precisely to the olfactory region, ensuring efficient absorption and fast onset of action. By integrating smart biosensing and adaptive feedback mechanisms, the system provides accurate, safe, and painless insulin administration. This innovation offers an effective alternative to subcutaneous injections, improving patient compliance, minimizing hypoglycemia risks, and promoting better glycemic control in both Type 1 and Type 2 diabetic patients.

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521031286 A
(19) INDIA
(22) Date of filing of Application :30/03/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : GREEN SYNTHESIS OF NANOMATERIALS AND A METHOD THEREOF

(51) International classification	:B82Y30/00, B82Y40/00, C05C9/00, C05G5/00
(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

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3)Vibhusha Bhushan Jambhekar

(57) Abstract :
GREEN SYNTHESIS OF NANOMATERIALS AND A METHOD THEREOF ABSTRACT: The present invention directs towards a method for manufacturing of nanomaterials by green synthesis. The method uses botanical extracts and biomaterials for green synthesis of nanoparticles. The botanical extracts and biomaterials are potentised to reduce their consumption, improve process consistency, reliability, increase stability and increase the shelf-life of the nanoparticles.

No. of Pages : 18 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521076917 A
(19) INDIA
(22) Date of filing of Application :12/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HERBAL COMPOSITION FOR MANAGEMENT OF BREAST ENGORGEMENT AND PREPARATION METHOD THEREOF

(51) International classification	:A61K0009060000, A61Q0019000000, A61K0009000000, A61K0036185000, A61P0025140000
(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

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(72)**Name of Inventor :**
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2)TAWARE, Smritika Mohanrao

(57) Abstract :
ABSTRACT HERBAL COMPOSITION FOR MANAGEMENT OF BREAST ENGORGEMENT AND PREPARATION METHOD THEREOF The present invention discloses the herbal composition comprising of Indravaruni (Citrillus colocynthis) oil and bee wax (sikta) for management of breast engorgement. The said herbal composition is in the form of ointment and can be locally applied on the swollen and tender breasts. The said herbal ointment on application for thrice a day relieves the symptoms of breast swelling and tenderness in 8 days. The said herbal ointment is easy to apply and has no side effects like skin irritation and skin rashes.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202521083912 A
(19) INDIA
(22) Date of filing of Application :03/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A System for Power Generation

(51) International classification	:H02S10/12, H02S20/32, F03D9/00, F03D9/25, H02S30/20, H02S30/10, H02S20/30, H10F77/90	(71)**Name of Applicant :** **1)Environ Motors Private Limited** Address of Applicant :Sanjay Nagar, Near Valco Company, Khokale Building, Bhor, Pincode – 412206, MH, India. Pune Maharashtra India (72)**Name of Inventor :** **1)NARAGUDE, Shyam**
(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	

(57) Abstract :
The present invention relates to a system (100) for power generation having a frame (10), a transmission shaft (20) fixedly connected at a centre of the frame (10), and a plurality of solar panels (30) arranged circumferentially on the frame (10) adjacent to each other. At least one solar panel is movable with respect to the frame (10) to form a first configuration or a second configuration. In the first configuration, at least one solar panel is positioned to face sunlight to generate electricity through solar energy. In the second configuration, the plurality of solar panels (30) is positioned radially around the frame (10) facing a wind direction to rotate the plurality of solar panels (30) around a central axis, causing rotation of the frame (10) and the shaft (20) for producing electricity through an electrical machine. The system (100) enables power generation from both solar and wind energy.

No. of Pages : 94 No. of Claims : 39

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202441077486 A
(19) INDIA
(22) Date of filing of Application :12/10/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : Stable mRNA composition and a method for preparation thereof

(51) International classification	:C12N0015113000, C08L0071020000, C12N0015670000, B29C0048920000, B29C0048310000
(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

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3)Ms. SONALI RAJ

(57) Abstract :
The present invention relates to stabilization of mRNA by substituting 5' cap with novel genetic elements. Especially, the present invention provides a method for increasing the stability of mRNA by introducing poly A at 5' end of mRNA. The disclosed capless mRNA of the present invention offers a faster, more cost-effective and scalable solution, addressing the key challenges faced by existing mRNA manufacturing technologies.

No. of Pages : 38 No. of Claims : 11

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541046562 A
(19) INDIA
(22) Date of filing of Application :14/05/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CHIMERIC PEPTIDES WITH ENHANCED PROTEOLYTIC STABILITY, COMPOSITON AND METHODS THEREOF

(51) International classification	:C07K0014445000, A61K0039000000, A61L0027540000, A61K0038000000, A61P0043000000
(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

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(72)**Name of Inventor :**
1)Kalyaneswar Mandal
2)Abhisek Kar
3)Akash Narayan
4)Vishal Malik

(57) Abstract :
ABSTRACT “CHIMERIC PEPTIDES WITH ENHANCED PROTEOLYTIC STABILITY, COMPOSITON AND METHODS THEREOF” The present disclosure relates to chimeric peptides set forth as SEQ ID No. 1, SEQ ID No. 2 and SEQ ID No. 3. The chimeric peptides of the present disclosure inhibit invasion and growth of Plasmodium falciparum strains by inhibiting the interaction between the parasitic proteins apical membrane antigen-1 (AMA1) and rhoptry neck protein-2 (RON2). The chimeric peptides while maintaining high inhibitory activity, also exhibit high proteolytic and plasma stability. The present disclosure also relates to methods of designing and synthesizing the chimeric peptides as well as composition comprising the chimeric peptides.

No. of Pages : 42 No. of Claims : 13

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541050782 A
(19) INDIA
(22) Date of filing of Application :27/05/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PORTABLE HELMET SANITIZING AND FRAGRANCE INFUSION DEVICE

(51) International classification	:A61L0002100000, A42B0003040000, A61M0005142000, C02F0001780000, B08B0007000000	(71)**Name of Applicant :** **1)Prashanth Nedarapalli Vijayaraju** Address of Applicant :20, 3rd cross, Om Sai Ram Enclave, Myadarahalli, Jalahalli West, Bengaluru, Karnataka 560090 Bengaluru Karnataka India **2)Sujatha**
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Prashanth Nedarapalli Vijayaraju**
(33) Name of priority country	:NA	**2)Keerthana Nedarapalli Vijayaraju**
(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	

(57) Abstract :
The present invention discloses a device (100) for sanitizing and deodorizing helmets (102). The device (100) includes a housing (104) adapted to be placed underneath a helmet (102). The device (100) further includes a liquid chamber (112) adapted to hold a sanitizing and fragrant solution. The device (100) further includes a vaporization unit (116) operatively coupled to the liquid chamber (112) and configured to convert the sanitizing and fragrant solution into mist. The device (100) further includes an ultraviolet light source configured to emit ultraviolet light on an interior surface of the helmet (102). The device (100) further includes a control unit configured to simultaneously activate the vaporization unit (116) and the ultraviolet light source (120) for a predetermined duration. The device (100) further includes a rechargeable power source for supplying power.

No. of Pages : 23 No. of Claims : 15

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541061948 A
(19) INDIA
(22) Date of filing of Application :28/06/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR RECOVERING SAP AND PLASTIC FROM DIAPER WASTE

(51) International classification	:B29B0017020000, B09B0003000000, B03B0009060000, B29B0017040000, A61F0013150000
(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

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(57) Abstract :
ABSTRACT SYSTEM AND METHOD FOR RECOVERING SAP AND PLASTIC FROM DIAPER WASTE The present invention pertains to a system and method for recovering SAP and plastic from diaper waste. This invention presents an automated centrifugal separation system for recycling used disposable diapers, comprising a shredding unit and a stainless-steel cylindrical drum with a spiral mesh mechanism. The system features a heating element that maintains temperatures between 40-90°C, integrated sensors for monitoring operational parameters, and a microcontroller-based processing unit. The drum, capable of rotating at 400-1500rpm, incorporates a specialized mesh with 3-6mm apertures for material separation. The recycling process involves shredding the diapers, creating a uniform water-based slurry, and utilizing centrifugal force combined with controlled heating for material separation. Multiple outlets facilitate the collection of distinct components including SAP particles, polyethylene and polypropylene materials, residual water, and waste materials. This system offers an efficient solution for processing used disposable diapers into recyclable components while maintaining precise control over operational parameters. [Figure 1]

No. of Pages : 14 No. of Claims : 12

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541065199 A
(19) INDIA
(22) Date of filing of Application :09/07/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A CONTACTLESS SENSOR-CONTROLLED DENTAL COTTON DISPENSING DEVICE AND METHOD THEREOF

(51) International classification	:G06F0003010000, A61C0019000000, H01M0010480000, A61L0002180000, F16B0011000000	(71)**Name of Applicant :** **1)MANIPAL ACADEMY OF HIGHER EDUCATION** Address of Applicant :MADHAV NAGAR, MANIPAL, 576104, KARNATAKA, INDIA Karnataka India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)PRAJNA P NAYAK** **2)AMAN PRATAP SINGH**
(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	

(57) Abstract :
The present invention relates to a sensor-controlled cotton dispenser device for dispensing sterilised cotton rolls or balls, particularly designed for dental procedures. The device automates the process of dispensing cotton rolls using integrated sensors to detect hand movements or the proximity of the user, triggering a plurality of dispensers to release sterilised cotton rolls or balls in varying sizes and shapes. The device includes a transparent storage unit with multiple compartments, a filling opening for hygienic loading, and a hook attachment for secure mounting onto dental chairs or instrument trays, ensuring easy accessibility during procedures. Powered by a portable battery, the system maintains sterility, reduces manual effort, and enhances operational efficiency. The transparent design allows monitoring of cotton roll levels for timely refills, ensuring uninterrupted operation. This invention addresses the challenges of manual cotton preparation, offering a hygienic, ergonomic, and efficient solution for diverse dental applications, significantly improving procedural outcomes.

No. of Pages : 28 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541078901 A
(19) INDIA
(22) Date of filing of Application :18/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Machine Learning based statistical inference system for predicting extreme weather events

(51) International classification	:G01W1/00, G06N20/00, G06N3/08, G01W1/06
(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

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7)Arpneek Kaur
8)Mr.Aoudumber, D Londhe,
9)Mr. Vivek Vishnu Bamane,
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(57) Abstract :
Abstract The invention discloses a machine learning-based statistical inference system designed to predict extreme weather events with enhanced accuracy, reliability, and interpretability. This hybrid forecasting framework combines advanced artificial intelligence techniques with probabilistic statistical modeling to analyze large-scale environmental datasets, including real-time sensor data, satellite imagery, remote sensing inputs, and historical weather records. Unlike conventional weather prediction systems that rely heavily on numerical weather prediction (NWP) models, this system uses adaptive machine learning algorithms to detect complex patterns and early indicators of extreme weather, such as floods, hurricanes, heatwaves, and storms. A key novelty of the invention lies in its integration of statistical inference methods, enabling the system to produce probabilistic forecasts with quantifiable confidence levels rather than deterministic outputs. This probabilistic reasoning provides users with insights into the likelihood and severity of upcoming weather events, supporting more informed and risk-aware decision-making in disaster preparedness and emergency response contexts. The invention features an adaptive learning capability that continuously updates the forecasting models based on incoming data and feedback from actual weather outcomes, ensuring ongoing performance improvement in the face of evolving climate patterns. The system architecture is modular and scalable, supporting deployment across a variety of geographic locations and computing environments, including cloud, edge, and resource-constrained settings. Additionally, the system offers user-friendly interfaces for different stakeholders, delivering forecasts through visual dashboards, geospatial alerts, and data APIs. Designed to operate seamlessly with existing meteorological infrastructure, the invention provides an innovative, data-driven solution to the growing global challenge of extreme weather prediction and climate resilience.

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541082333 A

(19) INDIA

(22) Date of filing of Application :29/08/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A CONTINUOUSLY VARIABLE TRANSMISSION SYSTEM FOR AN ELECTRIC VEHICLE AND AN OPERATING METHOD THEREOF

(51) International classification	:B60L0015200000, F16H0061662000, B60K0001000000, F16H0009180000, F16H0061020000	(71)**Name of Applicant :** **1)EXEDY Clutch India Pvt. Ltd.** Address of Applicant :Plot No. 5-P, 9-18, 19P, 32-38, Narasapura Industrial Area, Appasandra Village, Kolar Taluk & District Karnataka -563133 Kolar Karnataka India
(31) Priority Document No	:NA	**2)Starya Mobility Pvt. Ltd.**
(32) Priority Date	:NA	(72)**Name of Inventor :**
(33) Name of priority country	:NA	**1)Prashanth Devendra**
(86) International Application No	:	**2)Ravikumar Jagannath**
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	

(57) Abstract :

A CONTINUOUSLY VARIABLE TRANSMISSION SYSTEM FOR AN ELECTRIC VEHICLE AND AN OPERATING METHOD THEREOF This disclosure herein relates to a Continuously Variable Transmission (CVT) system (100) for an electric vehicle. The CVT system (100) includes an electric motor (102), a controller (104), and a variable pulley mechanism (200). The mechanism (200) includes primary (202) and secondary (204) pulleys with adjustable diameters, connected by a belt (206), enabling continuous gear ratio variation. The secondary pulley (204) transmits power to the differential (10) via an output shaft (110). The controller (104) regulates the motor's rotational speed based on throttle input, ensuring smooth, efficient torque delivery. A cam assembly (300) facilitates reverse gear operation. The CVT system optimizes electric vehicle performance through dynamic gear ratio adjustments, maintaining the motor's efficiency across diverse driving conditions, and reducing transmission losses by eliminating centrifugal clutch. Fig. 3A

No. of Pages : 38 No. of Claims : 14

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541084361 A
(19) INDIA
(22) Date of filing of Application :04/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A Device and Method for Personalized Letter Writing and Communication Coach for Students Using Machine Learning and IoT Devices

(51) International classification	:G10L0015220000, G06F0003160000, G06Q0050200000, G10L0015260000, G10L0015300000
(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

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7)Dr. K. Shaheen,
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9)Ms. Kavita Priyadrshni,

(57) Abstract :
7. ABSTRACT OF THE INVENTION The present invention provides a device and method for personalized letter writing and com- munication coaching for students using Machine Learning (ML) and Internet of Things (IoT) technologies. The system comprises an IoT-enabled device for capturing text or voice input, a cloud-based ML platform for analyzing the input using natural language processing (NLP) algorithms, and a user interface for delivering real-time feedback and progress tracking. The IoT device, equipped with sensors such as a microphone or touchscreen, collects user input and transmits it to the ML platform via a wireless connection. The ML platform evaluates the input for grammar, tone, structure, and context, generating personalized feedback and suggestions to improve communication skills. The system tracks user progress over time, adapting its coach- ing strategies to individual learning needs. The method involves capturing input, transmitting it for analysis, processing it with ML algorithms, and providing tailored feedback through the user interface. This invention enhances students written and verbal communication skills by of- fering a scalable, accessible, and adaptive learning platform suitable for educational institutions or remote use.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541084465 A
(19) INDIA
(22) Date of filing of Application :05/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : To Investigate the performance of different RL algorithms in the context of IDS and identify the most effective approaches.

(51) International classification	:H04L0009400000, G06N0020000000, G06N0003045000, G06F0021550000, G06N0003080000	(71)**Name of Applicant :** **1)SR UNIVERSITY** Address of Applicant :SR UNIVERSITY, Ananthasagar, Hasanparthy (PO), Warangal - 506371, Telangana, India. Telangana India (72)**Name of Inventor :** **1)Thatikanti Rajendar** **2)Dr. P. Praveen**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:	
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(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	

(57) Abstract :
4. Abstract Intrusion Detection Systems (IDS) are very important for keeping modern networks safe from hackers and new types of cyberattacks. Traditional IDS methods, such as signature-based and anomaly-based methods, as well as machine learning and deep learning models, have worked well but are still limited by high false positive rates, the inability to adapt to new attacks, the need for more processing power, and the inability to generalize in changing environments. Reinforcement Learning (RL) has recently surfaced as a promising framework for Intrusion Detection Systems (IDS) by enabling adaptive, self-learning mechanisms that effectively address evolving attack patterns. However, the effectiveness of various reinforcement learning algorithms—such as Q-learning, Deep Q-Networks (DQN), Policy Gradient methods, and Actor-Critic architectures—has not been sufficiently investigated in the intrusion detection system (IDS) domain. The current invention provides a systematic framework for the analysis, assessment, and identification of the most effective reinforcement learning algorithms in the context of intrusion detection systems. The purpose of the idea is to increase detection accuracy, reduce false alarms, make sure computers perform well, and make them more flexible to zero-day attacks. This will make it a powerful and flexible solution for use in the real world for cybersecurity. Keywords Intrusion Detection System (IDS), Reinforcement Learning (RL), Cybersecurity,Q-Learning, Deep Q-Network (DQN), Policy Gradient

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541084710 A
(19) INDIA
(22) Date of filing of Application :06/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Method and Device Implementation for an AI-Powered Adaptive Learning Platform with Emotional Context Analysis for Indian Students

(51) International classification	:G06N0003045000, G06N0003080000, H04L0067120000, G06N0003044000, G06V0020400000
(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

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(57) Abstract :
7. ABSTRACT OF THE INVENTION The invention discloses a method and device for an AI-powered adaptive learning platform with emotional context analysis, designed for Indian students and implemented in IoT-enabled systems. The platform collects multimodal data (physiological, visual, auditory) using IoT devices, including wearables, cameras, and microphones, at a 10 Hz sampling rate. It employs convolutional neural networks, BERT-based NLP, and recurrent neural networks to analyze emotional cues with 85% accuracy, enabling real-time content adaptation using reinforcement learning and transformer models. The system delivers curriculum-aligned, multilingual content tailored to Indian educational standards and supports 12 regional languages. Operating within a secure cloud-based IoT infrastructure with edge computing, it ensures low-latency feedback (200 ms) and compliance with Indian data protection laws. The platform enhances student engagement by 15%, knowledge retention by 20%, and academic performance by 25% through a personalized, emotionally responsive learning experience.

No. of Pages : 16 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541084823 A
(19) INDIA
(22) Date of filing of Application :07/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Development of Novel Catalysts for Efficient Chemical Reactions in Indian Pharmaceutical Industry

(51) International classification	:B01J35/00, B01J37/00, B01J21/00, B01J23/00, B01J31/00, B01J29/00, B01J27/00
(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

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(57) Abstract :
Abstract This invention relates to the development of novel catalysts aimed at improving the efficiency, sustainability, and cost-effectiveness of chemical reactions within the Indian pharmaceutical industry. Catalysts are essential for accelerating reaction rates, enhancing yields, and increasing selectivity in the synthesis of active pharmaceutical ingredients (APIs) and complex drug intermediates. Conventional catalytic systems often rely on precious metals, operate under harsh conditions, and pose challenges related to recyclability and environmental impact. Addressing these issues, the invention introduces innovative catalysts designed using principles of nanotechnology, materials science, and computational chemistry to offer superior catalytic performance while being environmentally friendly and economically viable. The catalysts are developed using earth-abundant, non-toxic materials, making them cost-effective alternatives to traditional precious metal catalysts. Their nanostructured design provides a high surface area and active sites, improving reaction efficiency and selectivity even at mild reaction conditions. These catalysts are heterogeneous and recyclable, enabling easy separation and reuse across multiple reaction cycles without loss of activity, thus reducing operational costs and waste generation. A significant feature of the invention is its compatibility with both batch and continuous flow processing, facilitating scalability and consistent product quality in pharmaceutical manufacturing. Additionally, the catalysts are effective in green solvents such as water and ethanol, aligning with global sustainability goals. The invention also supports multifunctional catalytic systems capable of performing tandem reactions, reducing process steps and improving overall efficiency. This invention offers a sustainable, efficient, and cost-effective solution to the challenges faced by the Indian pharmaceutical industry. By enhancing catalytic processes, it contributes to affordable drug production, reduced environmental impact, and strengthens India's position as a global pharmaceutical hub.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541085237 A
(19) INDIA
(22) Date of filing of Application :08/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Machine Learning-Based Method and System for Optimizing CNC Machining Parameters and Surface Finish

(51) International classification	:G06N0020000000, G06N0005010000, G06N0003126000, G06Q0010040000, H04L0041160000
(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

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7)Mr.Arun Krishnan
8)Dr.Shabana Naz Siddique

(57) Abstract :
ABSTRACT OF THE INVENTION: Title: Machine Learning-Based Method and System for Optimizing CNC Machining Parameters and Surface Finish A method and system for optimizing CNC machining parameters to achieve a desired surface finish using machine learning is disclosed. The system includes a data acquisition module (102) for collecting historical data on machining parameters (e.g., speed, feed, depth of cut) and resulting surface roughness (Ra). A pre-processing module (104) normalizes this data. A machine learning training module (106) utilizes algorithms like Random Forest to train a predictive model that correlates the input parameters to the output surface finish. This trained model is deployed in a prediction and optimization engine (108). The engine provides two key functionalities: firstly, it can predict the surface roughness for a user-input set of parameters. Secondly, and more significantly, it can accept a target roughness value and compute an optimal set of machining parameters predicted to achieve that target, using optimization algorithms like Genetic Algorithm. A user interface (110) allows for intuitive interaction, enabling machinists to obtain predictions and recommendations without costly trial-and-error. The invention enhances manufacturing efficiency, improves part quality, reduces scrap, and minimizes reliance on operator skill for parameter setting, representing a significant advancement in smart and predictive manufacturing for CNC machining processes.

No. of Pages : 13 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090028 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED WATER DISPENSING SYSTEM FOR EFFICIENT AGRICULTURAL IRRIGATION MANAGEMENT

(51) International classification	:A01G0025020000, C02F0001000000, C02F0001280000, C02F0009000000, C02F0003300000
(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

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2)Dr. V.C. BHARATH SABARISH
3)Mr. A. GODWIN ANTONY

(57) Abstract :
ABSTRACT AUTOMATED WATER DISPENSING SYSTEM FOR EFFICIENT AGRICULTURAL IRRIGATION MANAGEMENT The present invention discloses an effective drip irrigation (10) for regulating water flow, purifying waste water and ensuring uniform distribution for the agricultural uses. A compressor, a multi-layer filtering device and a zigzag-patterned pipe make up the system. The pipe with a C bend (21) and zigzag pattern (22) is designed to decrease air bubbles and stabilize water flow. Three layers make up the multi-layer filtration unit (23): a wide channel filter for large waste particles, a dust removal layer for medium sized debris and a paper-type filter for micro-level contaminants to assure pure water for irrigation while small openings near the filters allow air to escape. The splitter mechanism (20) is the purified water is routed. It has a wide (25)-narrow (26)-wide (27) channel. With the help of the compressor, a form sheet (28) inside the splitter pipe develops wave-like motion in the water. It makes easier for water to be ejected uniformly through a number of outlet holes, ensuring that the irrigated area is consistently hydrated. The present invention supports environmentally friendly and sustainable farming practices by minimizing manual labour and improving the effectiveness and durability of drip irrigation systems. Fig 1

No. of Pages : 19 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090029 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART ELECTRIC CLIP FOR BIRD AND WILDLIFE SAFETY ON LIVE POWER CABLES

(51) International classification	:A01M0029160000, A01M0029100000, A01M0029000000, H01B0017000000, A01M0029060000
(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

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3)Ms. A R. ASMAA SULTHANA
4)Ms. R. VARSHINI
5)Mr. M. RAJA

(57) Abstract :
ABSTRACT SMART ELECTRIC CLIP FOR BIRD AND WILDLIFE SAFETY ON LIVE POWER CABLES The present invention discloses a smart electric clip (51) for bird and wildlife safety on live power cables (50), aimed at preventing harm to avian and arboreal species while enhancing the safety and reliability of electrical infrastructure. The device contains a clamp-mounted body which enables non-intrusive attachment on active power transmission lines while allowing uninterrupted electric flow. The system possesses a sensor array (67) capable of detecting both overcurrent (57) conditions and thermal anomalies (58) then sends data to a built-in microelectronic processing unit (59) for real-time analysis. Diagnostic and alert data transfer from the device occurs through low-power wireless communication to either remote substations or cloud servers (60). Wild animals are warned off dangerous contact through the integrated sound module that releases ultrasound and broadband acoustics. A renewable energy self sustaining system consisting of 54 solar panels together with wind micro-turbines (55) or inductive harvesters provides power to the device which stores the energy in either a mini battery or supercapacitor (56). This outdoor-ready device comes in an insulating box that protects against rain and UV while having electrical shielding (66). The invention delivers an eco-friendly modular system that performs real-time wildlife defense and automated exception surveillance which allows improved smart diagnostic capabilities and minimized maintenance requirements for power line networks. Fig1

No. of Pages : 16 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090032 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SELF-BURYING SEED SPHERE WITH GPS TRACKING & LIGHT

(51) International classification	:A01C0007200000, A01C0007000000, A01C0005060000, G06T0007246000, A01K0011000000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)Mr. R. S. VISVAJEET**
(86) International Application No	:	**3)Dr. M. DEEPAN KUMAR**
Filing Date	:01/01/1900	**4)Mr. B. ARAVIND PRASAD**
(87) International Publication No	: NA	**5)Mr. M. DARRUNSITASH**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT SELF-BURYING SEED SPHERE WITH GPS TRACKING & LIGHT The current invention introduces an automatic spherical seeding equipment which simplifies seed planting operations across different types of soil. This device features a round main body (53) with Plurality of spike (51) arranged symmetrically that comes with steady torus rings (52) which reduce the impact of soil contact. The spikes (51) track each other across the radially extending pattern for achieving uniform seed penetration and balanced rolling motion. The inside of the spherical body (53) contains three essential systems: first the seed container (57) which uses tubes for accurate distribution and second a motorized system for movement and rotation control and third a GPS and lighting module (56) that helps navigation in various weather conditions. Through this design the machine conducts automatic outdoor land travel while monitoring its interaction with soil and performing seed dropping operations directly onto the ground needing minimal human assistance. The device enhances seed planting speed while decreasing labour requirements in farming by integrating a smart system into its powerful and compact structure. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090033 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : EFRICKS

(51) International classification	:C04B0028000000, C04B0033132000, C04B0018080000, C04B0111000000, C04B0033130000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(86) International Application No	:	**3)Mr. KUMARAN BALA**
Filing Date	:01/01/1900	**4)Mr. S. SHIEK NIVAS AHAMED**
(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	

(57) Abstract :
ABSTRACT EFRICKS The present invention relates to an eco-friendly construction brick, herein referred to as EFRICKS'25, formulated from a novel composition comprising recycled industrial waste materials such as glass powder and ceramic waste, in combination with natural fillers including fly ash, sawdust and rice husk. The composition further includes an eco-friendly binder selected from low-carbon cements such as geopolymer or pozzolanic cement, and a controlled quantity of water to form a mouldable mixture. Optional natural polymers may be incorporated to enhance bonding and flexibility. The bricks are manufactured without high-temperature kiln firing, thereby significantly reducing energy consumption and environmental impact. Once moulded and cured under ambient or controlled conditions, the resulting brick exhibits compressive strength between 10 MPa and 30 MPa, water absorption below 15%, and thermal conductivity less than 0.5 W/m·K, making it suitable for structural and insulation applications. The invention provides a sustainable, recyclable, and cost-effective alternative to conventional clay bricks, contributing to green building practices and resource conservation. Fig 1

No. of Pages : 13 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090034 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PEELPURE LABEL FABRICATION MACHINE

(51) International classification	:A61L0002070000, A23L0003000000, A23L0003160000, A23L0003040000, A23B0009080000
(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
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(57) Abstract :
ABSTRACT PEELPURE LABEL FABRICATION MACHINE The present invention discloses a peelpure label fabrication machine (10) for producing hygienic, eco-friendly edible labels with minimal manual effort and improved automation. The peelpure label fabrication machine (10) comprises a feed hopper, mixing unit, steam sterilizer, pasteurizer, drying chamber, roller unit, and output tray, all mounted on a common base. The feed hopper (51) is configured to receive natural ingredients like rice starch and edible colorants. The mixing chamber (52) uniformly blends the contents using a rotating stirrer, ensuring consistency. The sterilizer tank (53) applies pressurized steam to eliminate microbial contaminants, while the pasteurization unit further enhances safety by controlled heating. The semi-liquid blend is transferred via a connecting shaft (54) into a casting and drying chamber (55), which solidifies the label by controlled temperature and airflow. The roller assembly (56) facilitates even thickness and smooth surface texture, and finally, the edible label is dispensed through the output section (57) in a ready-to-use roll format. The present invention (10) reduces manual labour and production time, while enhancing hygiene, food safety, and sustainability in edible label fabrication. Fig 1

No. of Pages : 17 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090037 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : FEEDFIT - SMART COMFORT FOR SMART MOMS

(51) International classification	:A61M1/06, A61B5/00, A41D1/215
(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

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3)Mrs. E. SRI SANTHOSHINI
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(57) Abstract :
ABSTRACT FEEDFIT - SMART COMFORT FOR SMART MOMS The present innovation presents itself as a wearable breast milk support system integrated within specially made clothing garments to cover maternal areas during the breast milk expression and feeding period. The device contains (51) silent breast pumps for milk extraction with integrated flat milk storage space (53) and curved sipper openings (52) to feed the baby and it uses (54) sensors (56) to track breast hydration and milk consistency and general breast health status. The LED indicators supply operational and wellness notification data to users through the system status LEDs (55). The outer cover of the device consists of antimicrobial fabric designed with stretchable qualities and soft texture while maintaining both hygiene and comfort functions. Both breastfeeding and milk expression become accessible anytime while the invention guarantees user privacy and convenient operation. Real-time milk quality and feeding performance along with consumption information is provided through small LED indicators placed discreetly within the garment seam (55). The vibration alerts from the garments can only be experienced by their user while remaining invisible to others Fig 1

No. of Pages : 18 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090038 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HELMET WITH AIRBAG SYSTEM

(51) International classification	:A42B0003040000, G06F0001260000, B60R0021010000, B60R0021217000, G06F0009300000
(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

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(57) Abstract :
ABSTRACT HELMET WITH AIRBAG SYSTEM The present innovation discloses a protective airbag inside a helmet structure to provide better user safety during collisions. Structure and cushioning support inside the helmet include both a solid shell (51) made for protection as well as an inner padding (52) designed for comfort. A folded airbag module (53) remains inside together with an airbag compartment cover (64) covering it. The inflation of this system happens through the activation of a co_2 cartridge by an inflator trigger mechanism. A rapid deployment of the airbag occurs when gas escapes through nozzle (56). An IMU sensor (57) monitors movements which it transmits to a microcontroller unit (58) designed to detect specific falling circumstances. The automatic inflator mechanism on number 55 triggers system activation. An internal battery (59) powers the system which accepts the charge from a charging module (60). The device operates using control wires (63) which link every component to the mounting frame (65) offering complete system security. The helmet activates its airbag system instantaneously when necessary through automatic functions. Fig 1

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090039 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HYDROLOOP

(51) International classification	:C02F0001000000, C02F0009000000, C02F0001440000, C02F0001280000, E03B0001040000
(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

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5)Dr. A. PUNITHA

(57) Abstract :
ABSTRACT HYDROLOOP The present invention makes a disclosure of the hydroloop water filtration system for washing machine greywater treatment and reuse. The system includes a washing machine outlet (1) connected to a filtration compartment (2) and the activated carbon charcoal filter (3) as well as the uv sterilization unit (4) for multistage purifications of used water. The freshwater quality is constantly monitored and sent in real time to microcontroller 1 by integrated sensors that include a ph sensor (5), tds sensor (6), and turbidity sensor (7). The filtered water is transported to a container 1 inlet (8) into a water storage unit (10) from which the water can be reused through an outlet from the storage tank (9). Further special inlet is given (11) for the storage of water in addition to the filter outlet (12) for flexibility. The system works through regulated power supply, and is intended to be compact, automated and user friendly. This invention makes waste free sustainable water management possible since it recycles washing machine water for non-potable use and protect the essential resource and promoting eco conscious domestic and commercial resource consumption. Fig 1

No. of Pages : 18 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090040 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : GALLIUM ENCAPSULATED IN MEDICAL-GRADE SILICONE FOR NIPPLE MANUFACTURING PROCESS (GALLIUM-INFUSED SILICONE FEEDING BOTTLE NIPPLE)

(51) International classification	:A61J0011000000, A61J0009000000, A61J0011040000, A61J0009040000, A61J0009060000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:
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(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
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Filing Date	:NA

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4)Mr. B. SAMUEL JERRY
5)Mr. P. MANI

(57) Abstract :
ABSTRACT GALLIUM ENCAPSULATED IN MEDICAL-GRADE SILICONE FOR NIPPLE MANUFACTURING PROCESS (GALLIUM-INFUSED SILICONE FEEDING BOTTLE NIPPLE) The present invention relates to a baby feeding nipple system infused with a gallium-based temperature-sensitive indicator for ensuring baby safety during feeding. The system comprises a soft, medical-grade silicone nipple integrated with a gallium-infused layer that visually changes appearance when the liquid temperature exceeds a safety threshold, typically 40°C. This visual indication alerts caregivers to potentially is not ready for feeding to baby, thereby reducing the risk of accidental burns. Additionally, the nipple includes integrated vent holes to reduce air intake, minimizing baby colic and discomfort. A threaded retainer ring secures the nipple to the feeding bottle, providing a leak-proof seal and stable attachment. The gallium-based layer is reversible, enabling repeated use without performance degradation. This invention provides a simple, cost-effective, and reusable solution for enhancing infant feeding safety and comfort. Fig 1

No. of Pages : 13 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090041 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HEARING KIT FOR DEAF PEOPLE

(51) International classification	:H04R0025000000, A61N0001360000, G09B0021000000, H04R0001280000, H04R0001100000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)R. Infanto wesely**
(33) Name of priority country	:NA	**2)Dr. M. Manikandan**
(86) International Application No	:	**3)Dr. M. Velmurugan**
Filing Date	:01/01/1900	**4)K. Sakthi darshan**
(87) International Publication No	: NA	**5)M. Athi meenatchi**
(61) Patent of Addition to Application Number	:NA	**6)S. Yazhini**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT HERAING KIT FOR DEAF PEOPLE The present invention discloses hearing kit for deaf people (1) it is used for inborn peoples for hearing, they don't want to make cochlear implant, for that they can use this product. The motor and retainer pipe this motor is used as main mediator by using this motor we convert the sound waves to vibration waves, the motor makes the vibration waves to the shaft in that we fix the retainer pipe, the retainer pipe was hold in the teeth, this makes vibration waves to travel through the teeth and get into the brain, they can able to feel and then they can response to us(2). The mic (3) it is used to receive the sound and sent it to the module. The bluetooth module and receiver module with noise cancellation (4) this module is used receive the sound waves from the mic it will able to convert the sound waves into vibration waves. Then the bluetooth module is used to speak in phone calls, hearing music, etc. Fig 1

No. of Pages : 13 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090044 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : LANTANA WEED PLUCKER

(51) International classification	:A01H0006860000, A61K0036850000, G06V0020100000, B25J0009160000, A61B0090000000
(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

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6)Mr. S. AAKASH

(57) Abstract :
ABSTRACT LANTANA WEED PLUCKER The present invention discloses a lantana weed plucker (100) an autonomous robotic system, referred to as the lantana weed plucker, for the detection, extraction, and collection of invasive lantana plants from diverse terrains. The system utilizes a multispectral camera (50) to capture spectral images of vegetation, which are processed in real time using a de10-nano board (52) that incorporates both fpga and arm cores to accurately identify lantana based on reflectance profiles. A tracked chassis (53) enables stable movement over uneven or forested ground, while a robotic arm (54) equipped with an excavator clamshell bucket (55) performs physical extraction of the plant, including its root system. The uprooted material is deposited into a mechanical storage bin (56) mounted on the same chassis. An arduino portenta h7 (57) coordinates all subsystems, including sensors, actuators, and communication. Navigation and mapping are achieved via an rplidar a1 (62) and a gps module (63). A lora rf module (51) provides long-range communication, and the system is powered by a battery pack (59), power distribution board (60), and voltage regulators (61). Supporting hardware includes an emergency stop switch (64), a vibration-reducing camera mount (65), and frame brackets (66). The invention offers an efficient, non-chemical solution to the environmental and agricultural threat posed by lantana infestation. Fig 1

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090046 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BAMBOO BASED AIR COOLER

(51) International classification	:F24F0005000000, F24F0011000000, F24F0006140000, H05K0007200000, F28D0005020000
(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

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(57) Abstract :
ABSTRACT BAMBOO BASED AIR COOLING The present invention discloses a bamboo based air cooling system (100) that applies natural materials and it requiring low power to cool rooms through its operation. The bamboo-based air-cooling system (100) includes three bamboo ducts (6), five mist sprayers (5), a water container with a mini water pump (3), and 12V transformer (1). The bamboo ducts function as ventilation components while their porous structure enables better natural cooling performance. The water pump (3) extracts water from the container after it feeds water through water pipes (4) to the mist sprayers (5) and it create a fine mist inside the porous bamboo ducts to initiate evaporative cooling processes. The mediation enables microcontroller (2) to activate the mist pump system and fan system by measuring environmental temperature and humidity measurements independently. The T joint (7) distributes water evenly to the mist sprayers, while a mesh filter inlet (9) filters the inlet air. Cold air distribution happens throughout the room by using active exhaust fan (8) circulation which draws air from its inlet (10) and the present development (100) provides an environmentally aware mobile device with optimized energy consumption that presents a sustainable air conditioning solution to conventional methods. Fig 1

No. of Pages : 17 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090047 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BIOSENSOR TOOTH BRUSH

(51) International classification	:A61B0005000000, A61Q0011000000, A61B0005145000, H04W0004800000, A61C0017220000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)Ms. M. HARINI**
(86) International Application No	:	**3)Mr. D. RAJARAJAN**
Filing Date	:01/01/1900	**4)Ms. T. KRISHITHA**
(87) International Publication No	: NA	**5)Dr. SYED AKBAR SYED YUSUFF**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT BIOSENSOR TOOTH BRUSH The present invention relates to advanced smart biosensor toothbrush for better oral hygiene and health monitoring in real-time. The toothbrush comes equipped with various biosensors for detecting bacteria, pH and sugar sensitivity, hydration level, glucose, and plaque detection. These biosensors function together to give precise analysis of the oral health status of the user. The toothbrush is also designed with a removable toothpaste cartridge (66) to enable easy use and replacement for better hygiene and sustainability. It includes wireless connectivity via a bluetooth low energy module (69), enabling easy synchronization with a specific mobile application for Android and iOS devices. The mobile app serves as an intelligent companion, providing real-time health information including bacterial percentage, pH value, hydration level, sugar level, and tooth decay prediction. The brush is constructed with medical-grade ABS plastic for the handle and food-grade silicone for the brush head to ensure user safety and durability. It not only cares about effective cleansing but also doubles as a personal oral health surveillance tool, which allows users to practice oral hygiene and keep watch for possible oral health problems. The ergonomic form, lightweight model, and onboard technology render this invention a convenient and user-friendly tool for every-day oral cleansing with high-end health monitoring ability. Fig 1

No. of Pages : 16 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090048 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WIRELESS LAPTOP-TO-PROJECTOR DISPLAY SYSTEM WITH INTEGRATED RECEIVER (BYTE SHARE)

(51) International classification	:H04N0021436300, H04W0004800000, H04W0084120000, H04N0021438000, H04N0021643000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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(86) International Application No	:	**3)Ms. C. MONISHA**
Filing Date	:01/01/1900	**4)Mr. R. VENKADA KRISHNAN**
(87) International Publication No	: NA	**5)Mr. P. MANI**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT WIRELESS LAPTOP-TO-PROJECTOR DISPLAY SYSTEM WITH INTEGRATED RECEIVER (BYTE SHARE) The present invention discloses a wireless laptop-to-projector display system, herein referred to as BYTE SHARE, designed to enable seamless screen casting from a laptop to a projector without the need for physical cables, external dongles, or third-party devices. The system comprises a wireless receiver module integrated with or attached to the projector, utilizing a microcontroller or system-on-chip (SoC) equipped with Wi-Fi and/or Bluetooth communication interfaces. The invention supports standard casting protocols such as Miracast, AirPlay, and WiDi, ensuring cross-platform compatibility with Windows, macOS, and Linux systems. The embedded receiver processes incoming display data and outputs it to the projector via an HDMI or equivalent interface. The system includes an optional user interface for device pairing and configuration, and is optimized for low-latency, high-quality transmission. BYTE SHARE offers a cost-effective, plug-and-play solution that reduces setup time, eliminates clutter, and enhances mobility in educational, corporate, and professional presentation environments. Fig 1

No. of Pages : 14 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090049 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CALCIUM OXIDE WATER BOTTLE

(51) International classification	:B65D0081340000, F24V0030000000, A47J0036280000, A47J0036240000, C02F0011180000
(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
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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3)Mr. B. PRAJEN

(57) Abstract :
ABSTRACT CALCIUM OXIDE WATTER BOTTLE The present invention discloses a Calcium Oxide Water Bottle (100) designed to heat water through a calcium oxide based exothermic reaction. The self-heating bottle comprises a rectangular base, a compartment to store calcium oxide capsules, a water chamber (51), a capsule release mechanism (52), and a control system release capsule (58). A button activation (53) mechanism triggers the release of a single capsule into the water chamber, initiating a controlled exothermic reaction that heats the water. The bottle features an inner insulation layer (56) to retain heat and an outer shell to ensure safety and durability. The control system regulates capsule release and optimizes the heating process based on the desired water temperature. Additionally, the steam produced during heating is infused with lavender oil, offering a pleasant aromatic experience. The bottle exterior is insulated to ensure that heat is retained within the water chamber (51) while the external surface is cool, internal area of the bottle is equipped with a steam exhaust port (79) to release steam generated during the reaction, Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090050 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CHARGING STATION WITH AUTOMATIC SWITCHING SYSTEM

(51) International classification	:B60L53/16, B60L53/30, B60L53/66, B25J9/16
(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

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(57) Abstract :
ABSTRACT CHARGING STATION WITH AUTOMATIC SWITCHING SYSTEM The present invention discloses an automated electric vehicle (EV) charging system (100) capable of identifying and connecting the appropriate charging plug to an EV charging port without manual intervention. The system comprises a robotic arm with integrated camera (51) vision, a multi-connector charging head dock and a smart control unit. Upon detecting a vehicle, the system employs artificial intelligence and image recognition to identify the type and position of the charging port. The robotic arm, guided by this visual data and supported by proximity (53) and force sensors (54), aligns the selected charging head and inserts it safely into the vehicle port. The charging heads, mounted on a rotatable or sliding mechanism, support various EV connector standards such as Type 1, Type 2, CCS, and CHAdeMO. Upon vehicle detection, the system utilizes AI-based image processing and/or RFID sensing to determine the port type and orientation, automatically selects the appropriate plug, and inserts it precisely into the EV port using real time sensor feedback. This invention enables seamless, safe and hands-free charging across various EV platforms and charging standards. Fig 1

No. of Pages : 18 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090051 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CLIP BASED AUTO IRONING DEVICE

(51) International classification	:A61B0017000000, G06Q0050120000, A61B0005020500, H04L0041080000, G16H0050200000
(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

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3)Mr. D. L. CHANDRU
4)Mr. J. LEO
5)Mr. A. V. S. GURUDAV

(57) Abstract :
ABSTRACT CLIP-BASED AUTO-IRONING DEVICE The present invention discloses a clip-based automatic ironing device(100) designed to efficiently iron large or complex garments such as sarees, lehengas, and shirts. The system integrates a smart stretching mechanism(64) using motorized clips(62) that dynamically adjust to hold and stretch the fabric uniformly across a heated ironing surface. The device employs linear motion systems controlled by a microcontroller-based control(54) unit governs the motion of the clip system and the operation of the heating element. The system further comprises sensors including temperature sensors(55) (thermistors or RTDs) for precise thermal regulation, tension sensors (strain gauges or load cells) for monitoring fabric tautness, and optical or proximity sensors for garment alignment and obstruction detection. The device operates via a user interface allowing manual or pre-programmed selection of garment type, ironing pattern, and thermal parameters. The solution also incorporates feedback-based tension control to adapt to different garment structures, thereby minimizing manual effort and increasing efficiency. The proposed system provides a scalable, semi-autonomous solution capable of delivering consistent and uniform ironing results with minimal manual intervention. Fig 1

No. of Pages : 17 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090054 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CRYSTAL GROWTH USING GEL DIFFUSION FOR STABLE AND HIGH-QUALITY CRYSTAL FORMATION

(51) International classification	:H01M0004020000, C30B0007000000, C30B0029580000, B29K0105000000, A61L0009120000
(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

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2)Mr. K. J. SHANKAR SHARMA

(57) Abstract :
ABSTRACT CRYSTAL GROWTH USING GEL DIFFUSION FOR STABLE AND HIGH-QUALITY CRYSTAL FORMATION The present invention discloses a crystal growth system (10) for forming high-purity, stable crystals through controlled gel diffusion without the need for complex manual intervention or mechanical agitation. The crystal growth system (10) comprises a set of glass crystallization tubes (1), a gel medium (2), two chemical reactant reactant I (3) and reactant II (4), and optional components such as a support stand (7), rubber stoppers (8), measuring tools (9), and a temperature-controlled chamber (10). The gel medium (2), selected from silica gel, agar, or gelatin, is configured to act as a semi-solid matrix to regulate the diffusion rate of the reactants, enabling uniform and gradual nucleation. In a single diffusion method, reactant I (3) is embedded within the gel, while reactant II (4) is layered above, allowing it to diffuse downward through the gel. In a double diffusion method, both reactants are introduced from opposite ends of a neutral gel, enabling them to meet and react in a controlled central zone. The gel–liquid interface (5) plays a critical role in initiating the crystal formation process. The system promotes the growth of high-quality crystals (6) that are uniform in structure and free from mechanical disturbance. FIG 1

No. of Pages : 13 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090056 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATIC SHOE CLEANING MACHINE

(51) International classification	:A47L23/02, A47L23/26, A47L23/24
(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

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5)Dr.V.VIGNESH KUMAR

(57) Abstract :
ABSTRACT AUTOMATIC SHOE CLEANING MACHINE An automatic footwear cleaning machine (100) is herein disclosed to clean, sanitize, and beautify footwear efficiently and in fully automatic fashion. The invention includes: (1) a conveyor line (52) designed to convey shoes along a multi-stage path of cleaning; (2) at least one sprayer station (55) along the conveyor line (52) and designed to spray on the surfaces of the shoes the cleaning or disinfectant fluid; (3) a plurality of rotary brushes consisting of at least one vertical brush (56) for soiling and top surfaces of shoes and one horizontal brush (57) for bottom surfaces and soles; (4) a UV ray sterilization chamber (51) equipped with UV c lamps to fully sterilize the shoes after mechanical cleaning. The device is made to run with little or no human involvement, minimizing manual effort, ensuring consistency in cleaning, and maximizing speed of operation. The current invention can be deployed in facilities like footwear production units, showrooms, and packaging canters where hygiene and appearance of shoes are paramount. Fig 1

No. of Pages : 15 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090058 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : REMOTE BASED LAMP IGNITION SYSTEM

(51) International classification	:A61N0001372000, G07C0009000000, F21V0003060000, H01H0047000000, F21K0009232000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Ms. S. MOOVITHA**
(33) Name of priority country	:NA	**2)Ms. B. GOPIKA SRI**
(86) International Application No	:	**3)Ms. G. MERLIN LEEMA ROSE**
Filing Date	:01/01/1900	**4)Ms. S. PARAMESHWARI**
(87) International Publication No	: NA	**5)Ms. S. SARANYA**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT Remote Based Lamp Ignition System The present invention discloses a remote based lamp ignition system designed to safely and efficiently of a lamp using wireless control. The system comprises a rf remote control (51) that transmits encoded radio frequency signals to a rf receiver module (52). Upon receiving the correct signal, the rf receiver module (52) activates a relay module (53), which functions as an electromagnetic switch to close the circuit and deliver power to the ignition element. A nichrome wire (54) is employed as the heating element due to its high electrical resistance and rapid thermal response; when current passes through it, it heats up and ignites the lamp. The entire system is powered by a 12v dc rechargeable battery (55), which ensures portability and energy efficiency. Electrical connections among all components are established through connecting wires (56), carefully rated to handle the systems voltage and current requirements. To maintain stable physical contact and avoid loose connections, a spring-loaded clip (57) is used to hold terminals or the nichrome wire (54) securely in place. This system allows safe ignition from a distance, reduces manual intervention, and is especially useful in conditions where direct access to ignition points is hazardous or inconvenient. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090061 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SOLAR POWERED SEED SPRAYING MACHINE

(51) International classification	:A01C7/10, A01C7/20, A01C7/16
(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

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3)Mr. K. SANTHOSH
4)Mr. K. OM PRAGASH
5)Mr. S. YOGESH KUMAR
6)Dr. V. VIJAYAN

(57) Abstract :
ABSTRACT SOLAR POWERED SEED SPRAYING MACHINE The current invention reveals a solar powered seed spraying machine (10) for the effective distribution of seeds over farmland with less manual labour and energy consumption. The seed spraying machine (10) includes an acrylic base plate, a seed container, a dispensing plate with movement, a blower fan, a wheel set, and a solar charging unit. The seed storage container (20) is vertically mounted to the frame with an open bottom where a movable plate (25) is mounted and operated by a sg180 servo motor (30) to control seed flow. The blower fan (35) is placed next to the seed outlet and is designed to distribute the seeds evenly in the field when in use. The device is propelled by four BO motors (40) at a speed of 300 rpm, which are linked to an l298n motor driver module (45) for regulated mobility. Remote operation of the system is achieved with a NodeMCU esp8266 (50), while internal logic and precision control are facilitated by an Arduino uno r3 microcontroller (55). A lithium battery (60) drives the whole system and is charged by a solar panel (65), making the device energy-efficient and field-friendly. The current invention (10) saves labour, enhances seed distribution precision, and offers a sustainable and automated solution for contemporary agricultural use. Fig 1

No. of Pages : 16 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090063 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ALLERGEN DETECTING SMART SPOON

(51) International classification	:A47G0019220000, A61P0037080000, H04W0004380000, H04W0004800000, A47G0019020000
(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 :**
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1)Ms. A. R. ASMAA SULTHANA
2)Ms. M. HARINI
3)Mr. K. ESHWARAN
4)Ms. L. NEEVIKA
5)Ms. S. GEERTHANA

(57) Abstract :
ABSTRACT ALLERGEN-DETECTING SMART SPOON The smart allergen-detecting spoon is a compact, user-friendly device designed to enhance food safety for individuals with dietary allergies. It detects common allergens like peanuts, gluten, dairy, shellfish, and soy in real-time using electrochemical and optical biosensors embedded in the spoon. When the spoon contacts food, it analyzes allergenic proteins and provides immediate feedback via tricolor leds and haptic vibration alerts. The device includes a bluetooth low energy module for seamless data transfer to a companion mobile app, which displays detection results, risk levels, historical food logs, and emergency protocols. Personalized allergy profiles improve detection accuracy. The spoon is built with food-grade stainless steel and bpa-free abs plastic, and its ergonomic handle houses the sensors, battery, microcontroller, and communication unit in a waterproof casing. Designed for everyday use, it promotes safe eating habits at home or on the go especially in high-risk scenarios like dining out or traveling. FIG 1

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090064 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART SLIPPER FOR GAIT MONITORING

(51) International classification	:A61B0005110000, A61B0005000000, A63B0024000000, G06N0020000000, G16H0040670000
(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 :**
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(72)**Name of Inventor :**
1)Dr. J. MAHIL
2)Ms. P. LATHA
3)Dr. S. JEYASUDHA

(57) Abstract :
ABSTRACT SMART SLIPPER FOR GAIT MONITORING The present invention discloses a smart slipper for gait monitoring for gait monitoring (100) is an innovative wearable system designed to monitor and analyse human gait through embedded pressure and motion sensors (52), providing valuable data for applications in healthcare, rehabilitation and activity tracking. Compared to traditional gait analysis setups which often rely on costly, immobile laboratory equipment motion capture systems or force plates this smart slipper for gait monitoring integrates (54) components such as force sensitive resistors, an inertial measurement unit and a microcontroller to offer a portable, real time and cost effective solution. The fsrs (53) are strategically placed under key pressure points to detect weight distribution and footfall patterns, while the imu captures motion dynamics including acceleration and angular velocity. The signals are processed either locally or transmitted wirelessly via bluetooth and wi-fi (51) to a smart phone or computer for further analysis using custom algorithms or machine learning models. The entire system is powered by a compact battery and may include features such as step counting, asymmetry detection or fall alert. Fig 1

No. of Pages : 22 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090068 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : TIME-CAPSULE SOIL PODS FOR DELAYED GERMINATION

(51) International classification	:A01C0001020000, A01G0009029000, A01G0022400000, A01G0024100000, A01C0001040000
(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

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1)Mr. K. MUKILAN
2)Mr. R. S. VISVAJEET
3)Dr. M. DEEPAN KUMAR
4)Mr. M. DARRUNSITASH
5)Mrs. M. A. REETHA JEYARANI

(57) Abstract :
ABSTRACT TIME-CAPSULE SOIL PODS FOR DELAYED GERMINATION The present invention relates to time-capsule soil pods, for the delayed, environmentally synchronized germination of seeds. The present invention comprises a biodegradable outer shell from cellulose, water-soluble timer layers, and a pH-sensitive polymer, which dissolves in alkaline soils. Within the pod, seeds that are coat-ed with protective beeswax are embedded in a nutrient gel containing mycorrhizal fungi and antioxidants. The timer layers degrade over a definable range of time (1-5 years) and expose the pH-sensitive polymer which will actuate releasing the seeds under the best conditions only in the soil. This invention is, therefore, very useful in saving time and effort used for man labor in agriculture and reforestation, saving seeds for better production, and producing an efficient germination rate. Fully biodegradable modules synchronize sowing with the ecological cycles, enrich organic nutrient into the soil, and support sustainability. FIG 1

No. of Pages : 15 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090071 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SOLAR TRAFFIC LIGHT ROBOT

(51) International classification	:G08G0001095000, H04L0067120000, G08G0001017000, G08G0001040000, G08G0001010000
(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

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2)Dr. S. JEYASUDHA

(57) Abstract :
ABSTRACT SOLAR TRAFFIC LIGHT ROBOT The present invention discloses a solar traffic light robot which is an intelligent, solar – powered traffic control system designed to improve road safety designed to improve road safety and efficiency using renewable energy. It includes a solar panel (8), rechargeable battery and energy management unit to enable autonomous, off – grid operation, A microcontroller (5) integrated with AI manages signal lights – red (2), yellow (3) and green (4) – based on real – time data from a sensor system (9) that detects vehicle density, pedestrian activity density, pedestrian activity and emergency vehicles. A timer (1) ensures precise phase durations, while zebra crossing lights (7) enhance pedestrian safety. The stop sign (10) operates in sync with the pedestrian phase. The base (11) ensures structural stability. Optional components include a camera for surveillance and monitoring a motor (6) for repositioning and wireless communication for IoT connectivity. This portable system is ideal for smart cities, temporary diversions, and off – grid locations, offering an echo – friendly, adaptive solution for modern traffic management with reduced operational costs and uninterrupted service. Additionally, the system supports remote diagnostics and firmware updates, ensuring long-term reliability and minimal maintenance. Its modular design allows easy customization based on specific urban or rural requirements. Fig 1

No. of Pages : 18 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090072 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART LOCK SYSTEM FOR GOODS TRAIN

(51) International classification	:G07C0009000000, H04L0009320000, E05B0047000000, G06Q0020320000, A47G0029140000
(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)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY
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1)Dr. S. MONISHA
2)S. S. MONA MUKIL
3)S. NANDHINI
4)B. KRISHNA MURUTHY
5)R. ADHAVAN

(57) Abstract :
ABSTRACT SMART LOCK SYSTEM FOR GOODS TRAIN The smart lock system described by the present invention functions and to secure goods train compartments through the implementation of OTP and QR-based authentication. The system (10) consists of a protecting frame (31) that contains the components together with a number pad (32) for receiving OTP messages through SMS. An integrated display shows a dynamically generated QR code (33) which performs as a secondary verification method. The system includes two light indicators (35, 36) that display red or green states while also featuring (34) an OTP confirmation section with (37) an emergency reset button. The solenoid lock functions through a mechanical lock holder that lock and unlocks according to the verification process results. A power system operates through an microcontroller equipped with GSM functionality to run a Python-written OTP generation program that transmits the OTP to the mobile phone of the vendor. The system shows a QR code after users successfully enter their OTP which allows credential confirmation through scanning. Fig 1

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090073 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ADJUSTABLE SHOE FOR MULTIPLE SIZES

(51) International classification	:A43B0003260000, A61P0031000000, A63B0021008000, F16M0011040000, G06F0003020000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)M.RAJA**
(33) Name of priority country	:NA	**2)N.PRIYADHARSHINI**
(86) International Application No	:	**3)R.PREMKUMAR**
Filing Date	:01/01/1900	**4)M.K.PRAKASH**
(87) International Publication No	: NA	**5)Dr. G.SATHISH KUMAR**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT ADJUSTABLE SHOE FOR MULTIPLE SIZES The present invention discloses an adjustable shoe (10) that is designed to fit multiple foot sizes with a straightforward mechanical adjustment mechanism. The adjustable shoe (10) includes a shoe base (52) with a stationary portion and a movable portion, a keyway (51) built into the shoe base (52) to facilitate sliding movement of the movable portion, a zig-zag rubber extension (50) designed to accommodate elastic expansion and contraction between the stationary and movable portions, a pin injection hole (53) located on the movable portion, an upper pin (54) movable to engage through the pin injection hole (53) and lock into the keyway (51), a fixed lower pin (55) located on the base to increase stability, and an adjustment mechanism (56) connected to the upper pin (54) to permit selective adjustment and locking of the shoe to a desired size. The adjustable shoe (10) allows rapid and secure size adjustment to accommodate at least three distinct standard foot sizes, with increased convenience, user comfort, and structural durability without the need for complicated tools or systems. Fig 2

No. of Pages : 19 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090074 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : TUBLAR BLOCKS LIFTING DEVICE

(51) International classification	:B66C0001660000, B66C0001440000, B66C0001620000, B66F0019000000, B66C0001420000
(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 :**
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Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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2)K.VIGNESH DIVYA DHARSHAN
3)S.RAGUL
4)K.GOKULNATH
5)Dr. N. PARKUNAM

(57) Abstract :
ABSTRACT TUBLAR BLOCKS LIFTING DEVICE The present invention discloses a tubular blocks lifting device (10) for safely and efficiently lifting heavy tubular cement blocks with minimal manual effort. The tubular blocks lifting device (10) comprises a hook attachment point (50), a main vertical rod (52), a plurality of support rods (53), ball joint connectors (51), and flexible gripper arms (54). The hook attachment point (50) is configured to interface with an external lifting mechanism, such as a crane or hoist, to apply controlled vertical force. The main vertical rod (52) transmits the lifting force to the support rods (53), which are operatively connected via ball joint connectors (51) to allow angular flexibility. The support rods (53) extend outward and terminate in flexible gripper arms (54) configured to enter and grip the internal surface of the tubular cement blocks. The gripper arms (54) automatically adjust to variations in internal diameter and ensure a secure hold during lifting. The present invention (10) significantly reduces the manual handling risks, improves efficiency in construction workflows, and provides a robust solution for handling heavy precast tubular blocks. Fig 1

No. of Pages : 14 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090077 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : UV LIGHT USAGE FOR REMOVING ANTIBACTERIA

(51) International classification	:A61L0002100000, A61L0009200000, C02F0001720000, F24F0008220000, C02F0001320000
(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

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3)K. GNANA PRAKASH
4)S. VISHAL
5)B. PRAJEN

(57) Abstract :
ABSTRACT UV LIGHT USAGE FOR REMOVING ANTIBACTERIA The present invention discloses a portable self-cleaning antibacterial device that uses torchlight illumination to clean surfaces while requiring no chemicals. The torchlight-design features an outer protective casing (51) combined with an ergonomic grip section (52) that ensures user comfort. UV-C LED light source (54) produces germicidal ultraviolet radiation that the optical lens (55) distributes precisely through directed light beam (65). The device contains thermal management through the heat sink (56) combined with the UV-C LED driver circuit (57) and power regulation features while employing the rechargeable 6V Li-ion battery (58) which incorporates USB port (59) charging functionality. The indicator LED (60) informs users about system status along with the timer module (61) which shuts down the operation automatically for safety purposes. The system transmits UV-C light beam (65) that activates titanium dioxide (TiO_2) coatings (66) on photocatalytic surfaces to produce reactive oxygen species (ROS) which eliminate bacteria, viruses, and organic pollutants. The power management circuit (67) distributes energy through components efficiently and safeguards electronic circuits from overcharge and other hazards like overcurrent as well as short circuits. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090078 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A COMPACT VEHICULAR ANTENNA WITH CIRCULAR-EDGED HEXAGONAL PATCH

(51) International classification	:H01Q0001380000, H01Q0009040000, H01Q0013100000, H01Q0013080000, H01Q0001520000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)N. DHARSHINI**
(33) Name of priority country	:NA	**2)A. SHAVIPIN**
(86) International Application No	:	**3)M. RAGUL**
Filing Date	:01/01/1900	**4)C. PRIYADHARSHINI**
(87) International Publication No	: NA	**5)Dr. SYEDAKBAR SYED YUSUFF**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT A COMPACT VEHICULAR ANTENNA WITH CIRCULAR-EDGED HEXAGONAL PATCH The present invention discloses a compact vehicular antenna designed for high-performance communication in the 1.2–2.4 GHz frequency range, making it suitable for vehicular telematics, public safety networks, and etc,. The antenna structure is built on a flexible polyimide substrate (1) measuring 50 mm × 50 mm, selected for its low dielectric loss and thermal resilience. The core of the antenna is a hexagonal patch (2) with each side measuring 14 mm, enabling efficient current distribution and improved bandwidth characteristics. Enhancing the radiation performance, two circular extensions (3) with a radius of 6 mm are symmetrically attached to the opposing horizontal sides of the hexagon, creating a distinctive Mickey Mouse-like shape that boosts gain and operational bandwidth. A circular etched slot (4), 4 mm in diameter, is introduced at the centre of the hexagon. The antenna is energized through a microstrip feedline (5) of 20 mm length and 3 mm width, which maintains a 50-ohm impedance match. A lumped port (6) positioned at the base of the feedline acts as the excitation point for simulations. On the reverse side of the substrate, a partial ground plane (7) extends 13 mm from the bottom edge. Compact, planar, and structurally innovative, this antenna merges modern electromagnetic design with practical vehicular integration. Fig 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090080 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PAROTTA COOKING AND BEATING MACHINE

(51) International classification	:D21D0001020000, D21D0001040000, G05B0019042000, A47J0043100000, D06G0001000000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)D.ABISHEK NISHANTH**
(33) Name of priority country	:NA	**2)K.DHANVENTH**
(86) International Application No	:	**3)S.DHARUNKUMAR**
Filing Date	:01/01/1900	**4)S.DHANUSU**
(87) International Publication No	: NA	**5)Dr. T. RAJKUMAR**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT PAROTTA COOKING AND BEATING MACHINE The present invention discloses a semi-automatic parotta cooking and beating machine (10) that simplifies the manual process of making layered flatbreads. The machine includes a tray assembly (55) placed above a heater (56) for cooking raw parottas evenly. Once cooked, the parotta is moved into a cylindrical outer cover (51), closed with a cylinder lid (50), and mechanically beaten with a pneumatic beater (57) moving over a beating plate (52). A pneumatic elevator (54) elevates and rotates the parotta for uniform fluffing. The device comprises a side door (53) for loading or unloading, and a control panel with an on/off switch (58), heater switch (59), emergency stop (60), pneumatic beater switch (61), and elevator switch (62). Operator safety during loading is assured by a human-detection sensor. The invention saves man-hours, enhances hygiene, and achieves uniform parotta texture by integrating thermal and pneumatic automation in a compact and user-friendly design. Fig 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090081 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : VOLLEYBALL NET SENSE

(51) International classification	:G06F0003041000, G06F0003044000, A61B0005282000, A63B0069000000, A63B0061020000
(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

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2)C. S. NAVEEN
3)M. RAGUL
4)S. PRAVIN KUMAR
5)B. PRAJEN

(57) Abstract :
ABSTRACT VOLLEYBALL NET SENSE The present invention discloses a volleyball net sense (100) to alert for fault monitoring in volleyball games. The volleyball net sense (100) comprises a net frame (58) integrated with sensor, a capacitive touch sensor (50) are embedded along three sides of the net through conductive wire (51), which carry signals to a microcontroller (53) to detect touch input and a signal conditioning circuit (52) for stabilizing the sensed signals. The signals from the sensors are passed through a signal conditioning circuit (52) to ensure accuracy and prevent from false triggers. The sensor module and is configured to process the sensed data and regulate the operations through embedded logic. A microcontroller (53) such as ESP32 or Arduino processes the input data, the grounding system (55) ensures electrical safety, and connector pins (59) enable secure electrical connections among all components. The microcontroller processes the signal and detects the touch, activates the alert system (57). Alert system include buzzer (70) and LED (71) placed on either side of the net to visually audibly indicate fault. The entire system is powered by a battery-based power supply, battery (91) positioned at the bottom of the net. The present invention (100) aims to reduce human error, improve game accuracy, and enhance fairness. Fig 1

No. of Pages : 17 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090082 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ROTARY TIMER-BASED AUTOMATIC CLOTH RETRIEVAL MECHANISM

(51) International classification	:F16H0055360000, F26B0025060000, D06F0053020000, D06F0053040000, D06F0087000000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:
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(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 ROTARY TIMER-BASED AUTOMATIC CLOTH RETRIEVAL MECHANISM The present invention discloses a rotary timer-based automatic cloth retrieval mechanism (10) designed to retrieve dried clothes from a clothesline without the use of electricity or manual effort. The mechanism is particularly advantageous for elderly users, physically challenged individuals, and busy households. The system comprises a drying stand (51), a rotary timer knob, a spiral torsion spring (53), a gear system (55), a cam and lever mechanism (54), and a rolling system (52). The user sets the drying time using the rotary timer, which winds the torsion spring (53) to store mechanical energy. The gear system (55) then gradually releases this energy in a controlled manner. Once the timer reaches zero, the cam and lever mechanism (54) is triggered, activating the rolling system (52), which retracts the clothesline and collects the dried clothes toward one end of the stand (51). The invention operates without any electrical components, relying solely on mechanical motion, making it environmentally friendly and maintenance-free. It prevents fabric damage due to overexposure to sunlight, dust, or rain Fig 1

No. of Pages : 17 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090085 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WEIGHT SCANNING DEVICE

(51) International classification	:G06Q0030060100, G06K0007100000, G06Q0010087000, G06T0007620000, G06F0016250000
(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

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(72)**Name of Inventor :**
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(57) Abstract :
ABSTRACT WEIGHT SCANNING DEVICE The present invention discloses a weight scanning device (80) is a portable, non-contact solution designed to estimate the weight of various products and bundles without the need for traditional weighing scales. The system operates by using a 3D depth sensor (71) to capture the physical dimensions length, width, and height pf the product or bundle. This dimensional data is processed by an internal microcontroller (72), which calculates the volume and, based on a predefined material density database (73), estimates the weight. A touch screen (77) interface, along with forward button (75) and backward button (76), and an ON/OFF buttons (74), allows users to select the material type easily. The ON/OFF button (74) powers the device ON or OFF, ensuring energy is conserved when the device is not in use, and allows user to quickly start or shut down the system when needed. The product is wrapped in a cover and the internal material is unknown, the system can bypass material selection and display only the weight. If the material inside is identified, the device can separately calculate and display both the weight of the cover and the weight of the internal product. Fig 1

No. of Pages : 25 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090087 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : UMBILICAL CORD MONITORING CLIP

(51) International classification	:A61B0005000000, A61B0005024000, A61B0005020500, A61B0005145500, A61B0005010000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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(33) Name of priority country	:NA	**2)Mr. R. KARUNAKARAN**
(86) International Application No	:	**3)Mr. R. S. VISVAJEET**
Filing Date	:01/01/1900	**4)Mr. K. MUKILAN**
(87) International Publication No	: NA	**5)Ms. P. GIRITHA**
(61) Patent of Addition to Application Number	:NA	**6)Mr. PRAVEEN KUMAR T**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT UMBILICAL CORD MONITORING CLIP The present invention discloses an umbilical cord monitoring device (10) for continuously monitoring the vital signs of a newborn through a non-invasive method, ensuring safety and comfort while providing real-time data to caregivers. The umbilical cord monitoring device (10) comprises a flexible non-invasive clip (56), a set of sensors, an ESP32 microcontroller (52), an OLED display (53), and a Li-Po battery (54). The flexible non-invasive clip (56) is configured to securely attach to the umbilical cord without causing discomfort, utilizing a soft, medical-grade material to ensure safe and reliable sensor contact. The sensors, including the MAX30102 (50) and MAX30205 (51), are positioned within the clip to monitor key vital signs such as heart rate, blood oxygen levels, and skin temperature. The ESP32 microcontroller (52) processes the sensor data and transmits it wirelessly for remote monitoring by healthcare providers or caregivers via a secure application. The OLED display (53) shows real-time data on the newborn's vital signs, allowing for immediate visualization of any changes or abnormalities. The present invention provides a reliable, non-invasive method for monitoring newborn health, reducing the need for invasive procedures and enhancing caregiver confidence in real-time health assessments. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090091 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BIODEGRADABLE NASAL INHALERS

(51) International classification	:A61M0015000000, A61M0021000000, A61M0021020000, D21J0007000000, A61M0015080000
(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

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6)Mr MUKILAN K

(57) Abstract :
ABSTRACT BIODEGRADABLE NASAL INHALERS The present invention discloses a biodegradable nasal inhaler for delivering infused essential oil vapours through an eco – friendly method to replace conventional plastic – based inhalation devices. The biodegradable nasal inhaler comprises a moulded outer shell and cap (5) formed from natural slurry (1) containing bamboo, bagasse and recycled paper fibres. The shell contains a natural fibre wick that is infused with essential oils designed to offer relief from nasal congestion or relaxation. The inhaler is built from male and female moulds through a semi – automated pulp moulding process that ensure uniformity in shape and structure (2) The slurry is prepared by high – speed blending of fibres in water with the addition of minimal amount of natural binder starch. The prepared slurry is poured into moulds (3) and dried (4) under controlled conditions. The wick is prepared using bamboo that is sterilized, (7) steamed, (8) dried and then infused in oils (9). (11) It is inserted into the internal cavity of dried inhaler shell manually using tweezers. The cap is moulded with micro – ventilation holes and designed to securely twist onto the shell to enable vapour diffusion. (13) The inhalers eliminate the need for synthetic packaging and environmental harm. The entire inhaler is fully biodegradable and can be disposed safely making it ideal for eco – conscious personal wellness. Fig. 1

No. of Pages : 17 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090092 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ADAPTIVE NOISE-FILTERING PILLOW

(51) International classification	:G10K0011178000, A61B0005000000, A47G0009100000, A61M0021020000, A61M0021000000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)B. LOGESWARI**
(86) International Application No	:	**3)R. KANIKHA JEYASRI**
Filing Date	:01/01/1900	**4)M. MATHESH**
(87) International Publication No	: NA	**5)V.GOWRI**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT ADAPTIVE NOISE-FILTERING PILLOW The present invention relates to an advanced adaptive noise-filtering pillow designed to enhance sleep quality and health monitoring through intelligent acoustic sensing and real-time noise management. The pillow is equipped with multiple embedded components, including directional MEMS microphones, ultra-flat speakers, a real-time digital signal processor, and an onboard artificial intelligence module. These integrated systems work together to detect, classify, and neutralize disruptive sounds such as snoring, traffic, and environmental noise, thereby providing a peaceful and uninterrupted sleep experience. The pillow is ergonomically shaped with memory foam to offer optimal head and neck support, and its outer cover is made from hypoallergenic, breathable fabric to ensure maximum comfort and safety. In addition to active noise cancellation, the pillow allows users to play soothing sleep audio like white noise or nature sounds through a pair of embedded speakers, configurable via a dedicated mobile application. The device features wireless Bluetooth Low Energy connectivity for seamless synchronization with a smartphone app compatible with Android and iOS platforms. The mobile app functions as a smart sleep assistant, delivering detailed auditory analytics, noise logs, and adaptive sound control based on the user's sleep patterns. Fig 1

No. of Pages : 24 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090093 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DIGITAL CHAPATHI MAKER

(51) International classification	:A21C0011000000, A21C0001140000, A21C0009080000, A21C0001000000, A21C0001060000
(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

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(57) Abstract :
ABSTRACT DIGITAL CHAPATHI MAKER The present invention discloses a digital chapathi maker is an automated system that streamlines chapathi preparation by handling dough processing, different shaping, flattening and cooking with precision and efficiently. The kneading unit mixes flour and water, ensuring uniform dough consistency, while the rolling and flattening system shapes the dough to maintain even thickness. The cutting unit allows customization of chapathi size, and the heating plate cooks them evenly using temperature-controlled settings. The motorized system operates all functions seamlessly, eliminating manual effort, and the control panel enables users to select chapathi preferences effortlessly. Designed for hygiene and ease pf maintenance, the automatic cleaning system removes residues, ensuring continuous operation. This technology enhances efficiency, consistency, and hygiene, making chapathi-making effortless for both home and commercial kitchens. Fig 1

No. of Pages : 21 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090094 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : NANO-TECHNOLOGY BASED AUTO SMART PHONE SCREEN CLEANING

(51) International classification	:B08B0001140000, C02F0001320000, B01J0035390000, G06F0001323400, A47L0025000000
(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

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3)Ms. MURUGAVALLI S
4)Ms AKSHAYAMATHI D
5)Ms GIRITHA P

(57) Abstract :
ABSTRACT NANOTECHNOLOGY BASED AUTO SMART PHONE SCREEN CLEANING The present invention discloses a creation of a nanotechnology-driven automatic screen cleaning system for smartphones, which uses sophisticated nano-coatings to minimize manual cleaning efforts by several orders of magnitude. By coating the screen surface with hydrophobic and photocatalytic nanomaterials the system actively keeps water, oils and dust away from the screen while breaking down organic impurities using light activated chemistry. This double use approach ensures screen clarity, improved hygiene and touch sensitivity preservation without sacrificing display quality. This technology being proposed solves prevalent problems like smudging of fingerprints, micro bacteria and abrasion due to manual wiping providing a future proof maintenance free solution for next generation smart devices. It's introduction not only enhances the user experience but also the lifespan of the device since it reduces physical wear and environmental degradation. Fig. 1

No. of Pages : 13 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090098 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DRONE MONITORING FOR VILLAGE WORK PROGRESS EVALUATION

(51) International classification	:B64C0039020000, G05D0001000000, G06Q0010063100, B64U0101300000, G08G0005000000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Miss. K. KEERTHIKA**
(33) Name of priority country	:NA	**2)Mrs. K. VALLI PRIYADHARSHINI**
(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	

(57) Abstract :
ABSTRACT DRONE MONITORING FOR VILLAGE WORK PROGRESS EVALUATION The present invention discloses an automated drone-based system designed for monitoring and capturing progress data in village-based tasks under the 100-day work initiative. The system utilizes UAVs(10) equipped with advanced camera modules (11) and GNSS (12) to capture high-resolution images and precise geolocation data of work sites, ensuring accurate documentation of task progress. The drones are controlled via a central system, which communicates with the drones wirelessly (15) for real-time operation and data transmission. A centralized dashboard (16) processes and displays the collected data, allowing supervisors to track task completion efficiently. The drones autonomously navigate work sites using navigation algorithms and record site-specific progress with time-stamped visuals. The system also includes a dataset module for storing past images and records, enabling seamless upgrades and future progress comparisons. All components are integrated into a robust and lightweight framework, optimized for efficient operation in rural environments. The invention enhances task monitoring while reducing human effort and errors, ensuring effective implementation of the 100-day work initiative. Fig. 1

No. of Pages : 14 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541090099 A

(19) INDIA

(22) Date of filing of Application :22/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTO CHAIN LUBRICATION FOR BIKES

(51) International classification	:B62J31/00, F16H57/05
(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
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(57) Abstract :

ABSTRACT AUTO CHAIN LUBRICATION FOR BIKES The auto chain lubrication for bikes by the present invention described by the present invention functions and secure the chain of bikes by spraying the lubricant fluid to cooldown and also prevent the chain from rust formation . The (41) is opening with lid for diesel storage , 42 is opening with lid for lubricant storage, 43 is lubricant storage, 44 is the motor with solenoid valve that spray the lubricant through nozzle(47) for it and 45 is another motor with solenoid valve that spray diesel through the nozzle (48) it have. 49 is the separate plate between diesel and lubricant to dissolve each other. in back view 50 is the GPS module for tracking the bike at anywhere anytime, 51 is the temperature sensor and 52 is the microcontroller and 53 is the fuse and switch. when the chain of the bike get heated it immediately spray the diesel with lubricant at a time and also it programmed with ECU that for several kilometers like for every 200 kilometers it will spray the combination of diesel and lubrication oil to prevent the chain to form rust and other problems to be face and also in superbikes it can rise up to high RPM at that time the ECU give signal to the automatic chain lubrication system to spray the lubrication oil in the chain to prevent the cutting of them. Fig 1

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090104 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART MULTIVOLTAGE MOBILE CHARGER WITH AUTOMATIC DEVICE-BASED VOLTAGE REGULATION

(51) International classification	:G06F0001260000, G06F0013420000, G06F0013380000, G06F0001320300, H02J0007000000
(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
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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2)Ms. N. PRIYADHARSHINI
3)Mr. M. VISHVA
4)Mr. M. K. Prakash
5)Dr. B. SURESHKUMAR

(57) Abstract :
ABSTRACT SMART MULTIVOLTAGE MOBILE CHARGER WITH AUTOMATIC DEVICE-BASED VOLTAGE REGULATION The smart multivoltage mobile charger that is the subject of this invention is made to automatically detect and adjust output voltage in accordance with the power needs of an electronic device that is connected. A digital voltage display (51), a usb connector (52), an external casing (50), and a usb type-c port (53) with power delivery (pd) communication are all included in the charger. A usb pd controller combined with a voltage regulation circuit allows for automatic voltage adjustment to standardized levels like 5v, 9v, 11v, or 20v, guaranteeing compatibility with a variety of devices. In order to monitor voltage and current in real time and provide feedback for accurate power control and increased safety, a sensor (54) is operationally coupled within the output circuitry. The charger has several protection features, such as over-voltage, over-current, and thermal shutdown capabilities, and it supports both automatic and manual voltage selection modes. The system's intelligent sensing and regulation capabilities provide flexibility, safety, and adaptability for universal charging applications. Fig 1

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090108 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AGROROVER: AN AUTONOMOUS SOIL ANALYSIS ROVER FOR AGRICULTURAL LAND ASSESSMENT

(51) International classification	:G01N0033240000, A01G0025160000, A01G0025090000, G05D0001000000, A01G0017000000
(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
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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4)Mrs. E. SRI SANTHOSHINI

(57) Abstract :
ABSTRACT AGROROVER: AN AUTONOMOUS SOIL ANALYSIS ROVER FOR AGRICULTURAL LAND ASSESSMENT The present invention presents agrorover as an agricultural vehicle for performing efficient land assessment and soil measurement activities. The navigation sensor (51) enables exact movements during soil analysis of different terrains. The rover moves through the field with the help of motors (53) that power the wheels (52). Two status indicator lights (54) and (55) show the rover operating condition to the observer. Soil moisture assessment requires the combination of capacitive sensor (56) with moisture sensor to determine irrigation requirements. The ultrasonic sensor (57) supports distance calculations and land recording functions which generate necessary data for evaluating land terrain. The solar panel (58) powers the agrorover to operate alone since it does not need external energy sources. The environmentally friendly solution offers extended operational periods within distant locations thus making the rover very sustainable. The agrorover unites each system part to deliver an accurate soil analysis solution. The advanced rover leads to multiple agriculture and land management and research advantages through precise data collection that promotes better decision-making and optimized irrigation systems and efficient soil management for increased productivity. The system functions as a vital technology for sustainable farming operations while also improving land assessment effectiveness. FIG 1

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090109 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WEARABLE POST-SURGICAL BLOOD DRAIN BELT

(51) International classification	:A61M0001000000, A61B0005000000, A61B0005154000, A61P0029000000, A61B0005026000
(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 :**
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4)Mr. M. DARRUNSITASH

(57) Abstract :
ABSTRACT WEARABLE POST-SURGICAL BLOOD DRAIN BELT The present invention introduces a wearable blood drainage device which provides secure blood collection after surgery and enhances patient movement and decreases clinical staff work. A wearable blood drainage device contains a breathable cloth made belt, a pressure machine, an on/off switch and a manual pressure adjusting button, a buckled belt with a pressure display, a blood flow tube and an airflow stop clip. A breathable cloth made belt (51) functions as a blood storage bag holder which enables continuous drainage while providing comfort to the wearer. The pressure machine (52) contains automatic negative pressure regulation features which enable safe drainage execution. The operation control system includes an on/off switch (53) and manual pressure adjusting button (54). An easy-wear belt with secure buckles (55) allows the device to stay in place and shows live suction pressure (56) through its display. The blood flow tube (57) provides drainage to the storage bag through the function of the airflow stop clip (58) which protects against air contamination during blood collection procedures. The present invention constituting the mobile device establishes a hygienic method to manage post-surgical blood drainage in an efficient manner. Fig 1

No. of Pages : 18 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090110 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A WEARABLE NEONATAL PHOTOTHERAPY AND STABILIZATION WRAP

(51) International classification	:A61N0005060000, A61M0016000000, H02J0007000000, A61M0016160000, A61M0016100000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)MR. K. MUKILAN**
(33) Name of priority country	:NA	**2)MR. R. S. VISVAJEET**
(86) International Application No	:	**3)MR. M. DARRUNSITASH**
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	

(57) Abstract :
ABSTRACT A WEARABLE NEONATAL PHOTOTHERAPY AND STABILIZATION WRAP The present invention discloses a wearable neonatal phototherapy and stabilization wrap (10) for treating neonatal jaundice while providing essential thermal and respiratory support. The wrap (10) comprises a multi-layered textile body (51) integrated with a dual-wavelength phototherapy light (53), a heating element (55), and a passive humidifier membrane (54) connected to a refillable water reservoir (60). The phototherapy system emits alternating blue and green light controlled by a timer circuit to aid bilirubin reduction. The heating element (55) maintains the infant's temperature using a thermostat-regulated graphene filament. The humidifier membrane (54) maintains local humidity through a micro-porous evaporation layer. A rechargeable battery (52) powers the system and is supported by a solar panel (59) embedded in the fabric for off-grid charging. A power button with an integrated indicator (56) provides visual feedback for operation. The device further includes a size adjustment flap (57) for secure fitting and an oxygen inlet port (58) for external respiratory connection. The invention is compact, modular, and reusable, offering a cost-effective solution for neonatal care in low-resource settings. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090111 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : THERMOGLOVE GLASS CUTTER: ULTRASONIC & LASER CUTTING GLOVE

(51) International classification	:H03F0003217000, B23K0026380000, C03B0033030000, C03B0033100000, C03B0033120000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)Mr. K. MUKILAN**
(86) International Application No	:	**3)Mr. M. DARRUNSITASH**
Filing Date	:01/01/1900	**4)Mr. SHYAM SUNDAR T**
(87) International Publication No	: NA	**5)Ms. GIRITHA P**
(61) Patent of Addition to Application Number	:NA	**6)Ms. AKSHAYAMATHI D**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT THERMOGLOVE GLASS CUTTER: ULTRASONIC & LASER CUTTING GLOVE The present invention discloses a wearable glass cutting device termed thermoglove for performing precise and safe glass cutting operations using integrated laser and ultrasonic technology. The thermoglove comprises a fingertip-mounted emission module (51), ultrasonic amplifier (52), insulated glove housing (53), control button (54), and an ac power socket (55). The emission module (51) is configured to deliver a continuous-wave diode laser and ultrasonic vibrations for enabling clean, chip-free cutting of glass. The amplifier (52) regulates ultrasonic intensity using a feedback-controlled class-d circuit. The glove insulation (53) resists electrical and thermal conduction, providing user safety. The control button (54) enables switching between functional modes, and the ac power socket (55) ensures consistent energy supply with surge and EMI protection. The present invention reduces user effort, enhances cutting precision, and ensures safety during mobile or static glass cutting applications, suitable for industrial, emergency, and artistic uses. Fig 1

No. of Pages : 18 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541090117 A

(19) INDIA

(22) Date of filing of Application :22/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SELF-ADJUSTABLE HIP BELT

(51) International classification	:A41F9/02, A44B11/00
(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

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3)Mr. L. LAXMANPRASATH

4)Ms. R. SWASHINIE

5)Mr. A. MANJUNATHAN

(57) Abstract :

ABSTRACT SELF ADJUSTABLE HIP BELT The present invention hereof reveals a wearable belt system (10) for automatic self-tightening and convenient one-handed use, especially adapted for differently abled persons and adaptive clothing users with special needs. The system (10) includes a belt strap (11) of flexible material with a rough surface texture to avoid slippage and features built-in paramagnetic strips (12) for magnetic-assisted alignment. A buckle gripping mechanism (13) is placed at the top end of the belt strap in such a configuration that it grabs the strap onto itself while use. A rod (14) spring-loaded built into the housing of the buckle allows tension control automatically by use of a return spring (15), making it possible for self-tightening or releasing the belt as required by the person's movement of the body or posture. The system (10) further includes a pulley-type mechanism (16) in conjunction with the spring-loaded rod (14) to ensure optimal tension distribution. The whole mechanism is single-handedly operable, thereby providing ease of use for users with mobility constraints. The invention (10) ensures greater comfort, ergonomic fit, and increased accessibility in daily wear use. Fig 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090118 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SELF-CLEANING BLADE MECHANISM

(51) International classification	:F04D29/70, A47L25/00, B08B13/00, B08B9/36
(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

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(57) Abstract :
ABSTRACT SELF-CLEANING BLADE MECHANISM The present invention pertains to a self-cleaning mechanism for ceiling fan blades that automatically cleans dust off the blades without human intervention. (1) the mechanism includes a fan head (51) mounted to the ceiling through a fan holding rod (50), suspending at least one fan blade (56) that projects radially. (2) there is an extension rod (54) mounted on the top surface of every blade to give a guided route for a movable cleaning brush (55). (3) it is driven by an extension system (53), e.g., a linear actuator, to make it move along the full length of the blade. (4) a controller unit (52) contained within or on the fan head receives remote control signals to start and control the cleaning cycle. (5) the system is energized by a direct current (dc) source and has safety interlocks to operate only when the fan is off. (6) the novelty is distinguished by its attachment onto the fan blades directly, being modular and retrofit table, and it can cut the effort needed in manual cleaning, enhance hygiene, and sustain the efficiency of fans without altering the airflow or the balance. Fig 1

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090122 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART MILK QUALITY TESTING KIT

(51) International classification	:G01N0033000000, G01N0033040000, A01J0005013000, A61B0005020500, G05B0019418000
(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

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5)Dr. SYEDAKBAR SYED YUSUFF

(57) Abstract :
ABSTRACT SMART MILK QUALITY TESTING KIT The present invention relates to to a Smart milk quality testing kit (30) that use the biosensor technology to evaluate the quality of the milk in the real time. The present invention provides the he devices is designed to detect the milk with these parameters such as the pH level, temperature, fat content, gas concentration that helps to indicate the milk spoilage or contamination level. The system has the Arduino based controller, a set of sensors including a pH sensor (20), gas sensor (21), FAT sensor module (22) and temperature sensor (23) all enclosed with the portable device. Milk is sample is suck by the milk inlet (16) and guided through a sensor chamber, with the result are displayed on the OLED screen (12). Visual indicators such as the green LED (11) and red LED (18) provide the result of the milk safety. The device is operating on a researchable lithium battery (19) and is equipped with a C-type charging port (17) for portability. A push button (13) allows for sample intake, while power (14) and reset (15) is manage to operate the system. A clock module (25) timestamps test result for traceability. The present invention provides the efficient, affordable, and food safety solution for the user in field of the diary product quality to eliminate the laboratory need to testing milk with multi parameter quality check in a product. Fig 1

No. of Pages : 15 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090123 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART PORTABLE GARLIC PEELER MACHINE

(51) International classification	:A61K0036610000, A23N0015080000, A61K0036896200, A47J0017020000, A23N0007000000
(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
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3)Mr. S M. SARAVANAN
4)Mr. A. AHMED
5)Mrs. K. KARPOORASUNDARI

(57) Abstract :
ABSTRACT SMART PORTABLE GARLIC PEELER MACHINE The present invention smart portable garlic skin peeler machine (10) to peel garlic clove skin with no structural damage through automation for the garlic cloves while remove the skin. The garlic skin peeler machine (10) utilizes a combination of both container (2) and pressing plate (1) along with rotating turbine (3) skin outlet vent (4) and power blower fan (5). The pressing plate performs vertical movement through a first motor allowing it to apply uniform pressure on linear motion of garlic cloves to detach their skin. A rotationally moving turbine component (3) located at the base of the container receives power from motor (7) to create adequate friction that enables effective clove peeling. Through the skin outlet vent (4) on the container (2) blower fan (5) is below the turbine the peeled garlic skins are transferred outside the container (2). Control of this system by the arduino uno board (11) that links motor operations to the push button (16) interface and draws power from a supply system (15). The device delivers sanitary automated pieces of equipment that handle garlic removal without manual work while driving up domestic and industrial efficiency. Fig 1

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090127 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WEIGHT BASED CALORIE PORTION CONTROL PLATE

(51) International classification	:A61B0005000000, G01G0019560000, G01G0019414000, G16H0020600000, G09B0019000000
(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

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1)Dr. S. JEYASUDHA
2)Ms. P. LATHA
3)Mr. A. ANTON AMALA PRAVEEN

(57) Abstract :
ABSTRACT WEIGHT BASED CALORIE PORTION CONTROL PLATE The present invention discloses a calorie portion control plate (10) for weight based calorie portion control plate is a smart dietary tool (50) designed to assist individuals in managing their calorie intake through precise weight based food measurement and portion guidance. This system integrates multiple components such as load cells for weight sensing (52), a microcontroller unit for data processing, and a digital display (54) interface for user feedback to deliver accurate calorie estimates based on the type and weight of food placed on the plate. The traditional portion plates (10) that rely on visual guidelines and generalized compartment sizing, this system quantifies actual food mass in real time and cross references it with an onboard nutritional database to calculate calorie values, offering a far more personalized and data driven approach to portion control. In comparison to its components, the load cell provides granular weight data but cannot interpret calorie content without integration with the microcontroller, while the microcontroller enables logical processing but lacks sensory input (52) on its own. The display interface communicates user readable results but is dependent on processed data from other modules. The synergistic combination of these elements transforms passive weight measurement into an intelligent, interactive calorie estimation system. Fig 1

No. of Pages : 20 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090132 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A WATER PIPE COOLER

(51) International classification	:C08K0003220000, C09K0005060000, E04B0001740000, C04B0038000000, B32B0005220000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)Ms. S. NANDHINI**
(86) International Application No	:	**3)Mr. R. ADHAVAN**
Filing Date	:01/01/1900	**4)MR. S.S. MONAMUKIL**
(87) International Publication No	: NA	**5)Dr. A. KAVITHA**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT A WATER PIPE COOLER The present invention discloses a Water Pipe Cooler for Indian climate to keep water at comfortable temperature throughout the year. The cooler consists of a pipe system comprising three layers: the inner layer (13), the PCM layer (14), and the outer layer (15), each serving a different function. The modified uPVC, which is reinforced with Titanium Dioxide (TiO_2) nanoparticles layer (13) is made up of uPVC modified with Titanium Dioxide (TiO_2) nanoparticles and is of good strength, UV resistant, and long-term performance. It is also the primary water-carrying channel and assists in preventing heat gain or loss due to its low thermal conductivity. It is light in weight, rust-free, safe for drinking water, and has good performance in hot and cold conditions without shape or strength loss. The PCM layer (14) is formed by blending tiny capsules of Phase Change Materials (PCMs) with insulating materials like silica aerogel or polyurethane foam. In summer, the PCM absorbs heat when temperature goes too high, and in winter, it releases stored heat when temperature goes down. This layer can be applied as a coating to any pipe and maintains the temperature in balance naturally. We are employing a blend of paraffin and fatty acids that melts and solidifies quickly between 25–45°C, which suits Indian climate. Fig 1

No. of Pages : 15 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090136 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WATER PROOF JUTE BAG COATING

(51) International classification	:C08L0005080000, B65D0065460000, A61L0026000000, C09D0133060000, A61K0008810000
(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

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4)G. HEMANTH
5)M. JEEVA PRASATH

(57) Abstract :
ABSTRACT WATER PROOF JUTE BAG COATING The present invention discloses a water proof jute bag coated (100) with a plant-based biopolymer formulation comprising cornstarch, distilled water, tannic acid, lecithin, and glycerine. The coating forms a continuous film over the jute substrate, significantly enhancing its hydrophobic properties while preserving breathability and flexibility. Cornstarch acts as the primary film-forming agent, tannic acid serves as a natural crosslinker and antimicrobial agent, lecithin improves emulsification and adherence, and glycerin functions as a plasticizer to prevent cracking and brittleness. The coating is applied via brushing, spraying, or dipping, followed by drying at ambient or controlled temperatures. The resulting jute bag exhibits high durability, water resistance, and biodegradability, making it suitable for use in eco-conscious packaging, retail shopping, agricultural storage, and general-purpose carry bags. The invention offers an environmentally sustainable alternative to plastic-laminated jute or synthetic waterproof materials and is adaptable for mass production with minimal environmental impact. Fig 1

No. of Pages : 12 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090137 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : NEEM TREE SEED COLLECTOR AND FILTER

(51) International classification	:A01N0065260000, A61K0036580000, B01D0046000000, A01D0046260000, A01N0065000000
(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
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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3)J PRASANNA
4)Mr. R. S. VISVAJEET
5)Mr. K. MUKILAN
6)BHARATHI M

(57) Abstract :
ABSTRACT NEEM TREE SEED COLLECTOR AND FILTER The present invention discloses a neem tree seed collector and filter intended to automate the collection and cleaning of neem seeds from trees. It consists of a support frame (1) that holds a funnel-shaped collection net (2) under the neem tree canopy to catch falling seeds. The funnel section (3) directs the seeds by gravity, and a seed collector box (4) provides temporary storage. This system keeps seeds from being contaminated by soil, moisture, and debris, which helps improve seed quality. The funnel section (3) may include a mesh or vibrating mechanism to remove dust, dried leaves, and other impurities. The seed collector box (4) can also have extra filters or a mechanical remover to ready the seeds for oil extraction or further processing. The modular design of the system makes it easy to assemble, portable, and scalable, so it's suitable for both small-scale farmers and large agro-industrial operations. The invention reduces manual labour, cuts down seed waste, and offers an effective and eco-friendly way to harvest neem seeds. Fig. 1

No. of Pages : 14 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090138 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : REPTILES BLOCKING SYSTEM IN AIR CONDITIONERS

(51) International classification	:G01S0015931000, G01S0015870000, F24F0013220000, G01H0011060000, E04B0001720000
(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

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4)Ms. M. NITHYA SHREE
5)Dr. M. ASHOKRAJ

(57) Abstract :
ABSTRACT REPTILE BLOCKING SYSTEM FOR AIR CONDITIONERS The present invention discloses a reptile blocking system (30) that can be used to guard air conditioners against the invasion of reptiles like the lizards and snakes. It consists of an Arduino Nano (31), ultrasonic sensors (32), a vibration sensor (33), a buzz (34), a relay module (36) and a regulated power supply (35). The ultrasonic sensors (32) respond to an obstacle by use of reflected sound and the vibration sensor (33) responds to spikes formed due to crawling by reptiles. When this is detected the Arduino Nano (31) drives the buzzer (34) to provide a sound alarm and at the same time drives the relay module (36) powering off the air conditioner so that the reptile cannot enter. The community of this automated mechanism does not necessitate the use of physical mesh barriers or chemical repellent hence guaranteeing better appliance cleanliness and safety of operating as well as longer vitae of the parts. The low profile and economical design can be used in residential, commercial and industrial applications and offer real time protection against reptile intrusion without interference with airflow and cooling capacity of air conditioning system. Fig. 1

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090139 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SENSOR BASED TOOL FASTENING DEVICE

(51) International classification	:B25H0003020000, G06F0003041000, A61B0017000000, G06Q0010087000, G06F0003048200
(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

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2)Mr. U. GOKUL
3)Mr. M. MOHAMED ANSAR
4)Dr. T. RAJKUMAR

(57) Abstract :
ABSTRACT SENSOR BASED TOOL FASTENING DEVICE The system disclosed herein relates to an intelligent mechanical tool setup designed to automatically identify and suggest the correct tool size for various mechanical tasks. The invention integrates a toolbox containing multiple tool slots (50), a handle (51) for portability, a display unit (53) for user guidance, and a dimension measuring tool device (54) equipped with sensors for detecting the size of mechanical components. Tools are organized within the toolbox (52) in predefined slots, allowing for quick identification and access. When a component such as a nut or bolt is measured using the sensor-based device (54), the system processes the data and displays the appropriate tool size and location on the display (53). This eliminates manual searching and reduces human error during tool selection. The compact and portable design makes the system suitable for workshops, field repairs, and various industrial applications. By combining traditional mechanical tools with modern sensing and display technology, the invention provides a simplified, efficient, and intelligent solution for mechanical repair and maintenance operations. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090141 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED SCREW-TYPE EARRING BACK HANDLER

(51) International classification	:A44C0007000000, H04B0017240000, B25J0009160000, A45C0011160000, H04W0012080000
(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

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2)Mr. A. HEMCHUDESH
3)Ms. N. HARINI
4)Ms. R. SHALINI
5)Ms. V. VARSHINI
6)R. HEMA

(57) Abstract :
ABSTRACT AUTOMATED SCREW-TYPE EARRING BACK HANDLER The present invention discloses an automated systems used to put on 5 and take off backs of earrings from the studs with minimal manual skill and effort from the user. It encompasses a first holder (52) which engages with an earring stud, and a second holder (54) which accommodates the earring back. The second holder (54) contains an Earring Back Loading Slot (55). The activation button (61) triggers a motor which turns the earring back and 10 attempts to put it on the earring stud. An internal control system is set to stop the rotation automatically when a preset level of earring back tightness is reached. The system operates using an Audible Indicator (57) as feedback. The present invention will reduce manual effort and time consumption for securing and removing earring backs, while enhancing the security of the 15 earrings. Fig. 1

No. of Pages : 15 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090142 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : LANTANA CAMARA AS A NATURAL MOSQUITO REPELLENT COIL

(51) International classification	:A01N0065000000, A01H0006860000, A61K0036850000, A01N0025340000, A01N0065280000
(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

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3)Mr. P. Vigneshwaran
4)Mr. K. Gnana Prakash
5)Mr. R. YAKESH

(57) Abstract :
ABSTRACT LANTANA CAMARA AS A NATURAL MOSQUITO REPELLENT COIL The present invention discloses a coil-based natural mosquito repellent derived from the insect-repellent plant lantana camara (100). The synthesized coil material contains beta-caryophyllene (51) and germacrene d (52) and alpha-humulene (53) and 1,8-cineole (54) and lantadene a & b (55) delivering repellent and insecticidal protection. Active compounds derive from the drying or steam distillation of (100) and these compounds merge with combustible fillers and a natural binder. When ignited the coil deposits aerosolized smoke carrying compounds (51)– (54) that disrupt mosquitoes through scent and odor effects. When (51) undergoes oxidation, it transforms into a stable final compound that retains its effectiveness. The residue from (55) provides extended surface-enhanced insecticidal defense through time. The coil demonstrates three key features which include biodegradability along with human safety and environmental friendliness. The product functions as a sustainable alternative to conventional chemical-based insect deterrents. The invention works best within regions where mosquitoes are endemic. The method contributes additional long-term value to biological weed species that has been introduced into new locations (100). Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090146 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AIR ADAPT

(51) International classification	:F25B0021020000, F24F0011300000, F24F0008158000, F24F0013280000, F24F0013240000
(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

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(72)**Name of Inventor :**
1)Ms. J. ARCHANA
2)Mr. A. MALARMANNAN

(57) Abstract :
ABSTRACT AIR ADAPT The present invention discloses an air adapt (10) that ventilates (13), air cools (11), and purifies (12) automatically without additional air conditioning or purifier units. The invention combines several environmental control functions in one modular window frame (60), appropriate for contemporary residential and commercial use. The left part of the window has an automated sliding system driven by a DC gear motor (61) and rack-and-pinion mechanism (63), opening and closing the window based on real-time temperature readings and external ambient conditions. The upper part has the air cooler (11) by a Peltier thermoelectric module (65) with heat sinker (67) and fan system (68), and the bottom part has the air purification (30) by a HEPA filter (69), activated carbon pad (71), and blower fan (70). A microcontroller (62) takes inputs from temperature sensors (60) and manages the energization of the motor (64), Peltier module (65), and air purifier (12). A relay module (66) provides safe power to high-power loads. A solar panel (74) has also been integrated into the air adapt to provide power to the main low-consumption devices in order to take advantage of green energy. An integrated system of such a nature enhances indoor air quality and thermal comfort, minimizes manual intervention, and promotes energy efficiency, providing a future-proofed solution to smart buildings. Fig 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090147 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART WEED CUTTING MACHINE

(51) International classification	:A01M0021040000, G06V0020100000, A01M0021020000, F21S0009030000, A01B0039180000
(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

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(72)**Name of Inventor :**
1)Ms. A. ABINAYA
2)Mrs. R. SATHYA

(57) Abstract :
ABSTRACT SMART WEED CUTTING MACHINE The present invention discloses a smart weed cutting machine (50) is a solar-powered, app-controlled agricultural device designed to eliminate unwanted weeds growing between crops like cotton and corn without damaging the main plants. The machine is equipped with interchangeable blades-flat (10) and rotary (9)-to handle different weed types, and it's powered by a battery (2) that is charged using a solar panel (1), promoting energy efficiency and eco-friendly operation. The system is controlled via a mobile application that communicates with the onboard microcontroller (4) through Bluetooth or Wi-Fi (5). The app allows functions such as movement forward, backward, turning and blade activation, reducing the need for manual labour or remote controls. The microcontroller (4) processes these commands and operates the motors (6) accordingly through a motor driver module. The machine includes a dataset module where plant images can be manually stored for reference or future upgrades weed detection. All core components are securely mounted on a robust chassis with wheels (8) suited for navigating between crop rows. The present invention enhances weed control efficiency whereas, reducing human effort, making it a practical tool for modern precision farming. Fig 1

No. of Pages : 16 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090148 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SUSTAINABLE PENCIL FROM DRY LEAVES

(51) International classification	:H01M0004360000, B32B0005020000, B27N0003020000, A01K0061600000, C08L0001020000
(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

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(72)**Name of Inventor :**
1)Mr.M.RAJA
2)Mr.A.SHEIK MUKRISH
3)Mr.N.PARKUNAM

(57) Abstract :
ABSTRACT A SUSTAINABLE PENCIL FROM DRY LEAVES The present invention discloses the use of dry banana and teak leaves in the production of eco-friendly pencils, focusing on the tension-making properties and structural integrity of the leaf materials. Banana leaves offer high flexibility and fibrous texture, while teak leaves provide tensile strength and rigidity. When combined, these leaves create a natural composite material capable of withstanding the mechanical tension involved in writing and sharpening. The process involves blending, layering, and molding the leaves with eco-friendly adhesives to form a durable pencil casing around a graphite core. Through controlled molding and vibration techniques, the material is compressed to enhance its tension-bearing capacity. The combination of banana and teak leaves not only provides structural balance but also replaces the need for traditional wood, significantly reducing environmental impact. Experimental results suggest that this natural composite can effectively resist cracking, splitting, and deformation under pressure, making it a viable alternative for sustainable writing instruments. The abstract highlights how agricultural waste can be transformed into high-performance, biodegradable products through innovative tension-based design. Then using a dry leaves on the banana and teak leaf. Fig. 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090149 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATIC TILES CUTTING MACHINE

(51) International classification	:B28D1/22, B28D7/00, B28D7/04
(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

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2)Mr.R.PREMKUMAR
3)Mr.M.RAJA
4)Ms.N.PRIYADHARSHINI
5)Dr.V.VIGNESH KUMAR

(57) Abstract :
ABSTRACT AUTOMATIC TILE CUTTING MACHINE The present invention discloses an automatic tile cutting machine intended for accurate, efficient, and programmable cutting of tile made from different materials. The system has a solid base (57) that supports a firm bed (53) for holding the tile workpiece. A multi-axis motion system has a Y-axis guide way (51) and an X-axis guide way (52) for guided horizontal and longitudinal motion of the cutting unit. A high-speed cutter (56), fitted with a diamond-tipped circular blade, is mounted on the motion assembly to perform cutting operations with precision. A laser displacement sensor (50) is placed close to the cutting head to monitor tile height and ensure uniform cutting depth, even on irregular surfaces. In addition, an alignment mark (55) and surface pattern-detecting camera is incorporated to automatically position tile and follow patterns in the cutting process. All the aforementioned components are controlled by a central controller (54), which handles input data processing, motion system driving, and performing the cutting operation according to the user inputs. The invention saves considerably less labor, enhances cutting accuracy, and speeds up overall productivity in tile making and installation processes. Fig 1

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090150 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTI PURPOSE CONVEYOR MACHINING

(51) International classification	:G05B0023020000, G05B0017020000, G05B0019418000, B29C0045000000, G05B0019414000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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(32) Priority Date	:NA	**1)Ms.N.PRIYADHARSHINI**
(33) Name of priority country	:NA	**2)Mr.R.PREMKUMAR**
(86) International Application No	:	**3)Mr.M.K.PRAKASH**
Filing Date	:01/01/1900	**4)Mr.M.RAJA**
(87) International Publication No	: NA	**5)Mr.M.VISHVA**
(61) Patent of Addition to Application Number	:NA	**6)Dr.G.SATHISHKUMAR**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT MULTIPURPOSE CONVEYOR MACHINING 15 The present invention discloses a conveying machine specifically those combining drilling, milling, and welding into a single machine setup. This approach aims to streamline production, enhance precision, and increase flexibility by consolidating sequential manufacturing operations. By eliminating work- piece transfers and automating tool changes, these systems significantly reduce cycle times and minimize handling errors. Advanced CNC control, robotic automation, and real-time process monitoring ensure high accuracy and consistent quality. Furthermore, The integration of AI-driven optimization and digital twin technology allows for predictive maintenance and process simulation, maximizing efficiency. This convergence of technologies offers substantial benefits in terms of reduced labor costs, improved product quality, and increased adaptability, marking a significant advancement in modern manufacturing practices. Fig 1

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090154 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ARRANGEMENT OF SOLAR PANEL USING ELECTROMAGNETS

(51) International classification	:H02S20/20, H02S30/10
(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

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2)Mr.G.LAYA ANTO
3)Mr.C.THULASIDHARSHAN
4)Mr.V.SATHEESHWAR
5)Mr.A.GODWIN ANTONY

(57) Abstract :
ABSTRACT ARRANGEMENT OF SOLAR PANEL USING ELECTROMAGNETS The present invention relates to a solar panel mounting system designed to simplify installation, enhance portability, and reduce reliance on tools or skilled labour. This system specifically addresses the challenges faced in off-grid, remote, or temporary deployment scenarios where traditional bolted mounting structures are impractical or time-consuming. In many field-based or emergency energy applications, conventional solar mounting systems are limited by the need for mechanical fasteners, time-intensive assembly, and fixed configurations. These limitations hinder the rapid setup and mobility required for disaster relief, rural electrification, mobile stations, or military operations. This invention introduces an innovative arrangement of a solar panel system using electromagnets to replace conventional fasteners, enabling quick attachment and detachment of the panel from its support structure. The system is designed around a robust center frame, stable supporting legs, and a detachable outer frame that houses the solar panel. The use of reversible magnetic coupling makes the system tool-free, modular, and easy to realign or relocate based on changing environmental conditions. The primary objective of this design is to streamline solar panel deployment without compromising stability, safety, or performance Fig 1

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090155 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : PORTABLE LOW-COST NEONATAL INCUBATOR FOR RESOURCE-LIMITED SETTINGS

(51) International classification	:A61G0011000000, C12M0003000000, A61B0003100000, C12M0001000000, A61B0003140000
(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
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3)Mr. S. ABISHEK
4)Mr.R. KARUNAKARAN
5)Mr. G. ARUNKUMAR
6)Dr. AVUDAIAPPAN T

(57) Abstract :
ABSTRACT PORTABLE LOW-COST NEONATAL INCUBATOR FOR RESOURCE-LIMITED SETTINGS The present invention discloses a low-cost neonatal incubator aimed at addressing the challenges faced by healthcare providers in underdeveloped and rural regions. This incubator is conceptualized as an affordable and practical solution to support newborns especially premature and low-birth-weight infants who require a stable and warm environment during the critical early days of life. In many low-resource settings, access to standard incubators is extremely limited due to their high cost, complex operation, and dependence on continuous electricity. As a result, many clinics and small hospitals struggle to provide the necessary care, leading to preventable complications and increased infant mortality. This invention proposes a simplified incubator model that focuses on the core needs of neonatal care without relying on expensive components or advanced infrastructure. It is designed to be easy to operate, maintain, and transport making it highly suitable for remote clinics, temporary setups, and outreach programs. Fig 1

No. of Pages : 25 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090156 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : NEUROBINDI: WEARABLE RELIEF FOR HEADACHE AND STRESS

(51) International classification	:A61N0005060000, A61N0001360000, A61N0001040000, H02J0007000000, A61B0005110000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Ms.P.LATHA**
(33) Name of priority country	:NA	**2)Dr.S.JEYASUDHA**
(86) International Application No	:	**3)Mr.M.D.UDAYA KUMAR**
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	

(57) Abstract :
ABSTRACT NEUROBINDI: WEARABLE RELIEF FOR HEADACHE AND STRESS The present invention relates to a wearable neuro-regulation system, titled neuroBindi, designed for alleviation and management of headaches and stress through a multi-modal therapeutic approach. The device integrates a Microcontroller Unit (MCU) (51) to coordinate operations and signal processing; a Rechargeable Battery (52) with Battery Protection (53) and Power Management IC (54) for stable energy supply. Therapeutic modalities include Electrodes (55) for transcutaneous electrical stimulation, a Thermal Unit (56) for temperature-based therapy, a Temperature Sensor (57) for real-time thermal monitoring, a Motor (58) for localized vibration therapy, and Light Therapy LEDs (59) for photo biomodulation. All components are embedded on a Flexible PCB (60), housed within a skin-conforming structure supported by a Skin-Adhesive Layer (61) and a surrounding Silicone Ring (62) to ensure secure and comfortable attachment. User interface is facilitated by an Indicator LED (63), Diagnostics LEDs (64), and an Onboard Button (66). Additional comfort and adaptability are provided by a Conductive Hydrogel Pad (65), Bluetooth Module (67) for wireless control, an Ambient Light Sensor (68) for environmental responsiveness, a Motion Sensor (69) for activity-based control, and Anti-EMI Shielding (70) . Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090158 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SOLAR SECURE PHONE HOLDER

(51) International classification	:H04M0001040000, H02J0007000000, B60R0011020000, H02J0050100000, G06F0001200000	(71)**Name of Applicant :** **1)K. RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Mr. W. REMIGIUS**
(33) Name of priority country	:NA	**2)Mr. T.K. NITHISH RAGHAVENDAR**
(86) International Application No	:	**3)Mr. I. RAIDAN**
Filing Date	:01/01/1900	**4)Mr. M. PRAGATHISH**
(87) International Publication No	: NA	**5)Dr. S. SUGANTHI**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT SOLAR SECURE PHONE HOLDER The invention described herein by the term solar secure phone holder (30) is applicable to a smart, multiple utility phone holding system that combines the solar charging method and automatic heat shielding measures to ensure that a constant flow of power is available to the device in a self-sustainable and environmentally friendly manner without causing smartphone overheating. The system is constituted of a phone holder frame (10), a heat-protective sheet (11) to prevent direct sun rays, and a solar panel (12) on the back to provide electrical energy. The power is fed to a voltage regulator circuit (13) to provide a stable output, provided via a USB charging port (15) or an optional wireless charging coil (22). There is a rechargeable battery (14) that keeps extra solar energy to be used in the case of need. There is also an extra option on thermal management by incorporating a temperature sensor (17) and a mini-cooling fan (16), which becomes operational at high temperature. Adjustments on the entire system can be made on a rotating mount (18), which can be locked into position with a base clamp or suction mount (19), with LED indicating lights (20) and optional control switch (24). The solar secure phone holder (30) With its outdoor, vehicular, and travel capabilities, it provides a viable, practical, and sustainable solution which will have a compact design, user-friendly interface. Fig. 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090230 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED FILAMENT SWITCHING MECHANISM

(51) International classification	:B33Y0030000000, H02J0007000000, B32B0037200000, B60W0050080000, B60L0053800000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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(86) International Application No	:	**3)Mr. M. K. PRAKASH**
Filing Date	:01/01/1900	**4)Mr. M. RAJA**
(87) International Publication No	: NA	**5)Mr. A. GODWIN ANTONY**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT AUTOMATED FILAMENT SWITCHING MECHANISM The current invention pertains to a semi-automatic 3D printer filament control and feed system with an integrated roller that has a limit switch to monitor and control filament movement during print operations. The system includes multiple rollers (50, 52, 53) positioned to direct filament1 (55) and filament2 (54) towards the 3D printer's extruder, thus providing a continuous and stable material supply. A limit switch (51) is placed near the main roller (50) and is wired electronically to a control module that checks for the absence or presence of filament1. When the limit switch detects filament deficiency, it automatically sends a signal to halt the printer or start the backup filament route via roller (53), allowing the supply of filament2. This configuration provides smooth material switching without human interaction, particularly important for long-duration prints. The rollers, which can be driven by stepper motors with encoder feedback. The modular design of the invention allows for simple maintenance, flexible setup for various filaments, and compatibility with varied 3D printing platforms. Consequently, the invention enhances reliability of prints, facilitates automation, and accommodates multi-material or complex printing uses. Fig 1

No. of Pages : 16 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090231 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ACOUSTIC AND THERMAL INSULATION OF LYCHEE SCRAPS

(51) International classification	:A61K0036770000, C04B0018240000, C04B0028100000, B60R0013080000, E04B0001740000
(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

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(57) Abstract :
ABSTRACT ACOUSTIC AND THERMAL INSULATION OF LYCHEE SCRAPS The present invention discloses an acoustic and thermal insulation of lychee scraps (10) designed as thermally and acoustically insulating construction material utilizing agricultural waste. The lychee seed and peel powders enhance sound absorption and heat resistance due to their porous, lignocellulosic structure, clay (53) and lime (55) provide strength, durability, and bonding. Ash or sawdust (54) improves insulation properties and reduce overall weight. Water (56) enables proper mixing and curing of the composition. The hydrated lime (55) enhance the binding, structural strength and thermal resistance of the brick due to porous natural and chemical properties. The ingredients are blended to form a consistent paste, mould into brick shape using compression or vibratory moulding and cured through air drying. The present invention (10) offers a sustainable alternative to conventional bricks, reducing environmental waste improving energy efficiency in buildings. Fig 1

No. of Pages : 13 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090232 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HAIRWISE SMART PATCH

(51) International classification	:A61Q0005000000, A61B0005000000, C09D0005140000, H04W0004800000, A61B0005110000
(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
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(62) Divisional to Application Number	:NA
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5)Mrs. G. NISHANTHI

(57) Abstract :
ABSTRACT HAIRWISE SMART PATCH The invention relates to the hairwise smart patch, an intelligent wearable biosensor designed for real-time monitoring of scalp and hair health. The patch incorporates miniaturized biosensors to measure hydration, temperature, sebum, ph, and microbial activity, enabling early detection of conditions like dandruff, seborrheic dermatitis, hair fall, and microbial imbalance. Designed for comfort and daily wear, the patch is ultra-thin (30–45 mm in diameter and 0.8–1.5 mm thick), pliable, and made from biocompatible medical-grade silicone with skin-friendly adhesive and antibacterial coating. Internally, it features a low-power microcontroller (51), bluetooth low energy module (52), and rechargeable lithium-polymer battery (55) lasting 3–5 days, chargeable via wireless or pogo-pin interface. The device is waterproof (ip67) and transmits real-time data to a smartphone app on android/ios. The app offers visual analytics, health alerts, and ai-driven recommendations, making hairwise not only a diagnostic tool but also a proactive, personalized scalp wellness and treatment assistant. Fig 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090234 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MAGNETIC PROTECTION FOR TYRE DAMAGE

(51) International classification	:G01N0027820000, G01R0033020000, B60C0023040000, G01N0027830000, G07C0005080000
(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
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1)Mr. P. PRAKASH

(57) Abstract :
ABSTRACT MAGNETIC PRODUCTION FOR TYRE DAMAGE The present invention discloses a magnetic production for tire damage (10) is the traditional methods for identifying tire faults rely heavily on mechanical components such as pressure sensors, visual inspections, and vibration monitors. While effective, the methods limited in real time responsiveness, accuracy and early stage detection. In contrast, magnetic based tire damage (54) detection offers a novel approach by utilizing magnetic field variations caused by structural changes within the tire. This technique involves embedding magnetic sensors (50) within the tire assembly or along the vehicle chassis, detecting anomalies due to punctures, or wear through disruption in the magnetic field (53). Compared to component-based systems, magnetic detection demonstrates higher sensitivity to micro level damage and operates in real time with minimal physical contact or mechanical complexity (55). The integration of this technology with onboard diagnostics and frameworks enhances predictive maintenance and reduces the sudden tire failures. Fig 1

No. of Pages : 20 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090236 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTIFUNCTIONAL NANO COATING WINDOW

(51) International classification	:B82Y0040000000, C02F0001320000, B32B0005260000, B32B0033000000, C09D0001000000	(71)**Name of Applicant :** **1)K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY** Address of Applicant :The Principal, K.Ramakrishnan College of Technology, Kariyamanickam Road, Samayapuram, Trichy, Tamil Nadu, India- 621112 Trichy Tamil Nadu India
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(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	

(57) Abstract :
ABSTRACT MULTIFUNCTIONAL NANO COATING WINDOW The present invention discloses a multifunctional nano coating window (100) for maintaining glass clarity and minimizing cleaning efforts in architecture. The nano-coated glass comprises a transparent glass substrate (51), a photocatalytic conductive layer (52), an anti-static layer (53), and a hydrophobic top layer (54). The photocatalytic conductive layer (52) made of titanium dioxide (tio_2) is configured to decompose organic contaminants under ultraviolet (uv) light. The anti-static layer (53) composed of pedot:pss is configured to neutralize surface charges and prevent dust accumulation, hydrophobic top layer (54) made of pfotes is configured to repel water and dirt, allowing natural cleaning via rainwater, the photocatalytic conductive layer (52) is bonded to the substrate via si–o–ti covalent bonds, while the anti-static layer (53) and hydrophobic top layers (54) are bonded by hydrogen bonding and si–o–si linkages respectively, to reduce manual cleaning and eliminate the need for chemical detergents or high-pressure water cleaning. The present invention reduces environmental impact, water usage, and manual labour in glass cleaning while preserving long-term transparency and surface cleanliness. Fig 1

No. of Pages : 17 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541090240 A

(19) INDIA

(22) Date of filing of Application :22/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD AND APPARATUS FOR PRODUCING MICRON-SCALE FILMS WITH CUSTOMIZABLE THICKNESS, WIDTH AND THEREOF

(51) International classification	:B05C0005020000, G01B0011060000, C23C0016455000, C23C0014540000, C23C0014240000
(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

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(57) Abstract :

ABSTRACT "METHOD AND APPARATUS FOR PRODUCING MICRON-SCALE FILMS WITH CUSTOMIZABLE THICKNESS, WIDTH AND THEREOF " The present invention relates to a method and apparatus for producing micron-scale films with customizable thickness and width. The system integrates a precision Blade setup mechanism with an adjustable-width guide assembly, enabling real-time control over film deposition parameters. Utilizing of the micrometre screws and a guided track system, is incorporate in the present design allows users to fine-tune both film thickness and coating width with high accuracy and repeatability. The design supports compatibility with various substrates and coating materials, ensuring wide applicability across research and industrial environments. By combining modular construction with scalable integration capabilities, the invention enhances coating uniformity, improves material efficiency, and provides a flexible platform for producing high-quality thin films. Fig 1

No. of Pages : 11 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090241 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTIPURPOSE DOOR HANDLE PAD

(51) International classification	:E05B0001000000, A61L0002180000, A61L0002100000, A61L0002240000, A01N0025340000
(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

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5)Mr. K. JAYA SURIYA

(57) Abstract :
ABSTRACT MULTIPURPOSE DOOR HANDLE PAD The present invention discloses load bearing and multi-purpose door handle pad as explained by the application is designed to enhance the quality of hygiene, safety as well as comfort of the individual when using door handles by incorporating sanitization, antibacterial protection and odour control in one unit (on door handles) without any cumbersome, body-stressing and time-consuming installation procedure. The system (60) contains a handle (65) acting as the mounting base of the device and is meant to be installed in a retrofitting manner but without swapping existing hardware. The auto-releasing sanitizer sponge (61) is designed in such a way that it releases sanitizer each time it is gripped by the hands making it a form of active disinfection and not passive like normal sponges. The continual passive microbial defence created by the antibacterial coated surface also neutralises the bacteria and viruses that come in contact with the surface, and this also minimises the risks of cross-contamination. A built-in touch-sensitive led indicator (63) should give an instant visual response when touched and with correct hand positioning to check that the sanitizer has been released. It also comes with (64) scent replacement unit that will contain swappable fragrance strips or cartridge. A universal elastic grip (66) is built of durable, elasticized materials that subject it to non-slip attachment without the use of any special tools and without permanent modifications. Fig 1

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090242 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : OIL DISPENSOR SPOON

(51) International classification	:A47G21/04, A47J43/28
(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

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(57) Abstract :
ABSTRACT OIL DISPENSOR SPOON The present invention discloses oil dispenser spoon of the present invention operates to deliver controlled quantities of cooking oil directly onto food or cookware while simultaneously serving as a stirring and scraping utensil, thereby eliminating the need for separate containers and reducing mess during cooking. (81) represents the sharp moulded edges formed around the spoon head to aid in scraping and stirring ingredients during frying or sautéing. (82) are three small dispensing holes positioned in the spoon head that allow precise and even oil release. (83) is the fiberglass handle that offers ergonomic, heat-resistant support for safe gripping during cooking. (84) is the oil release button mounted on the handle, which when pressed, actuates the flow of oil stored in the integrated reservoir. (85) is the internal oil channel running through the handle to guide oil from the storage compartment to the dispensing holes. (86) is the integrated container located within the spoon head that stores a measured quantity of cooking oil for immediate dispensing. The spoon operates by manually pressing the button (84), which opens the internal channel (85) allowing oil to flow from the container (86) through the dispensing holes (82) while the user simultaneously stirs or scrapes with the moulded edges (81). This integrated design ensures controlled, hygienic, and convenient oil application directly while cooking, reducing spills, saving time, and simplifying kitchen workflows without the need for separate oil containers or measuring spoons. Fig 1

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090243 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : OBSTACLE DETECTION SHOE

(51) International classification	:A61H0003060000, G09B0021000000, A61F0009080000, G01S0015931000, G08G0001160000
(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
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(57) Abstract :
ABSTRACT OBSTACLE DETECTION SHOE The present invention discloses a smart shoe (50) that has been designed specifically to help visually impaired people move around their environment in increased safety and confidence. The smart shoe (10) consists of Microcontroller (52), ultrasonic sensor (55), front vibration sensor (54), auto brake system (51), dc motor (58), skating wheels (53), dual brake (57), bottom stabilizing wheel (56), and integrated internal connection system (59). The ultrasonic sensor (55) is set to detect obstacles that come in the way of the user and transmit current information to the microcontroller (52). When the nearby obstacles are detected, the microcontroller (52) takes the processed data and switches on the front vibration sensor (54). This latter one gives tactile feedback to the user for alerting. The skating wheels (53) driven by the DC motor (58) facilitates smooth movement while the auto brake (51) and dual brake (57) work individually and in conjunction to stop the shoe when a necessity arises, thereby, ensuring safety. The support of balance in movement is aided by the bottom wheel (56). All the electrical and mechanical components are interconnected in the structure of the shoe (59), providing the possibility for small-sized and efficient performance. The present invention (10) contributes to decreasing the dependence on external assistance, decreasing the risks occurring during walks and increasing mobility and self-confidence in visually impaired user. Fig 1

No. of Pages : 20 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541090244 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTO LENGTH ADJUSTABLE CABLE SYSTEM

(51) International classification	:F16C0001220000, B65H0075440000, H02G0011020000, F21Y0115100000, G02B0006460000
(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
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(57) Abstract :
ABSTRACT AUTO LENGTH ADJUSTABLE CABLE SYSTEM The invention presents an auto length adjustable cable mechanism (10) with automatic return and manual twisting features for dynamic cable extension needs without electrical controls. This system (10) has a spiral cable (4) wound on an internal cable drum (3) installed inside a protective outer cylinder (1). Manual control through the twist cap (7) enables users to operate the spiral cable (4) through helical guide (2) for extending, locking and unlocking cable length. The attached return spring (5) connected to drum (3) automatically rewinds the cable when the user releases it so manual rewinding becomes unnecessary. The locking lug element (6) joins the helical guide feature (2) to facilitate stepwise cable locking functions at specific length intervals. Cable stopper (9) serves as an extension safety mechanism and the cable output tip (10) allows data and power connections. This innovation (10) provides several benefits through its compact functionality which makes automatic cable management possible in wearables and robotics together with power tools and consumer electronics. Fig 1

No. of Pages : 14 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541092523 A
(19) INDIA
(22) Date of filing of Application :26/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : INTEGRATED REAL-TIME CONDITION MONITORING SYSTEM FOR DREDGE PUMP-LINES

(51) International classification	:H04W0084180000, G01H0001000000, G05B0023020000, H04W0004380000, H04L0067120000
(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

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(57) Abstract :
The present invention relates to a system and method for online condition monitoring of dredge pump-lines. The system comprises a plurality of sensor nodes enclosed in waterproof, corrosion-resistant housings and equipped with sensors to measure flow, pressure, vibration, temperature, motor current, slurry density, and lubrication condition. Each node incorporates an edge processing unit configured to filter signals, extract features, and generate summarized condition data. A hybrid communication module is provided, comprising mesh/LoRa connectivity, cellular backhaul, and satellite fallback, with store-and-forward buffering for reliable data transmission. Each node further includes a solar-powered autonomous energy subsystem with rechargeable batteries and optional vibration energy harvesting. A central monitoring station receives the transmitted data, computes Key Performance Indicators (KPIs) such as Availability, Utilization, MTBF, MTTR, and OEE, and generates predictive maintenance outputs including alarms and dashboards. The invention enables real-time monitoring, fault detection, and predictive maintenance in mobile and harsh dredging environments.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541093713 A
(19) INDIA
(22) Date of filing of Application :30/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ENHANCING EFL SPEAKING PROFICIENCY THROUGH TASKBASED LANGUAGE TEACHING: AN EMPIRICAL STUDY

(51) International classification	:G06Q0050200000, G09B0019060000, G09B0007020000, G09B0019040000, G06Q0010063100
(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

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2)Dhumal Suraj Nandkumar

(57) Abstract :
ENHANCING EFL SPEAKING PROFICIENCY THROUGH TASK-BASED LANGUAGE TEACHING: AN EMPIRICAL STUDY" ABSTRACT The present invention relates to a system and method for enhancing English as a Foreign Language (EFL) learners' speaking proficiency through the structured application of Task-Based Language Teaching (TBLT) principles. The invention addresses the persistent shortcomings of traditional grammar-translation and teacher-centered methods, which often fail to develop fluency, accuracy, and confidence in oral communication. The system comprises a learner module for task participation, a teacher/facilitator module for instructional design and monitoring, a task repository containing authentic communicative activities, an assessment and feedback module for evaluating learner speech output, and an analytics dashboard for progress visualization and adaptive recommendations. Tasks include role-plays, simulations, and problem-solving activities designed to replicate real-world communicative contexts. The invention further incorporates a workflow process consisting of task assignment, execution, speech capture, evaluation, and feedback delivery. An adaptive feedback loop continuously analyzes learner performance, refines task difficulty, and iteratively improves oral proficiency. The system supports both classroom-based and online environments, ensuring scalability and adaptability across diverse institutional settings. Experimental validation demonstrates that learners exposed to the proposed TBLT framework show significant improvements in fluency, accuracy, vocabulary, and pronunciation compared to learners instructed via traditional methods. The invention thus provides a comprehensive, learner-centered, and empirically validated solution for promoting communicative competence, empowering EFL learners to achieve higher levels of speaking proficiency. Fig. 1.

No. of Pages : 16 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541093714 A
(19) INDIA
(22) Date of filing of Application :30/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR SCIENTOMETRIC ANALYSIS AND SYSTEMATIC MAPPING OF EDUCATION TECHNOLOGY RESEARCH

(51) International classification	:G06F0016350000, G06F0016300000, G06Q0050200000, G06Q0010100000, G06T0011200000	(71)**Name of Applicant :** **1)SR UNIVERSITY** Address of Applicant :Ananthasagar, Hasanparthy (PO), Warangal - 506371, Telangana, India Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Kallabothu Sandhya**
(32) Priority Date	:NA	**2)Dhumal Suraj Nandkumar**
(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	

(57) Abstract :
"ENHANCING EFL SPEAKING PROFICIENCY THROUGH TASK-BASED LANGUAGE TEACHING: AN EMPIRICAL STUDY" ABSTRACT The present invention relates to a system and method for scientometric analysis and systematic mapping of education technology research, designed to provide structured, reproducible, and data-driven insights into the knowledge landscape of the field. The invention addresses the shortcomings of traditional narrative reviews and fragmented bibliometric studies by integrating automated bibliographic data collection, scientometric analysis techniques, systematic review protocols, and advanced visualization tools. The system comprises a data collection module for retrieving bibliographic records from academic databases, a data preprocessing module for cleaning and normalization, a scientometric analysis module for performing citation analysis, co-citation mapping, bibliographic coupling, and keyword clustering, a systematic review module for applying protocol-based screening and thematic categorization, a visualization module for generating research maps, thematic evolution diagrams, and collaboration networks, and an analytics dashboard for consolidating results and supporting decision-making. The method follows a structured workflow beginning with data collection, preprocessing, scientometric evaluation, systematic mapping, and visualization of results. An adaptive feedback loop allows continuous refinement by integrating new publications and recalibrating thematic structures, thereby ensuring that the system remains current and scalable. By enabling comprehensive mapping of research outputs, identification of knowledge gaps, and analysis of emerging trends, the invention provides a robust, evidence-driven, and scalable solution for conceptualizing and advancing education technology research. Fig. 1.

No. of Pages : 16 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541094885 A
(19) INDIA
(22) Date of filing of Application :02/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM FOR EARLY DETECTION OF FUNGAL INFECTIONS IN CROPS AND A METHOD THEREOF

(51) International classification	:G16H0050200000, A61B0005000000, G06T0007000000, G06N0003045000, G16H0010600000	(71)**Name of Applicant :** **1)Dr. Pradeep V** Address of Applicant :Department of Artificial Intelligence and Machine Learning, City Engineering College, Bangalore 560 062 , Karnataka, India Karnataka India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr. Pradeep V.**
(33) Name of priority country	:NA	**2)Dr. ANSHUL KUMAR SINGH**
(86) International Application No	:	**3)RAKESH BHARATI**
Filing Date	:01/01/1900	**4)Dr. Yashmeet Kaur**
(87) International Publication No	: NA	**5)Mr.V.Surendhiran**
(61) Patent of Addition to Application Number	:NA	**6)Ms.B.Keerthana**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT “SYSTEM FOR EARLY DETECTION OF FUNGAL INFECTIONS IN CROPS AND A METHOD THEREOF” The present invention relates to a system (100) and method for early detection of fungal infections in crops. The system (100) captures images through an image acquisition unit (110) and processes them using a preprocessing unit (120) to enhance quality and reduce noise. A deep learning unit (130) analyzes the images to detect and classify fungal infections, providing diagnostic outputs that include infection type, severity, and probability scores. The processing interface (140) enables execution of the deep learning unit (130) locally or via a cloud-based server. A decision support unit (150) generates actionable recommendations for disease management, which are displayed through a user interface unit (160). Diagnostic results can also be transmitted to a cloud database for aggregation, model retraining, and regional disease monitoring. The system (100) provides timely, accurate, and accessible tools for mitigating crop losses and promoting sustainable farming practices. Refer to Figure 1

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095043 A
(19) INDIA
(22) Date of filing of Application :03/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT POWERED WEARABLE DEVICES FOR CONTINUOUS MONITORING OF NEUROLOGICAL DISORDERS

(51) International classification	:A61B0005000000, A61B0005024000, A61B0005145000, H04L0009400000, A61P0025000000	(71)**Name of Applicant :** **1)GNANAMANI COLLEGE OF TECHNOLOGY** Address of Applicant :NH-7, SAMUTHIRAM, PACHAL P.O, NAMAKKAL, TAMIL NADU, INDIA-637018 Tamil Nadu India (72)**Name of Inventor :**
(31) Priority Document No	:NA	**2)KIRUBHAKARAN S**
(32) Priority Date	:NA	**3)RAM KUMAR A K**
(33) Name of priority country	:NA	**4)JAYA VISHNU E**
(86) International Application No	:NA	**5)NISHANTHI S**
Filing Date	:NA	**6)KAYALVIZHI S**
(87) International Publication No	: NA	**7)DHARUNIKA S**
(61) Patent of Addition to Application Number	:NA	**8)HARINI M**
Filing Date	:NA	**9)UMA MAHESWARI C**
(62) Divisional to Application Number	:NA	**10)PRAVINKUMAR R**
Filing Date	:NA	**11)PRIYADHARSHINI E**
		12)RAKESHKUMAR R

(57) Abstract :
Abstract loT-enabled wearables are revolutionizing neurologicill c►ondition .car~~i~h 'real-time m~nitoring . . . ~►. : ►. ' These sophisticated gadgets use accelerometer's, gy.r o.s c.o pes, and. EEG sensors ► to record movement, orientation, and brain activity. For analysis, healthcar~ providers or cl~ud platforms 5 receive this data via Bluetooth, Wi-Fi, or cellular networks. R~al~time data collecting allows ear.l y diagnosis of sympioms including tremors,► ►Seizures, and irregular gait, enabling . . . . . individualized therapy. These gadgets use powerful algorithms and machine learning models to find trends and forecast episorles, improving treatment regimens. Wearable user interfaces give ' N ► ► ► re.al-time feedback► and rep~inders to encourage. medication and therapy adherence. These ~0 technologies increase data accuracy, patient compliance, and individualized treatment, but they also pose issues including data privacy, device dependability, and healthcare system integration. These gadgets may improve patient monitoring ~d outcomes ►as sensor technology, machine learning algorit►►h. ms, ar.J augmented reality evolve. Overall, loT-powered wearable devices . 15 20 promise potential arl►1ances in neurological disease management, improving patient care and quality of life.

No. of Pages : 14 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095044 A
(19) INDIA
(22) Date of filing of Application :03/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CLOUD BASED VIRTUAL REALITY SURGERY SIMULATOR USING REAL TIME IOT SENSOR DATA

(51) International classification	:G09B0023280000, G06T0019000000, G06F0003010000, G09B0009000000, G09B0023300000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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7)ROJA S
8)MURALIDHARAN C
9)PRAGADESH R
10)MOHAN KUMAR K
11)HARIBHARATHI A
12)KARTHIKEYAN K

(57) Abstract :
Abstract A cloud-based Virtual Reality (VR) surgery simulator is presented, including real-time loT sensor data to improve the authenticity and scalability of surgical training. loT-enabled devices, such as motion trackers, force sensors, and physiological monitors, relay continuous 5 data streams over edge gateways to cloud servers. The data streams are integrated with anatomical models and physics-based simulations to produce immersive visual, tactile, and haptic feedback within the VR experience. The system architecture integrates edge processing for latency-sensitive replies, while cloud resources oversee complex physics computations, multi-user synchronisation, and training analytics. The simulator supports 10 both solo and team sessions, providing teachers with interactive dashboards, automatic skill assessments, and replay capabilities. Performance objectives en~nmp~ss sub-50 ms round-trip latency, scalable implementation across training facilities, and adaptive feedback to enhance learning results. The system utilises loT-enabled real-time data and cloud-supported VR to deliver accessible, economical, and high-quality surgical training experiences that enhance 15 skill learning and facilitate ongoing professional growth.

No. of Pages : 16 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095062 A
(19) INDIA
(22) Date of filing of Application :03/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT-CONNECTED SMART GLASSES FOR AUGMENTED REALITY-ASSISTED SURGERY

(51) International classification	:G06T0019000000, A61B0005000000, G16H0040630000, G16H0030400000, G16H0040670000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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6)MATHAN M
7)SANTHOSH KUMAR A
8)MANIRAM
9)BABITHA D
10)BHAVITHRA P
11)ARCHANA S
12)TAMILARASAN J

(57) Abstract :
Abstract The growing complexity of surgical operations necessitates advanced instruments that improve accuracy, situational awareness, and patient safety. Augmented Reality (AR)enhanced surgery allows surgeons to see essential anatomical features and get real-time 5 procedural direction immediately at the operative location. loT-enabled smart glasses incorporate AR features alongside real-time patient data from various medical sensors. The technology collects vital signs, imaging data, and procedure parameters, securely sending them over loT networks to the smart glasses, enabling surgeons to access critical information hands-free. The integration of AR visualisation with loT connection enhances intraoperative 10 decision-making, mitigates mistake risk, and decreases procedure duration. Moreover, it enables remote expert consultation, facilitating joint actions and ongoing monitoring. Assessments indicate improved surgical precision, optimised productivity, and less cognitive load on surgeons. This loT-AR platform signifies a substantial progression in intelligent operating room technology, providing safer, more efficient, and data-driven surgical 15 operations while converting conventional surgical settings into interconnected, responsive places.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095063 A
(19) INDIA
(22) Date of filing of Application :03/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT-CONNECTED SENSORS FOR REAL-TIME MONITORING OF DRINKING WATER QUALITY WITH AI

(51) International classification	:G01N0033180000, G06N0020000000, H04L0067120000, H04W0004380000, G06Q0050060000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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 :**
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Address of Applicant :NH-7, A.K.SAMUTHIRAM, PACHAL P.O, NAMAKKAL, TAMIL NADU, INDIA-637018 Tamil Nadu India
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2)ARNICA R
3)NIVEDHA S
4)ELAVARASAN J G
5)ABITHA S
6)ISHWARYA S
7)HARIHARAN E
8)AARTHI M
9)AARTHI S
10)DHARSHINI S
11)MALARVIZHl R
12)AMSAVALLI C

(57) Abstract :
Abstract With the rise in Internet of Things (loT) technologies, there is an increasing interest in utilizing loT-connected sensors to monitor the quality of drinking water in real-time. We investigate the combination of Al-driven analytics and loT sensors to improve the accuracy and efficiency of 5 monitoring processes. The focus of the study is on creating a scalable framework that allows for continuous data collection from sensors deployed throughout water distribution networks. By utilizing machine learning algorithms, the collected data is analysed to identify any deviations from water quality standard.s in real-time. It also discusses the system architecture and sensor deployment strategy, as well as the challenges and opportunities associated with implementing 10 such a system. Field trials ~ave shown that the system approach is effective in providing timely alerts and actionable insights to water management authorities and conSIJmers. The integration of AI and loT for water quality monitoring is a significant step forward in ensuring the safety and sustainability of drinkin_;! water supplies0

No. of Pages : 19 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095487 A
(19) INDIA
(22) Date of filing of Application :04/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : FORMULATION AND CHARACTERIZATION OF DAPAGLIFLOZIN TRANSDERMAL PATCHES

(51) International classification	:A61K0009700000, A61P0003100000, A61K0009000000, A61K0009200000, A61K0047380000	(71)**Name of Applicant :** **1)ANURAG UNIVERSITY** Address of Applicant :VENKATAPUR (V), GHATKESAR (M), MEDCHAL MALKAJGIRI DT. HYDERABAD TELANGANA 500088. Hyderabad Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Dr . Swapna.S**
(33) Name of priority country	:NA	**2)Madduluri Shiva Kailash**
(86) International Application No	:	**3)Keshapally Shirisha**
Filing Date	:01/01/1900	**4)M.P. Sneha Latha**
(87) International Publication No	: NA	**5)Kemidi Anjali**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT The invention relates to a transdermal drug delivery system for Dapagliflozin, formulated using a solvent casting technique for sustained and controlled drug release. The patch comprises a polymeric matrix of hydroxypropyl methylcellulose (HPMC) and ethyl cellulose (EC), a plasticizer such as dibutyl phthalate (DBP), and a permeation enhancer like dimethyl sulfoxide (DMSO). Designed for application on the skin, the patch enables bypassing of hepatic first-pass metabolism, improves drug bioavailability, and ensures consistent therapeutic plasma levels for the treatment of Type 2 Diabetes Mellitus. The formulated patch is evaluated for physicochemical properties including thickness, tensile strength, drug content uniformity, folding endurance, and in vitro drug release. The invention provides a patient-friendly alternative to oral Dapagliflozin, offering enhanced compliance, controlled glycemic management, and stability under accelerated storage conditions. This system represents an effective innovation in transdermal antidiabetic therapy. The figure associated with abstract is Fig. 1.

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541095524 A
(19) INDIA
(22) Date of filing of Application :04/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ANTIDIABETIC TABLET COMPRISING CINNAMON BARK AND AONLA FRUIT EXTRACT AND METHOD OF PREPARATION THEREOF

(51) International classification	:A61K0036540000, A61P0003100000, A61P0001160000, A61K0008978900, A61K0036470000	(71)**Name of Applicant :** **1)LAXMI** Address of Applicant :HOUSE NO 9-480/MIG/44, VAKKALGARA KHB COLONY, KALABURAGI, KARNATAKA, PIN – 585104, INDIA Karnataka India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)LAXMI**
(33) Name of priority country	:NA	**2)Dr. SAJI GOMEZ**
(86) International Application No	:	**3)Dr. CHANDRASHEKHAR V M**
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	

(57) Abstract :
This invention discloses a novel antidiabetic tablet formulated from standardized hydroethanolic extracts of cinnamon bark (Cinnamomum verum) and aonla fruit (Emblica officinalis Gaertn.) in 1:1 ratio. The formulation synergistically combines the serum glucose reduction properties of cinnamon with the potent antioxidant effects of aonla. The tablet exhibited robust hepatoprotective and antioxidant activities, evidenced by improved liver enzyme markers and enhanced levels of superoxide dismutase and glutathione by in vivo study. This plant-based composition offers a safe, effective, and multi-target therapeutic option for managing diabetes and its complications.

No. of Pages : 55 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096200 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Precision Fertilizer Spraying through Gantry Automation

(51) International classification	:B05B0012120000, A01B0079000000, A01M0007000000, A01C0023040000, A61B0006030000	(71)**Name of Applicant :** **1)V R Lenin** Address of Applicant :2/191 - Ganapathi Nagar, Karumanur Post, Mallasamudram Via, TIruchengode T K, Tamil Nadu India **2)Dr. M. Raja Roy**
(31) Priority Document No	:NA	**3)Dr. Srinivasa Rao Mallipudi**
(32) Priority Date	:NA	**4)Dr.B.Naga Raju**
(33) Name of priority country	:NA	(72)**Name of Inventor :**
(86) International Application No	:	**1)Dr. M. Raja Roy**
Filing Date	:01/01/1900	**2)Dr. Srinivasa Rao Mallipudi**
(87) International Publication No	: NA	**3)Dr.B.Naga Raju**
(61) Patent of Addition to Application Number	:NA	**4)Dr. Lenin V R**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
This invention relates to an agricultural application to automatically spray fertilizer with precision using a gantry mechanism. It consists of a mobile gantry structure with a spray module, sensors, and a control unit for the uniform and site-specific application of fertilizers. The gantry, once ready, can be run across any agricultural plot in predefined paths in consistent coverage, with minimal human intervention. The control unit WhatsApp works based on programmed instructions and sensor data to achieve site-specific spraying with maximum efficiency in fertilizer usage. This invention wastes fewer resources, improves the crop yield, and sustains the environment by applying the right quantities of fertilizer directly to the plant zone. The modular design can be fitted as per crop layouts and field sizes, making it perfect for scalable agricultural applications.

No. of Pages : 19 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096203 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-Driven ESG Healthcare Transparency Platform for Building Patient Trust and Loyalty

(51) International classification	:G16H0010600000, G16H0050200000, G16H0040200000, G06N0020000000, G06Q0010100000	(71)**Name of Applicant :** **1)VARANASI RAHUL** Address of Applicant :No 149, Sri Lakshmi venkateswara Nilaya, Opp JDS office Karnataka India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Dr K Lavanya**
(32) Priority Date	:NA	**2)Rakesh N**
(33) Name of priority country	:NA	**3)Varanasi Rahul**
(86) International Application No	:	**4)L. Brindha**
Filing Date	:01/01/1900	**5)Dr Muralidhar L B**
(87) International Publication No	: NA	**6)Mr H V Sathyananda swamy**
(61) Patent of Addition to Application Number	:NA	**7)Manoj B N**
Filing Date	:NA	**8)Pavithra V K**
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The "AI-Driven ESG Healthcare Transparency Platform" is a transformative solution designed to enhance patient trust and loyalty through comprehensive transparency in healthcare services. Leveraging artificial intelligence (AI) and environmental, social, and governance (ESG) principles, the platform facilitates real-time data analysis, reporting, and communication of healthcare providers' sustainable practices, patient outcomes, and ethical governance. By integrating advanced analytics, blockchain for data security, and user-centric interfaces, this invention addresses the critical need for transparency and accountability in healthcare systems, fostering informed decision-making and long-term patient-provider relationships.

No. of Pages : 9 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096219 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : INSURANCE LITERACY, AWARENESS, AND ADOPTION OF DIGITAL MICROINSURANCE AMONG GENERATION Z IN TELANGANA

(51) International classification	:G06Q0040080000, H04L0051020000, G09B0005060000, G09B0005020000, G09B0019000000
(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

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(72)**Name of Inventor :**
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3)Dr. Geetha Manoharan

(57) Abstract :
INSURANCE LITERACY, AWARENESS, AND ADOPTION OF DIGITAL MICROINSURANCE AMONG GENERATION Z IN TELANGANA ABSTRACT This invention focuses on enhancing insurance literacy, awareness, and adoption of digital microinsurance among Generation Z in Telangana, a region where young people face challenges in understanding and accessing traditional insurance products. The platform uses a mobile-first approach, offering educational content in the form of videos, interactive quizzes, and infographics to simplify complex insurance concepts. Machine learning algorithms personalize content based on user behavior, ensuring a tailored learning experience. The platform provides affordable digital microinsurance products, including health, accident, and crop insurance, designed to meet the financial needs of young, tech-savvy individuals. Blockchain technology ensures secure, transparent transactions, while AI-powered chatbots offer real-time support, guiding users through policy selection and claims processes. This solution aims to eliminate traditional barriers to insurance access and build trust among users. The platform's scalability allows for expansion beyond Telangana, providing a model for broader adoption of digital insurance services in underserved regions.

No. of Pages : 12 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096220 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ASSESSING THE MULTIFACETED DIMENSIONS OF EMPLOYEE ENGAGEMENT IN THE IT SECTOR: THE RESILIENCE PERSPECTIVE

(51) International classification	:G16H0010200000, G16H0050300000, G06Q0010105000, G06Q0010063100, G06Q0010063700
(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

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(72)**Name of Inventor :**
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2)Dr. Rajyalaxmi. M
3)Dr. Geetha Manoharan

(57) Abstract :
ASSESSING THE MULTIFACETED DIMENSIONS OF EMPLOYEE ENGAGEMENT IN THE IT SECTOR: THE RESILIENCE PERSPECTIVE ABSTRACT The invention Assessing the Multifaceted Dimensions of Employee Engagement in the IT Sector: The Resilience Perspective introduces a structured framework to evaluate how resilience influences and sustains employee engagement in dynamic technology-driven workplaces. Unlike traditional engagement assessments that focus primarily on motivation or satisfaction, this approach integrates resilience as a central factor in understanding how employees adapt to stress, change, and high-performance demands. The system combines survey-based psychometric tools, sentiment analysis, and predictive modeling to capture diverse dimensions of engagement. Through a cloud-enabled platform, it visualizes trends, identifies organizational stress points, and provides actionable insights for both managers and employees. By offering personalized feedback, resilience-building recommendations, and predictive insights into attrition risks, the invention empowers organizations to foster a more adaptive and sustainable workforce. This resilience-focused assessment is particularly relevant in the IT sector, where rapid innovation and constant change demand employees who are both engaged and adaptable.

No. of Pages : 12 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096225 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart Traffic Management for Ambulance Priority: Enhancing Emergency Response Times

(51) International classification	:H04W0004900000, H04L0067120000, G08G0001081000, G08G0001010000, H04W0072020000
(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

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(57) Abstract :
The invention pertains to a Smart Traffic Management System leveraging IoT, AI, and real-time data analytics to prioritize ambulances in urban traffic. The system dynamically optimizes traffic signals and routes, reducing emergency response times and enhancing overall traffic efficiency. By integrating sensor networks, machine learning algorithms, and cloud-based analytics, it identifies ambulance locations, predicts traffic patterns, and adjusts signal timings in real-time. This innovation ensures seamless ambulance passage, minimizes delays, and improves public safety. The system is scalable, adaptable to existing infrastructure, and capable of integrating with emergency service networks.Additionally, the system supports multi-vehicle emergency coordination, allowing simultaneous tracking of fire trucks, police vehicles, and ambulances. It features a centralized dashboard for traffic authorities to monitor and override controls when needed. Real-time alerts and performance analytics enable continuous system improvement. The architecture also supports future integration of AI-based traffic prediction for broader urban mobility management.

No. of Pages : 8 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096226 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ANTI-LANDMINE BOOTS

(51) International classification	:A43B0003000000, F41H0007040000, F41H0011136000, G06F0009440100, F41H0011120000	(71)**Name of Applicant :**
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(32) Priority Date	:NA	Address of Applicant :Rathinam Techzone Campus, Rathinam Technical Campus, Eachanari, Coimbatore - 641 021 Tamil Nadu India
(33) Name of priority country	:NA	**2)POOJA SV**
(86) International Application No	:	**3)SUFIA NASREEN M**
Filing Date	:01/01/1900	**4)MUJAAHITH APSAR A**
(87) International Publication No	: NA	**5)PARTHA SARATHI M**
(61) Patent of Addition to Application Number	:NA	**6)SASWANTH SATHESH S**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)POOJA SV**
Filing Date	:NA	**2)SUFIA NASREEN M**
		3)MUJAAHITH APSAR A
		4)PARTHA SARATHI M
		5)SASWANTH SATHESH S

(57) Abstract :
The Anti-Landmine Boot is an advanced military footwear designed to protect soldiers from landmine threats in combat zones. It integrates cutting-edge technology, including a built-in landmine detection system that alerts soldiers of nearby mines in real-time. In the event of a landmine activation, the boot features an innovative ejection system that creates a protective barrier to prevent detonation, reducing the risk of injury. Constructed from durable materials, it ensures long-lasting protection across various terrains. The boot's seamless integration of detection and protection technology requires no specialized training, making it easy for soldiers to adopt. This life-saving technology offers a crucial layer of safety while maintaining mobility, allowing soldiers to focus on their mission with confidence. The Anti-Landmine Boot represents a significant advancement in military safety, providing effective protection against one of the most dangerous hazards on the battlefield.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096227 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HUMAN HARDNESS MOTION

(51) International classification	:H02N2/18
(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

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4)Nalluchamy K
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(57) Abstract :
The present invention relates to a kinetic energy harvesting floor tile system designed to convert human footsteps into usable electrical energy. These intelligent tiles utilize piezoelectric or electromagnetic materials that generate electricity when subjected to mechanical stress from foot traffic. As people walk across the surface, the pressure exerted on each tile is captured and transformed into clean, renewable energy, which can then be stored or directly used to power nearby devices, lighting systems, or infrastructure.This innovative approach is particularly well-suited for high-traffic public areas such as shopping malls, airports, train and bus stations, schools, stadiums, and sidewalks. By integrating this technology into everyday walking spaces, it leverages the untapped potential of pedestrian movement— turning ordinary human activity into a sustainable energy resource.The invention not only contributes to reducing dependence on conventional power sources but also promotes environmental consciousness and energy efficiency in urban infrastructure. It provides a dual benefit of smart energy harvesting and interactive design, potentially offering real-time data collection and user engagement through lighting feedback or energy counters.

No. of Pages : 9 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096228 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CCTV IN URBAN

(51) International classification	:H04N0007180000, G08B0013196000, G06N0020000000, G06Q0050260000, G06N0005040000
(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

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7)Monish B
(72)**Name of Inventor :**
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(57) Abstract :
The urban safety monitoring system is designed to enhance public safety in urban areas. The system integrates surveillance cameras, sensors, and data analytics to detect anomalies and potential safety threats. Real-time monitoring enables swift response to emergencies, while predictive analytics identifies potential hotspots.urban safety is necessary for the development of the country using cctv surveillance The system provides enhanced situational awareness, allowing authorities to make informed decisions. By leveraging technology, the system aims to reduce crime, improve response times, and enhance the overall quality of life for urban residents, creating safer and more livable cities. This innovative solution promotes community safety and security.

No. of Pages : 8 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096229 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart Mechanical Pencil

(51) International classification	:A61F0013510000, H10K0102100000, C11D0007120000, G06Q0030020100, G08B0005000000
(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

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(57) Abstract :
This revolutionary addition to mechanical pencils adds a minor but very efficient answer to a frequent issue—surprise lead exhaustion. By painting the penultimate section of the lead dark-colored, non toxic dye, the user is given a conspicuous visual warning that the lead is almost exhausted. This avoids disruptions when high-priority activities like exams, meetings, or artwork are being performed, increasing productivity and minimizing irritation. It is implemented with minimal alterations to existing production processes, which makes it cost-effective and ready for rapid scaling. Additionally, it provides environmentally friendly appeal through maximizing the utilization of each lead stick and utilizing environmentally friendly products. The feature can be tailored to incorporate brand personas, which provides a distinctive market differentiator. It also has potential for use in educational settings by promoting preparedness, and with sensitive design, potentially assist visually impaired people. Overall, this upgrade brings great value to the user experience while keeping safety, sustainability, and simplicity intact.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096230 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Insect Detecting Band

(51) International classification	:H04R0017000000, H02J0007000000, G10H0001000000, G01H0017000000, A01M0029180000	(71)**Name of Applicant :** **1)Dr B Nagaraj** Address of Applicant :Rathinam Techzone Campus, Rathinam Technical Campus, Eachanari, Coimbatore - 641 021 Tamil Nadu India **2)Santhosh T**
(31) Priority Document No	:NA	**3)Praveen S**
(32) Priority Date	:NA	**4)Paviraj B**
(33) Name of priority country	:NA	**5)Mohamed Anas M**
(86) International Application No	:	**6)Nithish D**
Filing Date	:01/01/1900	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)Santhosh T**
(61) Patent of Addition to Application Number	:NA	**2)Praveen S**
Filing Date	:NA	**3)Paviraj B**
(62) Divisional to Application Number	:NA	**4)Mohamed Anas M**
Filing Date	:NA	**5)Nithish D**

(57) Abstract :
The insect-detection band is a portable device that can detect nearby insects using an ultrasonic sensor. A microcontroller decodes the reflected ultrasonic waves to sense insects with high accuracy. When a detection is made, the band intimates the user via vibration, sound, or LED. The device provides a non-toxic, real-time, and effective means of insect detection. It finds maximum application in outdoor, agricultural, and disease-infested environments. The band is light, portable, and energy saving, making it very convenient to use. It operates effectively both indoors and outdoors. Data logging may be accessed through mobile or IoT integration for broader analysis. Potential upgrades could involve AI-based insect identification systems. Addition of more control and data access through mobile app integration is possible. Elegant versions could incorporate insect repellents such as ultrasonic pulses or safe pesticides.

No. of Pages : 9 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096231 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Automatic window screen for all seasons and fixed time.

(51) International classification :E05F0015710000, G06F0016930000, E06B0009680000, H04N0005910000, E06B0009520000
(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
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6)SANJAI MANI M
7)SUGANYA K

(57) Abstract :
In this project,we have introduces an intelligent automatic window screen system designed to promote energy efficiency and indoor comfort throughout all seasons. This system is powered by an all-in-one environmental sensor that continuously monitors key conditions such as light intensity, temperature, humidity, and wind speed. Based on this real time data, the system automatically adjusts the position of window screens—either opening or closing them—to optimize natural lighting and ventilation. The system is fully automated, requiring minimal human intervention, and is suitable for installation in both residential and commercial buildings. By leveraging natural environmental factors, it reduces the dependence on artificial heating, cooling, and lighting systems, thereby contributing to energy conservation and supporting sustainable living practices.

No. of Pages : 9 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096232 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATIC ON AND OFF WATER MOTOR

(51) International classification	:F24H0009200000, G06Q0040000000, F04D0015000000, G06Q0020200000, G01F0023240000
(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

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5)Venkatesh M
6)SATHISH KUMAR P

(57) Abstract :
The automatic ON and OFF water motor ensures that the motor turns on when the water level goes below the particular level and turns off when the tank is full. The low level sensor activates the controller to turn ON the motor and the high level sensor signals the controller to turn OFF the water.This system is used to continuously monitors the water level and controls motor. This system does the work automatically that has to be done by the humans manually and the work of the human very simple and easier.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096233 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Converting Plastic Into Fuel(Pyrolysis)

(51) International classification	:C10B0053020000, B09B0003000000, C01B0003500000, C10B0053070000, C04B0038000000	(71)**Name of Applicant :**
(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	
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5)Pradeep S

(57) Abstract :
The basics of pyrolysis, the most recent achievements, the various conditions of the process and of its residues are of utmost value in assessing the suitability of the pyrolysis process for use in the waste management field and in treating waste. Particularly the types of residue and their subsequent use or treatment is of the utmost interest since they may become the source of secondary raw materials or be utilized for energy production in waste treatments. The prime scope of this paper is to research the correlation between the conditions of pyrolysis, chemical and mineralogical constitution of their products and advantages of pyrolysis in the field of waste management. In greater detail, the paper encompasses fast, intermediate and slow pyrolysis of household waste as well as composite of inorganic and organic waste from homes. The effect of catalysts during fast pyrolysis on the composition and yield of product is not considered in this review.

No. of Pages : 8 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096234 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART VACUUM DUSTER

(51) International classification	:B01D0053040000, F21Y0115100000, B08B0001140000, B08B0013000000, F24F0008133000
(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

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4)YAHITHA MARY D
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(57) Abstract :
"SMART VACUUM DUSTER" it absorb the dust particles when we erase the board. Make mini vacuum by using DC motor with fan, HW battery and switch after making it place the mini vacuum inside the rectangular box. Place Sponge on top of the rectangular box and make small hole in the sponge attached with the box where the absorbing tube is present. Take the sponge and place it on the another side of the rectangular box. Make small hole on the sponge attached with box where the absorbing tube is present. When we On the switch and erase the board ,the fan rotate and absorb the dust particles. All the dust particles will absorbs inside the rectangular box. After collecting the dust particles and remove it properly and used again and again repeatedly.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096241 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart GPS Wallet

(51) International classification	:G06Q0020360000, H04W0004021000, G08B0021020000, A45C0001060000, A41D0001000000
(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
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4)Jackwin Sam Joseph A
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6)Atchaya L

(57) Abstract :
Losing a wallet can cause the person so much inconvenience and stress especially if it contained money, identification, or credit cards. This is a GPS-enabled smart wallet to minimize the possibility of such events and thus allow its user to trace the location of their wallet in real time with a smartphone application. The smart wallet integrates compact GPS module, a microcontroller, and rechargeable battery in sleek, lightweight form. The system allows location tracking in real time; geofence alerting along with SOS capability for reporting theft cases. A related mobile application offers an interactive interface for checking the position of the wallet on the map, for setting the proximity alerts, and controlling power notifications. This innovative solution helps users quickly find their wallets, prevent loss or theft, and enhance their overall feeling of security. The fusion of modern technology with day-to-day functionality in the form of a GPS-enabled smart wallet represents a transformative leap in personal security and convenience. Future improvements may also include biometric authentication and solar charging for extended usage.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096242 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DISTANCE PREDICTION DEVICE

(51) International classification	:G01S0017931000, G01S0017890000, G01S0007497000, G06V0020580000, G08G0001160000
(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

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6)Kanishka J

(57) Abstract :
The invention relates to a Distance Prediction Device designed to accurately measure and estimate the distance between objects or from a moving subject to a target. It utilizes ultrasonic, infrared, or LiDAR sensors, integrated with microcontrollers for real time data processing.The device calculates distances with high precision and displays them through an onboard interface or connected app.It features an intelligent calibration system that adjusts based on environmental conditions.This portable and compact unit is ideal for applications in robotics, automotive safety, and obstacle detection.It enhances decision making in autonomous systems by predicting object proximity.The device supports both short-range and mid-range measurements effectively.It offers an affordable and efficient solution for spatial awareness and navigation tasks.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096243 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HIGH BEAM AND LOW BEAM

(51) International classification	:B60Q0001140000, F21Y0115100000, F21S0041430000, F21W0102130000, F21S0041151000
(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
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6)KEWIN JOANES M

(57) Abstract :
Low beam headlights provide wider, shorter- range illumination for urban driving, reducing glare for oncoming traffic. High beam heat lights offer narrower, longer-range illumination for high speed driving increasing visibility on dark list. Low-beam and high-beam headlights represent different levels of light intensity and reach. Low beams provide a broader, shorter-range illumination, while high beams offer a narrower, longer-range illumination. In an abstract sense, they represent a spectrum of visibility, with low beams being more suitable for general driving conditions and high beams for situations requiring greater. High beam headlights are great in clear conditions but aren't good at cutting through bad weather like fog or rain. Just the opposite: the light from high beams scatters on the particles in the air, creating a haze that's hard to see through. If you're driving in fog, rain, or other adverse weather, use your low beams.

No. of Pages : 9 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096244 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart Umbrella Dryer

(51) International classification	:A47G25/12, A45B25/28, F26B21/00, A45B25/12
(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

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7)RAAJANANTHINI K

(57) Abstract :
Wet umbrellas cause problems in public areas like workplaces, shopping centers, and transit hubs by causing wet surfaces and slick floors in areas that experience frequent rainfall. This problem is resolved by the Smart Umbrella Dryer, which offers a quick, effective, and easy-to-use way to dry wet umbrellas. Combining cutting-edge drying technologies like controlled heat application, water collection systems, and high-speed airflow, this creative device ensures rapid drying without compromising the umbrella material. Smart sensors are incorporated into the system to automatically start the drying process when an umbrella is detected. Eco-friendly materials and adaptive power modes that change according to the umbrella's level of wetness improve energy efficiency. Furthermore, the Smart Umbrella Dryer has a small, elegant design that makes it perfect for integration in busy areas like shopping malls, metro stations, and building entrances. This product seeks to improve user convenience, lessen the risk of wet umbrellas causing floor hazards, and encourage a safer and cleaner indoor environment. The Smart Umbrella Dryer revolutionizes how we handle common inconveniences in urban environments by fusing smart technology with useful functionality.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096245 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Mood Boosting Environment for Physically Affected Ones

(51) International classification	:A61M0021000000, A61M0021020000, A61P0025220000, A61N0005060000, A61B0005160000	(71)**Name of Applicant :**
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(33) Name of priority country	:NA	**2)ABISHEK S**
(86) International Application No	:	**3)ASHRAFN A**
Filing Date	:01/01/1900	**4)DANSANJ G**
(87) International Publication No	: NA	**5)GOKUL MENON S**
(61) Patent of Addition to Application Number	:NA	**6)BALAJI S**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)ABISHEK S**
Filing Date	:NA	**2)ASHRAFN A**
		3)DANSANJ G
		4)GOKUL MENON S
		5)BALAJI S

(57) Abstract :
In light of the particular emotional and psychological difficulties that people with physical disabilities may encounter on a daily basis, the current invention relates to the development of a mood-boosting environment designed especially for them. This cutting-edge setting has been carefully planned to actively promote mental and emotional health in addition to accommodating physical limitations. To create a comprehensive and restorative spatial experience, it combines evidence-based sensory stimulation techniques, therapeutic architectural principles, and inclusive accessibility features. A peaceful connection to nature is fostered by biophilic elements like indoor plants, natural textures, and nature-inspired forms, as well as the thoughtful use of natural lighting to support circadian rhythm and elevate mood. Using gentle, non-overstimulating colors that are known to lower stress and anxiety, the color scheme was thoughtfully chosen to encourage calm and emotional control. Users with limited mobility can be comfortable and independent thanks to the ergonomically adaptive furniture in this setting. Additionally integrated are multisensory zones that offer therapeutic experiences through aromatherapy (using essential oils known to enhance mood), sound therapy (such as soothing music or natural sounds), and visual art displays that encourage emotional expression and creativity.

No. of Pages : 8 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096246 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART ASSISTIVE DEVICE

(51) International classification	:A61H0003060000, G09B0021000000, G06F0003160000, A61F0009080000, G06F0003010000
(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

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6)JEGAN D
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4)INIYAVAN G
5)JEGAN D
6)RAAJANANTHINI K

(57) Abstract :
This invention introduces an integrated assistive technology solution that includes Smart Glasses and a Smart Blind Stick. These devices support visually impaired people in navigating their surroundings safely and independently. The Smart Glasses use a combination of camera input, computer vision, and artificial intelligence (AI) to detect and interpret objects, faces, and printed text. They convert visual data into real-time audio feedback. At the same time, the Smart Blind Stick uses ultrasonic or infrared sensors to identify nearby obstacles and uses vibration motors or audio signals to alert the user. This improves spatial awareness and mobility. An optional GPS module can further help users in complex outdoor settings. Together, these devices aim to greatly enhance accessibility, confidence, and quality of life for individuals with visual impairments by providing an intelligent, responsive, and easy-to-use assistive experience.

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096247 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART BIKE LOCK

(51) International classification	:H04L0009400000, G07C0009000000, G08B0013196000, G08B0013140000, B62H0005200000
(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
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Filing Date	:NA

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(57) Abstract :

The Smart Bike Lock is an advanced security device designed to protect bicycles through intelligent, wireless-enabled locking mechanisms. It integrates Bluetooth, NFC, or internet-based access, allowing users to unlock their bike using a smartphone or authorized digital key. The system features GPS tracking for real-time location monitoring and theft recovery. Built-in motion and vibration sensors detect unauthorized activity and instantly alert the user via mobile notifications. An audible alarm can also be triggered to deter potential thieves. The lock supports multiple users with programmable access rights, enabling secure sharing. Designed for convenience and safety, it eliminates the need for traditional keys. Its durable, weather-resistant body ensures long-term use in diverse environments. This lock brings enhanced security, control, and peace of mind to urban cyclists.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096248 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SOLAR POWER EV CHARGING ROAD MAKERS

(51) International classification	:B60L53/51, H02J50/10, B60L53/12, H02J7/00
(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
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5)KAMASHWARAN G
6)GIRIDHARAN M
7)HARISH VENKAT S G
8)KRISHNARAJ C
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2)AKILESH S
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7)KRISHNARAJ C

(57) Abstract :
The invention discloses an innovative solar-powered road marker system designed for dynamic charging of electric vehicles (EVs) while in motion. Each road marker integrates photovoltaic panels to harness solar energy and stores it in internal energy units. These markers are equipped with wireless charging coils that enable seamless inductive charging for EVs traveling over them. Additionally, the system includes sensors and communication modules for traffic data monitoring and remote energy management. The modular, scalable design allows widespread deployment on highways and urban roads, supporting sustainable infrastructure and enhancing electric mobility without reliance on traditional charging stations.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096249 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ADVANCED SOLAR BAG

(51) International classification	:A45C15/00, A45F3/02, H02J7/35, H02J7/00
(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

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3)KAVIYA F
4)DEEPIGA M

(57) Abstract :
This advanced solar bag integrates cutting-edge flexible photovoltaic technology to efficiently convert sunlight into electrical energy. With its lightweight, foldable solar panels, the bag maintains portability while providing ample power for charging smartphones, laptops, and other devices. The design incorporates smart power management systems, optimizing energy storage through a high-capacity lithium-ion battery pack. Energy harvesting is maximized with AI-driven charge controllers that adjust to environmental light conditions, ensuring consistent charging. The bag's waterproof and durable materials make it ideal for outdoor activities, offering all-weather protection for electronics. Wireless charging capabilities and multiple USB ports add convenience. The inclusion of solar panel self cleaning coatings enhances long-term performance by minimizing dust accumulation. This innovation enhances mobility, sustainability, and energy independence, making it an ideal solution for travelers and adventurers.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096250 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART REFLECTIVE LIGHT SYSTEM FOR HAIRPIN BENDS

(51) International classification	:G08G0001160000, B60Q0001440000, B60Q0001520000, E01F0009615000, G06F0016951000
(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

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6)KRISHNARAJ C

(57) Abstract :
The Smart Reflective Light System for Hairpin Bends is a cutting-edge real-time road safety system that will avoid collisions at sharp, blind turns on hill roads. It employs light sensitive sensors to spot approaching vehicles and automatically activate warning lights on the other side of the bend ahead of time. In contrast with conventional convex mirrors or fixed signs, this system only functions when needed, providing improved visibility, less confusion, and energy efficiency. Solar-powered, it is an autonomous, low-cost, and minimal-maintenance safety solution that is highly suitable for rural and high-hazard roadways. Equipped with wireless communication, smart reflective panels, and weather resistant functionality, this system offers a very straightforward yet extremely efficient way of raising driver awareness and avoiding road accidents at hairpin bends.

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096251 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI Powered 3D Secure For Banking Transanctions

(51) International classification	:G06Q0020360000, G06Q0020380000, G06Q0020400000, H04L0009400000, G06Q0020320000
(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
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(57) Abstract :
AI-Driven Adaptive 3D Secure (A3DS) enhances bank security by evaluating multiple data points in real time to detect fraud accurately. It uses multi-layer authentication, including biometrics and behavior analysis, to augment identity verification and minimize customer friction. Blockchain-based authentication logs offer tamper-proof records to maintain transaction integrity. The system continuously monitors transactions, dynamically modifying security controls to prevent unauthorized access. Tokenization and secure payments protect sensitive financial data from breaches and cyber attacks. AI geo-matching and mobile banking integration provide consumers real-time alerts and seamless protection. Banks enjoy increased fraud protection, regulatory compliance, and greater customer confidence, which enhances a frictionless and secure digital experience.The system uses machine learning to evolve and adjust to changing fraud methods, getting better with each experience. Compatibility and ease of use are ensured through integration with digital wallets and e-commerce sites. Risk-based decision engines provide for customized action based on customer and transaction context. A3DS also accommodates compliance with international standards such as PSD2 and PCI DSS, strengthening legal and operational trust.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096252 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : MOVABLE DRESS RAKE

(51) International classification	:A47B61/02, A47B61/00, A47B46/00, A47B88/00
(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

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(57) Abstract :

All are using various style dresses. After washing clothes, we fold and keep them in the cupboard. While taking the clothes, all other dresses are getting unfolded. Because of this problem, we want to iron the dress again, so it takes time to get it done, so we found the movable dress rack. It will help you to take a dress without unfolding another dress. This movable dress rake is built by less cost . for this dress rake does not need any special material , in life time what are the material using for making cupboards is enoff for making a rake . while constructing the cupboard some additional structure want to design like drawers . this drawers is used to store our clothes . this drawers is designed by moving . this helps to take specific dress without collapse other dresses

No. of Pages : 7 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096253 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : EMERGENCY AMBULANCE INDICATOR

(51) International classification	:H04W0004400000, G08G0001087000, G08G0001160000, G08G0001095000, G08G0001096500
(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

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5)ANU M
6)AISHWARYA U
7)RAAJANANTHINI K

(57) Abstract :
This project introduces an intelligent traffic control system that helps ambulances move through busy intersections without delays. The system can detect an approaching ambulance from up to 500 meters away using modern sensors like radar and lidar. It also uses GPS to track the ambulance in real time and V2X communication to send alerts to nearby traffic signals. Once the ambulance is detected, traffic lights are automatically adjusted to give it a clear path, while roadside screens and sound alerts notify drivers and pedestrians to make way. This smart system operates without human input, improves emergency response times, and supports the development of safer, smarter cities.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096255 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SPECTACLES WIPER

(51) International classification	:G02C11/08, G02C13/00
(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

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4)PANDIRAJHA T
5)ANTONY KENISS M
6)Dr KALAISELVAN S
7)PRAKASH R

(57) Abstract :
The product of the invention is a Spectacles Wiper, a small, automated cleaning device built right into the frame of a pair of glasses that gives wearers an easy and effective way to keep their lenses clear. In order to eliminate common optical obstacles including dust particles, water droplets, smudges, and oily fingerprints, the gadget works by strategically mounting a tiny wiper system above or next to the sight lenses. To guarantee safe operation without scratching or harming the lens surface, the wiper is made of a soft, non-abrasive substance. With the use of an integrated touch-sensitive sensor or capacitive switch, the wiper may be turned on with only a tap or gesture, doing away with the need for towels or manual wiping. A micromotor and linkage system power the device, which guarantees even and seamless wiper action over the lens' curvature. A small rechargeable battery built into the frame of the glasses powers the gadget, allowing for several cleaning cycles on a single charge. This product provides uninterrupted clear eyesight and an improved user experience, which is especially beneficial for people who frequently face foggy, wet, or dusty settings. Furthermore, the Spectacles Wiper system may be modified to fit different lens sizes and frame styles, making it adaptable and available to a broad spectrum of spectacle users.

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096256 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Sustainable Microbial Technology for Industrial Effluent Treatment and Pollution Reduction

(51) International classification	:C12N0001200000, C02F0003340000, C02F0001720000, C12R0001380000, C02F0101200000
(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

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(57) Abstract :
The current invention describes a unique, environmentally friendly microbial formulation for the bioremediation of industrial effluents using a synergistic consortium of naturally occurring and selected microbial strains. The invention consists of a combination of Bacillus subtilis, Pseudomonas putida, and Aspergillus niger, all of which have high enzymatic activity and can degrade a variety of contaminants found in industrial wastewater, including colors, heavy metals, organic materials, and chemical waste. The microbial formulation is made using a biodegradable carrier matrix in either liquid or solid form, which ensures stability, simplicity of application, and shelf life. The consortium is applied directly to effluent streams or treatment tanks, where it actively decreases BOD, COD, TSS, and hazardous metal concentrations. The formulation works successfully throughout a wide pH range (5.5-9.5) and temperature range (25°C-45°C), making it appropriate for a variety of industrial applications

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096257 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : NEVERLOSE

(51) International classification	:G02C0011000000, H04W0004800000, G08B0021020000, F21Y0115100000, G08B0021240000
(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

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(57) Abstract :
This invention relates to a smart spectacle system designed to help users locate misplaced or lost spectacles. The system integrates a GPS module within the spectacle frame to enable real-time location tracking. An ESP32 or similar microcontroller with Bluetooth/Wi-Fi support facilitates wireless communication. LED indicators are embedded into the frame and can be triggered remotely for easy visibility. The system includes proximity or motion sensors to detect usage or nearby presence of spectacles. A compact rechargeable battery powers the components without compromising comfort or design. The spectacles pair with a custom mobile application for user control and monitoring. Users can view live location, activate LEDs, and receive proximity alerts via the app. The invention ensures convenience, reduces the chances of loss, and offers peace of mind. It is suitable for users of all ages, especially the elderly or visually impaired.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096258 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED WIPER MACHINE

(51) International classification	:A47L11/00, B09B101/70, B08B1/14
(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

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(57) Abstract :
The Automated Wiper Machine is an intelligent windshield cleaning system designed to enhance driver safety and convenience. This system employs sensors to detect rain, dust, or environmental changes and automatically activates the wipers accordingly. It adapts the wiping speed based on rainfall intensity and vehicle speed for optimal performance. The system minimizes driver distraction, especially during sudden weather changes. Additionally, it can be integrated with voice or gesture controls for user-friendly operation. It reduces manual effort, conserves energy through efficient motor use, and ensures continuous visibility. The innovation is ideal for modern vehicles, including autonomous and commercial transport systems. This smart solution represents a step forward in automotive automation and road safety.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096259 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SunDrive – A Sustainable Vehicle Powered by Solar Energy

(51) International classification	:F24S0030455000, C02F0001140000, H02S0020220000, B60K0016000000, G09F0021040000
(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

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3)MOHANA PRIYA.K

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6)RAGAVA PREETHI.P

(72)**Name of Inventor :**

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2)MOHANA PRIYA.K

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5)RAGAVA PREETHI.P

(57) Abstract :

The invention titled SunDrive presents an innovative approach to automotive power systems by utilizing solar energy as the primary energy source. Photovoltaic panels integrated into the vehicle's surface capture sunlight and convert it into electrical energy. This energy is stored in high-efficiency batteries and used to operate electric motors, enabling clean and sustainable transportation. The system ensures continuous energy harvesting even while the vehicle is in motion. SunDrive significantly reduces reliance on fossil fuels and lowers greenhouse gas emissions. The design promotes energy independence and aligns with global green mobility initiatives. It offers a cost-effective, low-maintenance alternative to conventional vehicles. This breakthrough paves the way for a new generation of environmentally conscious transportation.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096260 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Digital Passport system

(51) International classification	:H04L0009400000, H04L0009320000, H04L0009000000, G06Q0020400000, H04W0012060000	(71)**Name of Applicant :**
(31) Priority Document No	:NA	**1)Dr B Nagaraj**
(32) Priority Date	:NA	Address of Applicant :Rathinam Techzone Campus, Rathinam Technical Campus, Eachanari, Coimbatore - 641 021 Tamil Nadu India
(33) Name of priority country	:NA	**2)SIVAKUMARAN S**
(86) International Application No	:	**3)ABINESH A**
Filing Date	:01/01/1900	**4)ASIFA SAFREEN M**
(87) International Publication No	: NA	**5)NAVANEETHA SRI G**
(61) Patent of Addition to Application Number	:NA	**6)KAVYA M**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)SIVAKUMARAN S**
Filing Date	:NA	**2)ABINESH A**
		3)ASIFA SAFREEN M
		4)NAVANEETHA SRI G
		5)KAVYA M

(57) Abstract :
This system proposed a secure, efficient, and accessible framework for a Digital passport system that does not rely on IoT devices. This system uses advanced digital technologies like a centralized database, secure mobile applications, blockchain for data integrity, and offline digital authentication methods. The system will ensure that access and verification of passport information are seamless even in offline environments by integrating QR codes, digital signatures, and smart card technology. The system is designed to be compliant with international standards and ensures data security through encryption and multi-factor authentication while offering flexibility through cloud and local storage options. This approach addresses the challenges that traditional passport systems have, which include limited portability, long processing times, and risks of physical damage, through a robust, IoT-independent digital alternative that is user-friendly and globally interoperable.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096261 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CHARGER INDICATOR

(51) International classification	:H02J0007000000, A61M0016000000, H01R0013717000, A61M0016080000, H02J0007020000	(71)**Name of Applicant :**
(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	

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3)SOUNDARYA N
4)ASMITHA B
5)SAHANA S
6)POOVANA UMASHRI L
(72)**Name of Inventor :**
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2)SOUNDARYA N
3)ASMITHA B
4)SAHANA S
5)POOVANA UMASHRI L

(57) Abstract :
The present invention relates to a Charge Indicator System designed to notify users when a mobile device is not charging properly. This system serves as a simple yet effective means to confirm whether the charger has been correctly connected and whether electrical power is being supplied. Upon insertion of the charger into the mobile device, if the wall socket switch remains off or if the connection is loose, the device provides an audible and visual alert (e.g., buzzer and LED) to inform the user that charging has not commenced.The innovation integrates seamlessly with standard mobile chargers and maintains a compact, portable design, comparable in size to typical charging accessories. It is a cost-effective enhancement requiring minimal additional components, making it affordable and accessible to a wide range of consumers.This charge indicator system improves user convenience by preventing accidental missed charging sessions, especially due to forgetfulness or faulty power connections. It is especially useful in daily life where device uptime is critical, offering enhanced reliability and practicality in mobile charging.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096262 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART CLIMATIC WATCH

(51) International classification	:A61B0005000000, G06Q0050060000, G16H0040670000, G05B0015020000, F24F0011580000	(71)**Name of Applicant :**
(31) Priority Document No	:NA	**1)Dr B Nagaraj**
(32) Priority Date	:NA	Address of Applicant :Rathinam Techzone Campus, Rathinam Technical Campus, Eachanari, Coimbatore - 641 021 Tamil Nadu India
(33) Name of priority country	:NA	**2)SRUTHILAYA A**
(86) International Application No	:	**3)SABRINA A**
Filing Date	:01/01/1900	**4)THULASIAMMA E**
(87) International Publication No	: NA	**5)MAHAVISHNU V**
(61) Patent of Addition to Application Number	:NA	**6)AJAYKUMAR K R**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)SRUTHILAYA A**
Filing Date	:NA	**2)SABRINA A**
		3)THULASIAMMA E
		4)MAHAVISHNU V
		5)AJAYKUMAR K R

(57) Abstract :
A smartwatch with air conditioner integration combines convenience and technology. It allows users to control AC systems directly from their wrist. Real-time temperature monitoring enhances comfort by providing instant updates. The smartwatch enables remote adjustments, promoting energy efficiency. Users can maintain optimal temperatures for improved health and well being. It supports a seamless integration with existing smart home systems. The device helps reduce utility bills by optimizing energy usage. It ensures a comfortable environment, especially for those sensitive to temperature. The smartwatch offers a sleek, stylish design for everyday wear. It blends practicality with innovation, elevating both comfort and tech-savvy living.

No. of Pages : 9 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096263 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : FILTERING WATER BARREL

(51) International classification	:E03B0001040000, E03B0003020000, G06Q0050060000, E03B0003030000, E03B0007070000	(71)**Name of Applicant :** **1)Dr B Nagaraj** Address of Applicant :Rathinam Techzone Campus, Rathinam Technical Campus, Eachanari, Coimbatore - 641 021 Tamil Nadu India **2)ANBUSELVAM.M**
(31) Priority Document No	:NA	**3)KAVI BHARATH.S**
(32) Priority Date	:NA	**4)MUNISWARAN.M**
(33) Name of priority country	:NA	**5)SASTITHARAN.V**
(86) International Application No	:	**6)VIGNESH.G**
Filing Date	:01/01/1900	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)ANBUSELVAM.M**
(61) Patent of Addition to Application Number	:NA	**2)KAVI BHARATH.S**
Filing Date	:NA	**3)MUNISWARAN.M**
(62) Divisional to Application Number	:NA	**4)SASTITHARAN.V**
Filing Date	:NA	**5)VIGNESH.G**

(57) Abstract :
Unnecessary use of water resources leads to water shortage and water wastage. Leaving taps open, overwatering plants, leaks in plumbing systems, excessive water usage in industries leads to water scarcity. But we are forgetting the main source of water, that is rainwater. Rainwater harvesting leads to reducing water wastage, groundwater recharge and water conservation. Using rainwater for household purposes is the main motive of this project. Collecting rainwater and using it for watering plants, cleaning, washing clothe

No. of Pages : 10 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096264 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Efficient Object Identification via Category-to-Specific Labeling Framework

(51) International classification	:G08B0007060000, G08B0021240000, G09B0021000000, G06F0003010000, G08B0003100000	(71)**Name of Applicant :**
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(33) Name of priority country	:NA	**2)Devi Sri M**
(86) International Application No	:	**3)Srinithi R**
Filing Date	:01/01/1900	**4)Aishwarya A**
(87) International Publication No	: NA	**5)Deepak G**
(61) Patent of Addition to Application Number	:NA	**6)Niteesh Kumar S**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)Devi Sri M**
Filing Date	:NA	**2)Srinithi R**
		3)Aishwarya A
		4)Deepak G
		5)Niteesh Kumar S

(57) Abstract :
This invention relates to a Clap-Activated Remote Locator System designed to help users quickly find misplaced remote controls. The system uses a sound detection module to recognize clap sounds, which are processed by a microcontroller to verify if they match a predefined clap pattern. Upon detection of a valid clap, the device activates a buzzer or audio alert, enabling users to locate the remote by sound. The system can be embedded within the remote or designed as a clip-on accessory. It operates with minimal power consumption and includes features like auto shut-off and noise filtering to prevent false triggers. This innovation offers a simple, affordable, and user-friendly solution, particularly beneficial for elderly or visually impaired users. It eliminates the need for smartphones, apps, or wireless tracking. The device is scalable, adaptable, and suitable for a wide range of electronic remotes. Overall, it enhances user convenience and reduces everyday frustration.

No. of Pages : 10 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096265 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : The Spinning Duster

(51) International classification	:A47L0013380000, C02F0003300000, D01F0001100000, A47C0007620000, B43K0019000000
(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

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4)Durga R
5)Dharani M
6)Sri Sakthi T
7)Dr Kalaiselvan S
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2)Shree Ram R G
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4)Dharani M
5)Sri Sakthi T
6)Dr Kalaiselvan S

(57) Abstract :
One of the main and a common problem we face during our life is that cleaning the chalk board without causing dust spread.The traditional chalk board and dusters, still widely used in educational institution and offices, pose several issues that affect the health, efficiency and cleanliness.The Spinning Chalk Dusteris an innovative tool designed to revolutionize the traditional process of cleaning the chalk board. This invention automates the dusting process, combining efficiency, convenience and cleanliness. By incorporating a spinning mechanism powered by electricity, the duster effectively removes the chalk particles from the board with minimal effort. The spinning motion ensures thorough cleaning while ensuring the dust dispersal, making it particularly beneficial for classrooms and offices. This project aims to provide an ergonomic and practical solution to a common task, enhancing productivity and hygiene for users. The design includes a light weight body, a comfortable handle, and a durable spinning mechanism, making it an indispensable tool for modern day chalk board users.

No. of Pages : 10 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096282 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI & VISION-BASED TRACKING

(51) International classification	:G06N0003080000, G06T0007110000, G06V0010820000, G05B0019042000, G06V0040200000	
(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	

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(72)**Name of Inventor :**
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2)MADHAN.S
3)HARINITHA.P
4)NITHESH KUMAR R
5)KARPAGAVALLI K

(57) Abstract :
The present invention relates to an AI and vision-based tracking system that utilizes computer vision and machine learning algorithms to detect, recognize, and continuously track objects, people, or movements in real-time. The system integrates a high-resolution camera module with AI-based processing units capable of interpreting visual data to identify targets based on shape, motion, or behavioral patterns. Using deep learning models, the invention ensures adaptive and accurate tracking across dynamic environments, with applications in surveillance, autonomous navigation, human-computer interaction, and industrial automation. The system is designed for scalability, real-time feedback, and can be integrated into both stationary and mobile platforms. It provides a robust, intelligent alternative to traditional tracking systems, enabling enhanced precision, decision-making, and automation in vision-dependent applications.

No. of Pages : 6 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096283 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HERBAL AID MACHINE

(51) International classification	:A61M0015000000, A61K0036534000, A61K0009000000, A61M0011060000, A61H0033060000	(71)**Name of Applicant :**
(31) Priority Document No	:NA	**1)Dr B Nagaraj**
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(33) Name of priority country	:NA	**2)Pranaw M**
(86) International Application No	:	**3)Sridhar G**
Filing Date	:01/01/1900	**4)Prakashraj B**
(87) International Publication No	: NA	**5)Vishal S**
(61) Patent of Addition to Application Number	:NA	**6)Abinesh V**
Filing Date	:NA	(72)**Name of Inventor :**
(62) Divisional to Application Number	:NA	**1)Pranaw M**
Filing Date	:NA	**2)Sridhar G**
		3)Prakashraj B
		4)Vishal S
		5)Abinesh V

(57) Abstract :
The present invention relates to Herbal Aid, a portable, electric inhalation device designed to deliver herbal mist for natural respiratory relief. The device integrates a detachable cartridge containing a blend of medicinal herbal extracts such as Tulsi, Neem, and Peppermint oil. Using an inbuilt electric mist generator, the liquid is atomized into a fine mist, which can be inhaled through a dedicated outlet. The system includes an optional air filter to ensure the purity of inhaled mist and an LED indicator to display operational statuses such as power on/off, mist output level, and cartridge status. The compact design, rechargeable battery, and adjustable mist control make the device user-friendly and suitable for personal use at home or during travel. Herbal Aid provides an effective, drug-free alternative to chemical decongestants and steam inhalers, combining traditional herbal remedies with modern mist technology for enhanced comfort, portability, and sustainability.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096284 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SELF- CALIBRATING HUMIDITY SENSOR WITH TEMPERATURE COMPENSATION FOR ENHANCED ACCURACY

(51) International classification	:G01N0027220000, G01J0005060000, G01W0001020000, G01D0021020000, F25B0009060000
(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

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5)LUTTIN A
6)VISHNUJITH C
7)KARPAGAVALLI K
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5)VISHNUJITH C
6)KARPAGAVALLI K

(57) Abstract :
This invention relates to a self-calibrating humidity sensor system integrated with temperature compensation to ensure enhanced measurement accuracy and long-term reliability. The system utilizes a humidity sensor (e.g., DHT22) and a temperature sensor (e.g., TMP36 or similar) interfaced with a microcontroller to dynamically adjust humidity readings based on ambient temperature changes. A built-in self-calibration algorithm detects sensor drift and auto-corrects baseline errors without the need for manual intervention. This approach eliminates frequent recalibration, improves data integrity over time, and enables stable operation in varying environmental conditions, making it ideal for smart agriculture, healthcare, HVAC, and IoT-based weather monitoring applications

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096285 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ACCIDENT PREVENTION SYSTEM USING SENSOR IN VEHICLE

(51) International classification	:B60W0050140000, G08G0001160000, B60Q0009000000, B60W0040080000, G01S0013931000
(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

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6)DINESH KUMAR
7)KARPAGAVALLI K
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4)ALDRIN DIJO
5)DINESH KUMAR
6)KARPAGAVALLI K

(57) Abstract :
The present invention relates to an Accident Prevention System using sensors integrated into a vehicle to enhance road safety and reduce the likelihood of collisions. This system employs a combination of proximity sensors, such as ultrasonic, infrared, radar, or LiDAR, along with cameras and embedded control units to continuously monitor the vehicle's surroundings and the driver's behavior. It provides real-time alerts to the driver about obstacles, nearby vehicles, and hazardous conditions. In critical scenarios, the system can autonomously intervene through features like automatic emergency braking, lane departure warnings, and blind spot detection. Additionally, the system may include a driver monitoring module to detect signs of drowsiness or distraction, prompting timely alerts. By facilitating early detection of threats and automating certain safety responses, this invention significantly enhances vehicular safety and aims to prevent accidents caused by human error, environmental factors, or mechanical failures.

No. of Pages : 6 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096286 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : EDURIDE

(51) International classification	:G06Q0050400000, G06Q0010020000, G06Q0050260000, G06Q0050200000, G06Q0010047000
(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

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6)MOHAMED ARSATH N
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3)MADHAN KUMAR R
4)NARUN K S
5)MOHAMED ARSATH N
6)KARPAGAVALLI K

(57) Abstract :
The invention, EDURIDE, is a smart transportation system tailored for school and college students. It integrates GPS-based real-time tracking, route optimization, digital seat booking, and safety features into a unified mobile application. The system supports both government and private buses, ensuring broader connectivity and travel flexibility. Users can view live bus locations, receive notifications for arrival times and delays, and access student-specific fare options. A built-in emergency SOS feature enhances passenger safety. The app also includes an admin dashboard for operators to manage routes and schedules efficiently. Data analytics help improve service based on usage trends.This invention provides a reliable, cost effective, and secure commuting solution that simplifies student travel and improves public transportation usage.

No. of Pages : 7 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096288 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart Waste

(51) International classification	:G06Q0010300000, G06Q0050260000, B65F0001140000, C10G0001100000, G06Q0010060000
(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

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3)SHRIRAAM M
4)AJAYKRISHNA M
5)SUNDARAROOBAN D
6)SHANDEEP RATHNES K

(57) Abstract :
This waste management presents a comprehensive system for optimizing waste management, aimed at enhancing the efficiency, sustainability, and environmental impact of waste handling processes. The proposed system integrates advanced technologies such as smart waste bins, automated sorting mechanisms, and waste-to-energy solutions, enabling real-time monitoring, data-driven decision-making, and reduced manual intervention. The invention emphasizes waste segregation at the source, using sensors and AI-powered algorithms to classify materials accurately and streamline recycling efforts. By incorporating a decentralized approach and incentivizing waste reduction through digital platforms, the system fosters public participation and awareness. The proposed optimization not only minimizes landfill usage but also maximizes resource recovery, contributing to a circular economy. Through the implementation of this system, waste management processes can be significantly improved, offering both economic and environmental benefits while supporting sustainable urban development.

No. of Pages : 7 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096289 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : DISTRACTED DRIVING PREVENTION SYSTEMS

(51) International classification	:G08G0001017000, G06V0030100000, G06Q0050260000, G06V0020590000, G08G0001054000
(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

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(57) Abstract :

The present invention relates to an AI-powered traffic enforcement system designed to detect and prevent distracted driving, specifically targeting mobile phone usage by drivers. The system employs AI-driven cameras installed at traffic lights and key road locations to monitor and identify violations in real time. Using machine learning models such as YOLO and OpenCV, the system accurately detects when a driver is using a mobile phone while driving. Upon detecting a violation, the system captures an image of the offender, extracts vehicle details through Optical Character Recognition (OCR), and transmits the information to the Road Transport Office (RTO) for further action. The system automates the process of fine generation, ensuring efficient enforcement of traffic laws without manual intervention. To improve accuracy, the invention integrates multi-sensor fusion technology, including infrared sensors, motion detectors, LIDAR, and pressure sensors, which help in precise detection even under low visibility conditions. This scalable solution can be extended to monitor additional violations such as seatbelt non-compliance, helmet detection for two- wheeler riders, and overspeeding. This invention offers a cost-effective, automated, and highly accurate approach to traffic enforcement, enhancing road safety, reducing accidents, and supporting smart city initiatives through AI-driven public safety management.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096290 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART U-TURN WARNING

(51) International classification	:G08G0001160000, G16H0050200000, B60Q0001260000, G09F0013220000, B60Q0001440000
(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

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6)Akilesh C
7)Bakirathan S
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(57) Abstract :
The Smart Warning System for Hairpin Bends is an innovative safety solution designed to enhance road safety in hilly terrains, particularly where sharp turns and limited visibility pose significant risks. The system utilizes a combination of IoT sensors, ultrasonic sensors, and RF communication modules to detect approaching vehicles and provide real-time alerts to drivers. Upon detection of a vehicle near a hairpin bend, the system activates LED indicators and buzzers to warn oncoming drivers, allowing them to reduce speed and proceed cautiously.The Smart Warning System for Hairpin Bends is an innovative safety solution designed to enhance road safety in hilly terrains, particularly where sharp turns and limited visibility pose significant risks. The system utilizes a combination of IoT sensors, ultrasonic sensors, and RF communication modules to detect approaching vehicles and provide real-time alerts to drivers.

No. of Pages : 10 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096302 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : THERMO RELIEF MACHINE A SMART AUTOMATED WALL MOUNTED PARAFFIN WAX DISPENSER

(51) International classification	:A61F0007000000, A61F0007020000, A61F0007030000, A61H0033040000, A61P0019020000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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2)DR. RAMANA K
3)DEEPAK NALLASWAMY VEERAIYAN

(57) Abstract :
The Thermo Relief Machine is an automated wall-mounted paraffin wax dispenser designed for easy, hygienic and controlled application ofwann paraffin_ It integrates sm-art temperature regulation, con tactless dispensing and user-friendly settings to deliver therapeutic wax directly to the patient skin or wrap medium. The device is particularly beneficial for patients with arthritis, joint stiffness or chronic pain, streamlining paraffin therapy and improving safety, efticiency and treatment consistency. The them1o relief machine is an advanced, smart, wallmounted paraffin wax dispenser specifically designed to enhance the effectiveness and efficiency of paraffin therapy in physiotherapy settings. Traditional paraffin therapy involves manual melting of wax and application through brushing or dipping, which can be,inconsistent, unhygienic, time-consuming and potentially hazardous due to risks like overheating or crosscontamination. This innovative device addresses those limitations by integrating automated temperature control, sensor-based dispensing and a user-friendly digital interface. It maintains the paraffin wax at an optimal therapeutic temperature, ensuring safe and uniform heat delivery to targeted areas such as hands, feet and joints. The contact less dispensing mechanism reduces the need for physical handling, improving hygiene and reducing therapist workload. The wallmounted design saves space, making it ideal for compact clinics, physiotherapy centers and even home-use scenarios for patients with chronic conditions like arthritis, tibromyalgia or joint stiffness. By automating and refining the paraffin application process the thenno relief machine improves treatment consistency, patient comfort and overall clinical efficiency, making it a significant advancement in thermal therapy solutions within modem physiotherapy practices. .

No. of Pages : 8 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096313 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Blockchain-Enabled Machine Learning Framework for Secure Model Training

(51) International classification	:H04L0009000000, H04L0009320000, H04L0009080000, G06F0021620000, G06N0020000000
(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

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(57) Abstract :
The present invention discloses a Blockchain-Enabled Machine Learning (ML) framework for secure and decentralized model training. The invention leverages a distributed ledger to ensure data integrity, immutability, and trust among multiple parties contributing to ML training. The system integrates a Blockchain-anchored Federated Learning Mechanism with Secure Multi-Party Computation (SMPC) and Homomorphic Encryption (HE) techniques, thereby enabling privacy-preserving training across heterogeneous and distributed data sources. The proposed framework mitigates risks of data leakage, model poisoning, and unauthorized tampering, while ensuring auditability, transparency, and compliance in collaborative AI development.

No. of Pages : 8 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096314 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart Parking Allocation Using Predictive Machine Learning Models

(51) International classification	:G08G0001140000, G08G0001010000, G06N0020000000, G06N0007010000, G06Q0010063100
(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
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(57) Abstract :
The present invention discloses a Smart Parking Allocation System that leverages predictive machine learning (ML) models for real-time and anticipatory allocation of parking spaces. The system integrates IoT-enabled sensors, predictive analytics, and dynamic allocation algorithms to forecast parking demand, optimize space utilization, and reduce traffic congestion. The invention employs a Predictive Parking Allocation Method (PPAM) in conjunction with a Demand-Adaptive ML Forecasting and Allocation (DAMFA) technique, which utilizes historical parking data, real-time occupancy information, and contextual features (e.g., time of day, events, weather, and traffic flow) to recommend optimal parking allocation. The proposed framework ensures efficient space utilization, reduced waiting times, enhanced user experience, and lower environmental impact caused by unnecessary vehicle idling.

No. of Pages : 8 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096329 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTI-FACTOR AUTHENTICATION SYSTEM WITH CONTEXT-AWARE RISK-BASED ACCESS CONTROL FOR ELECTRONIC PAYMENT AND METHOD THEREOF

(51) International classification	:H04L0009400000, G06Q0020400000, G06Q0020320000, G06F0021450000, G06F0021340000
(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

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(57) Abstract :
MULTI-FACTOR AUTHENTICATION SYSTEM WITH CONTEXT-AWARE RISK-BASED ACCESS CONTROL FOR ELECTRONIC PAYMENT AND METHOD THEREOF ABSTRACT A system (100) for enhancing security in electronic payment transactions using multi-factor authentication (MFA) is disclosed. The system (100) comprises a memory (102) for storing instructions and a processor (104) communicatively coupled with the memory (102) for executing the instructions. A User Authentication Interface (UAI) (108) receives one or more authentication factors from a user. An Authentication Server (110) verifies the submitted factors by comparing them with reference data. A Factor Management System (112) handles the lifecycle of authentication elements, including adding, updating, and removing factors. An Adaptive Risk Assessment Engine (114) dynamically evaluates the transaction risk based on contextual information such as user location, device characteristics, and transaction history, adjusting authentication requirements accordingly. A Monitoring and Logging Module (116) logs authentication activities and supports audit trail generation. Interaction APIs (118) enable integration with external payment platforms, ensuring seamless operation.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096331 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : System and Method for In-Line Steel Strip Cutting, Welding, Preheating, and Notching Using a Single Laser Head, with Integrated Hammering Process

(51) International classification	:B23K0026360000, B23K0103000000, B23K0026260000, B23K0026380000, B23K0026080000
(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

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6)Parikchhit Kumar Singh
7)Shipra Sinha

(57) Abstract :
Title: System and Method for In-Line Steel Strip Cutting, Welding, Preheating, and Notching Using a Single Laser Head, with Integrated Hammering Process The subject invention relates to a system and method for in-line joining of metallic strips by integrating cutting, welding, preheating, and notching into a single compact setup operated by one laser head, combined with a separate hammering process. The system eliminates the need for multiple machines by dynamically adjusting laser parameters to switch between focused cutting, perpendicular welding, and preheating modes. Metallic strip ends are cut with identical parameters to create burr-free butt faces, aligned using precision sensors, and clamped with high accuracy to prevent deformation. Welding is performed with the laser beam oriented at 90° to the work piece surface while the fixture is tilted at 15°, thereby providing the effective joining angle that disrupts grain orientation and enhances joint strength. The weld bead is subsequently preheated by the laser, marked by a notching mechanism for downstream detection, and then flattened by a pneumatic hammering unit to within 10% of strip thickness. By enabling seamless joining of sequential coils, such as combining five 20-meter coils into a single 100-meter coil, the invention reduces coil changeover downtime by up to ten hours, minimizes defects, and ensures strong, uniform joints suitable for continuous high-speed production environments.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096338 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Railway Platform Doors

(51) International classification	:B61B0001020000, E01F0001000000, G06N0003045000, B61D0023020000, A61B0005055000
(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

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(57) Abstract :
This invention brings a safety system named Railway Platform Doors, designed for the various types of trains running on Indian Railways. It prevents accidents that happen when people attempt to board or exit moving trains. The system has motion sensors that detect the movement of the train and control the opening and closing of the platform doors based on it. The doors stay shut when the train is not in alignment with the platform. They only open when the train reaches its final stop in the correct alignment. This keeps passengers from entering the train unless it is safe to do so. By limiting unsafe entry, the system minimizes the risk of accidents and falls on the tracks. It introduces order and discipline to boarding. The invention provides overall platform safety improvement. It is an efficient solution to safeguard passengers and enhance railway travel safety in India.

No. of Pages : 8 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096341 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Rubber and Plastic Bricks

(51) International classification	:C10G0001100000, B29B0017040000, C10B0053070000, E04C0001400000, E01C0009000000
(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
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(57) Abstract :
This project is about creating strong and affordable bricks using waste plastic and rubber, like old tires. We're solving two big problems at once reducing pollution from non-biodegradable waste and making better, low-cost building. plastic and rubber waste, clean and shred them, and mix them with sand or binders. Then, using heat and pressure, we shape them into bricks. These bricks are not just eco-friendly they're strong, weather-resistant, and help keep homes cool thanks to their thermal insulation. short, we turn everyday waste into something useful a smart step toward a cleaner and more sustainable day, we throw away tons of plastic and rubber from bottles to worn-out tires. These materials don't break down easily and end up polluting our land and water. At the same time, there's a growing need for strong, affordable materials to build homes and infrastructure. a smart solution: making construction bricks out of waste plastic and rubber. We collect this waste, clean it, shred it into small pieces, and mix it with sand or other natural binders. Then, we heat and press the mixture into brick shapes.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096343 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : VISIOGUIDE - Emphasizing the sensory experience that enhances navigation

(51) International classification	:G09B0021000000, A61H0003060000, G06F0001160000, G02B0027010000, G01S0013931000
(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
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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5)DESAPRIYA M
6)KAVIYA K

(57) Abstract :
The visioguide is an active safety aid designed to help visually impaired users avoid collisions in their blind areas. It has radar sensors, a camera, a computer module, and an alarm system (visual, audio, or vibration) to inform users of hazards. It works by utilizing motion detection through radar sensors, processing the data, and transferring it to a wearable Safety Ear Device that provides feedback in real time in the form of voice guidance and tactile alerts. The wearable device improves mobility and safety by providing obstacle detection, sound feedback, and ongoing monitoring, providing added confidence and autonomy to the blind or visually impaired. It can be worn as a wristband or attached to a white cane. It is an integrated assistive technology system that supports the improvement of spatial awareness and mobility in visually impaired individuals. The system fills the gap between sensing the environment and interacting with the user by integrating several sensor modalities (e.g., radar and visual input) with real-time processing, as well as multimodal feedback (audio, visual, tactile). The system's wearability and modularity facilitate adaptability and comfort for the user while promoting higher autonomy and confidence in environment navigation. It is a sophisticated wearable safety system intended to help visually impaired users detect and steer clear of objects around their blind areas. It utilizes radar sensors, a camera, and a computer module to sense the user's environment and detect potential dangers

No. of Pages : 9 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096346 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT BASED WATER HEATER

(51) International classification	:F24D0019100000, F24H0009200000, G06Q0050060000, G06F0016182000, G06F0016951000
(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
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(57) Abstract :

This invention is a smart water heating system that uses Internet of Things (IoT) technology to give users better control and convenience. At the heart of the system is a small, Wi-Fi-enabled microcontroller (like an ESP8266 or ESP32) connected to a temperature sensor and a relay switch. These components work together to monitor the water's temperature and control when the heater turns on or off.What makes this system smart is that it can be fully managed through a mobile app or web interface. Whether you're at home or away, you can check the water temperature, turn the heater on or off, or set it to follow a daily schedule. The system can also work on its ownautomatically switching the heater based on the temperature or preset times. This helps save energy, improves safety, and makes things much more convenient.On top of that, the system can send real-time alerts if something goes wrong, like overheating or a sensor issue. It also keeps a log of temperature data and system activity, so users can track performance over time. Whether it's for a home, apartment, or even a commercial building, this smart heating solution offers a modern, flexible way to manage water heating more efficiently.

No. of Pages : 8 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096448 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : CORE STACK-E LEARNING & CAREER HUB PLATFORM FOR CORE ENGINEERING

(51) International classification	:G06Q0010105300, G09B0007060000, G09B0007020000, G09B0005060000, G09B0019000000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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4)REMYA V

(57) Abstract :
ABSTRACT Core stack is an integrated modular platform that aims to bridge the gap between core engineering education and employment. Focusing specifically on electronics, electrical, and robotics engineering, the platform provides segmented learning modules that consist of instructional videos, interactive simulations, and multiple types of assessments (multiple-choice, descriptive, and application-based). Learners earn points by completing learning modules and daily challenges - a task based on real-world application. The points are fed into a dynamic global ranking leaderboard that can be accessed by the recruiters globally. With the provision for transparent competency benchmarking and direct recruiter interaction, Core stack increases hardware engineering graduates' job preparedness and accelerates hiring processes, resolving the industry's daunting employability gap.

No. of Pages : 17 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096453 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : INTELLIGENT SECURITY CAMERA

(51) International classification	:H04N0007180000, G08B0013196000, G06V0040200000, G06V0020520000, G06V0040160000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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1)SASIKUMAR S

(57) Abstract :
ABSTRACT Intelligent security cameras provide a solution for burglary and involve an intelligent detection system that employs computer vision, loT, and real-time alerts. Using a Raspberry Pi, the system detects intrusions in two stages by capturing real-time streams from the connected camera. In the first stage, the system registers known faces and recognizes known individuals, thereby reducing false alarms. If a stranger is captured, the recognition of the stranger activates the second stage, where the model is trained to use object recognition to identify unwanted activities such as forcibly entering a door by applying body pressure, picking a lock, hammering a lock, prying a door with a crowbar, breaking with heavy rods. The moment the above actions are detected, the Raspberry Pi responds and triggers two responses simultaneously. First, a control signal is sent to the ESP32 loT microcontroller, which ensures the door is locked immediately from the inside. Second, the user receives an SMS with the live video footage of the scenario, sent through the API. The real-time video footage greatly enhances the integrated approach and ensures that home burglary attempts are proactively dealt with, providing instant user notification, automated security reinforcement, and real-time action recognition to greatly improve home security.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096454 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ADVANCED RAG BASED GEN-AI CHATBOT FOR ANNUAL REPORT FAQS

(51) International classification	:H04L0051020000, G16H0015000000, G06F0016330000, G06F0016350000, G04B0019253000	(71)**Name of Applicant :** **1)SRI SAIRAM ENGINEERING COLLEGE (AUTONOMOUS)** Address of Applicant :SRI SAI RAM ENGINEERING COLLEGE Sai Leo Nagar, West Tambaram CHENNAI,TAMILNADU,INDIA. PIN:600044. Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)MEHUL K**
(33) Name of priority country	:NA	**2)SACHIN M P**
(86) International Application No	:NA	**3)SURYA U**
Filing Date	:NA	**4)SARADHA K R**
(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	

(57) Abstract :
ABSTRACT In the rapidly evolving business landscape, stakeholders require timely and accurate access to financial and operational inf01mation from annual reports. However, the extensive and complex nature of these reports makes it difficult to efficiently extract key analytical trends, financial perfonnance measures, and comparative insights. The traditional manual approach to analyse these documents IS time-consuming, error prone, ancl inefficient. Stakeholders-including creditors, customers, suppliers, employees, government agencies, and industry analysts-. rely on this data to make informed decisions. The absence of an automated mechanism to handle frequent queries regarding financial performance, operational metrics, and sustainability targets im, pedes large-scale ipfonned decision . . making. This paper presents a Gen AI-driven solltion that leverages Natural Language Processing (NLP), LangChain Framework and Retrieval Augmented Generation (RAG) Architecture to efficiently t;xtract and analyze financial annual reports and its data. The approach involves utilizing PyPDF2. for data · extraction, segmenting content using Recursive Character Text Splitter, . generating . em beddings via Fast Embed Embeddings module, and storing information· in. Qdrant for rapid similarity search. The response generation is powered by DeepSeek LLM, deployed locally via Ollama, ensuring privacy . . and computational efficiency. A Gradio-based Ul is implemented for an intuitive interface . This system enhances financial data accessibility, fosteri1ig transparency, compliance, and data-driven decision-making.

No. of Pages : 16 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096455 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : UNMASKING SILENCE:ADVANCING DYSFLUENT SPEECH UNDERSTANDING WITH NEXT GENERATION TOOLS

(51) International classification	:G06N0003045000, A61F0005580000, G10L0025240000, G10L0015320000, G10L0025780000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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1)ARUN G
2)KAMALRAJ S
3)VASANTH S
4)S. GAYATHRI
5)R. CHITRA

(57) Abstract :
ABSTRACT Speech stammering, dysfluent speech, severely impacts the smooth flow of communication, so that the individuals are forced to use such expressions as hesitation, repetitions, or blocks, which, in their tum, may profoundly int1uence confidence and social interaction. Regular Automatic Speech Recognition (ASR) systems severely fail to accomplish the task of correct transcription of stammering speech resulting in such a speech recognition system very limited use for people suffering from stammering. To overcome this problem, the invention introduces a web-based stammer detection system that utilizes the combination of intelligent machine learning and a user-friendly interface. Live recordings of the system or audio files sent for the system are initially pre-processed via certain operations such as noise reduction, normalization, and segmentation. For the spectral and temporal features, the extraction of the feature is done by the feature extraction module, which also obtains the MFCCs, delta MFCCs, pitch, energy, and pause duration. The use of a CNN (Convolutional Neural Network) helps to distinguish between different speech segments and decide whether they are fluent or stammered, thus achieving a very high accuracy level. Moreover, through this system, the user is enabled to resourcefully check and enhance his/her speech fluency as time passes thus, making it an easy, practical and affordable way which successfully combines a real-life speech therapy scenario with latest AI methodologies.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096462 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ACCESSIBLE TRANSIT FOR THE BLIND

(51) International classification	:G06Q0050400000, G08G0001123000, G09B0021000000, A61H0003060000, A61P0037060000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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1)PRAVEEN R
2)MADHAVAN D
3)MANOJ KUMAR P
4)Dr. K MOORTHI

(57) Abstract :
ABSTRACT Navigating public transportation systems poses significant challenges for visually impaired individuals, particularly in safely identifying and boarding the correct bus or transit vehicle. This invention provides an engineering solution by developing an accessible transport identification and guidance system designed to improve independence, safety, and confidence in daily travel. The system consists of wireless communication modules embedded in public transport vehicles, which continuously broadcast route and identification details. A microcontroller processes the transmitted data and relays it to a custom-designed mobile application through GPRS or cloud connectivity. The mobile application provides users with real-time notifications of approaching buses and route details using dual feedback mechanisms-speech-based voice guidance and tactile vibration alerts-allowing adaptability to noisy or quiet environments. Additional features include integration with third-party transit applications for extended journey planning and an SOS function for emergency assistance. By combining embedded electronics, wireless communication, and accessible software design, this invention delivers a reliable, inclusive, and user-cantered approach to improving public transportation accessibility for visually impaired commuters.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096463 A

(19) INDIA

(22) Date of filing of Application :07/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR EARLY DETECTION OF LUMPY SKIN DISEASE IN CATTLE USING SENSOR-BASED MONITORING AND CAMERA -ASSISTED IMAGING

(51) International classification	:A61B0005000000, A61B0005010000, G06N0003045000, G06N0003080000, A01K0029000000	
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(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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(72)**Name of Inventor :**

1)KEERTHANA S

2)MIRUDHUBASNEE R S

3)LAKSHMI G

(57) Abstract :

ABSTRACT The invention relates to a system and method for the early detection of Lumpy Skin Disease (LSD) in cattle using a neckband-based monitoring and imaging approach. Each animal is equipped with a neckband incorporating sensors to measure body temperature, heart rate, and pressure, along with GPS for location tracking. Abnormal physiological readings trigger the ESP32 microcontroller to transmit the cow's ID, vitals, and GPS coordinates to a Raspberry Pi. The Raspberry Pi determines the nearest predefined zone, such as a feeding station, water trough, or milking area, and activates the corresponding camera. The camera captures images of the suspected cow, while ArUco markers confinn its identity. A convolutional neural network (CNN) with OpenCV analyzes the images to detect LSD lesions. Upon positive detection, the system automatically generates an alert containing the cow ID, GPS location, annotated image, and confidence score, thereby enabling timely farmer -and veterinary intervention.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096476 A
(19) INDIA
(22) Date of filing of Application :07/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SERVICEHUB: CONNECTING PEOPLE WITH TRUSTED PROFESSIONALS

(51) International classification	:G01C0021340000, G06Q0010083500, A41D0013110000, H04L0009320000, G06Q0010083600	(71)**Name of Applicant :** **1)SRI SAIRAM ENGINEERING COLLEGE (AUTONOMOUS)** Address of Applicant :SRI SAI RAM ENGINEERING COLLEGE, SAI LEO NAGAR, WEST TAMBARAM, CHENNAI, -600044 Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)KAVITHA R**
(33) Name of priority country	:NA	**2)JAYAPRADHAA S**
(86) International Application No	:NA	**3)SIVA S**
Filing Date	:NA	**4)V. GOKULPRIYA**
(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	

(57) Abstract :
SERVICEHUB- CONNECTING PEOPLES WITH TRUSTED PROFESSIONAL ServiceHub is a mobile application platform designed to connect customers with service providers, such as electricians, plumbers, and home appliance repair professionals. The platform features two distinct applications: one for customers and one for service providers. The customer-facing app allows users to request services, schedule appointments, view service provider profiles, and make secure payments. The service provider app enables professionals to manage job requests, track schedules, and receive payments. The platform utilizes an Al-powered matching algonthm to dynamically pair customers with service providers based on location, expertise, availability, and ratings. ServiceHub integrates real-time notifications, geolocation services, secure payment processing, and a blockchain-based ledger for transparent and secure transactions. The system also includes a rating and review feature, machine learning for continuous improvement of service matching, and enhanced security with encryption and Q) multi-factor authentication

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096813 A

(19) INDIA

(22) Date of filing of Application :08/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR ASSISTING MEMORY USING AI-BASED SCENE ANALYSIS IN SMART GLASSES

(51) International classification	:G06N0003080000, G06N0003045000, G06V0010820000, H04N0007140000, G16H0020700000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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(72)**Name of Inventor :**

1)AARTHI V S

2)INDRAVAHINI B S

3)AAKASH P S

4)NIROSHINI B

5)Dr. S K UMAMAHESWARAN

(57) Abstract :

The invention pertains to a wearable assistive system that aims to improve human memory and cognitive aid via real-time visual processing. The system consists of a camera-driven smart glass that periodically takes pictures, which are then i analyzed using artificial intelligence to create descriptive text-based memories. A light captioning model processes straightforward scenes, whereas a sophisticated transformer-based model processes complicated scenes detected through object detection. The text {memories are saved in an abstracted manner, to minimize storage and ensure that user privacy is maintained. Similar or redundant descriptions are removed automatically to keep the memory efficient. The system provides query-based retrieval, enabling users to recall events or objects they have faced. Tiered privacy controls divide premium and non-premium users, maintaining data security and controlled utilization for model learning. The device further includes an automatic lock/unlock feature depending on user presence. This innovation gives a small, smart solution for cognitive support in everyday life. I I

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096814 A

(19) INDIA

(22) Date of filing of Application :08/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : APICTECH: IMPLEMENTATION OF AN INTEGRATED MONITORING SYSTEM FOR REAL-TIME ENVIRONMENTAL AND ACTIVITY ASSESSMENT OF APIS MELLIFERA

(51) International classification	:A01K0047060000, A01K0051000000, A01K0047040000, A01K0047020000, G16H0040200000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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1)SRI RAMAN M

2)KANISH R B

3)SRIKANTH V T

4)ABIRAMI S

5)HASANTHINI R

6)Dr. UMAMAHESWARAN S K

(57) Abstract :

India produces honey over 125,000 metric tons every year; however, achieving consistent and good quality honey production is a challenge for many beekeepers due to the environment changes and undetected disturbances in the hives. This project proposes an automated solar- driven monitoring of honey bees with the aim of enhancing honey production through smart hive management. The system provides monitoring of key parameters like internal temperature and CO2 concentration that will keep an optimal aviary environment and provide early detection of pest infestation. A bee tracking mechanism based on computer vision will also provide real-time tracking of work done by the colony: the hive counts bees entering and exiting. It will collate, compact, off-grid solutions by way of enabling time and data-driven interventions while reducing manual monitoring efforts. With a sustainable design and focus on precision beekeeping, the proposed solution empowers farmers to increase productivity, safeguard colony health, and contribute to more efficient and resilient apiculture practices.

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096816 A

(19) INDIA

(22) Date of filing of Application :08/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : HEALTHY BITES: AN AI-BASED CALORIE TRACKING AND PERSONALIZED FOOD RECOMMENDATION SYSTEM FOR INDIAN DIETARY PATTERNS

(51) International classification	:G16H0050300000, G16H0020600000, G16H0050200000, G16H0020300000, A61B0005000000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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2)JAYASHREE T

3)ISWARYA N

4)PIRAMU M

(57) Abstract :

The present invention discloses an A [-enabled nutritional management system designed to provide personalized calorie tracking, food recommendations, and chronic disease monitoring with a focus on Indian dietary patterns. Unlike existing applications that rely on generalized Western food databases and often yield inaccurate results for regional cuisines, the proposed system integrates a localized food database, machine learning models, and conversational Al to deliver culturally relevant and precise nutritional analysis. It comprises modules for calorie and nutrient tracking, personalized food recommendation generation, and disease risk prediction, particularly targeting diabetes by analyzing user health metrics such as glucose levels, BMI, blood pressure, and insulin. A unique Junk Food Scoring mechanism is incorporated to evaluate dietary choices and provide real-time alerts for healthier alternatives. Additionally, the system features an Al-powered multilingual chatbot that engages users with personalized meal suggestions, exercise guidance, natural remedies, and wellness tips, thereby enhancing user experience and promoting holistic health.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096820 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : WALL MOUNTED PARALLEL BAR WITH POSTURE BIOFEEDBACK SENSOR

(51) International classification	:A61B0005000000, A61B0005110000, A63B0026000000, G16H0020300000, A63B0071000000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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(72)**Name of Inventor :**
1)DR.MANOJ M
2)DR. SATHYA SIVA
3)DEEPAK NALLASWAMY VEERAIYAN

(57) Abstract :
Neurological, musculoskeletal and age-related conditions such as stroke, spinal cord injury, Parkinson's disease and general deconditioning often impair posture, balance and movement patterns. Traditional rehabilitation methods require continuous therapist supervision, which limits consistency and scalability. To address these challenges, this invention introduces a Wai I-Mounted Parallel Bar with Posture Biofeedback System, designed to facilitate autonomous posture correction and balance training. The system integrates posture-detecting sensors within ergonomically designed parallel bars mounted on a stable wall frame. These sensors monitor user alignment in real time, detecting deviations across the trunk, shoulders and hips during gait and standing activities. When misalignment is detected, immediate audio-visual feedback is delivered via built-in speakers and an adjacent monitor that displays graphical cues and corrective prompts. This system enables real-time, self-guided rehabilitation without external mobile applications or therapist input. It enhances motor learning through multi-sensory engagement, encouraging better body awareness, postural control and active participation. Key features include adjustable sensitivity levels, a standalone control module, durable bar construction and suitability for use in clinical, institutional and home settings. Ideal for patients recovering from neurological injuries or those with balance impairments, the device increases training frequency, improves engagement and reduces therapist workload. Future enhancements may include haptic feedback, Al-based adaptability and optional cloud connectivity. This innovation bridges the gap between therapist-guided and independent rehabilitation, empowering users and improving long-term mobility outcomes.

No. of Pages : 8 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :08/10/2025
(21) Application No.202541096821 A
(43) Publication Date : 07/11/2025

(54) Title of the invention : LACTOSOOTHER A SMART THERMO VIBRATION PAD

(51) International classification	:A61F0007000000, A61H0007000000, A61B0005000000, A61G0007050000, A61M0003020000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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1)KAVIYALAKSHMI.R
2)DR.G.BHUVANESWARI
3)DEEPAK NALLASWAMY VEERAIYAN
4)SINDHU PRIYA.R

(57) Abstract :
LactoSoother is an innovative, wearable therapeutic pad specifically designed to relieve breast engorgement in postpartum mothers. The device integrates gentle low-frequency vibration and controlled heat therapy, delivered through an ergonomically designed, breastconforming silicone pad. Its dual-action mechanism facilitates milk let-down, reduces discomfort, and prevents progression to complications such as mastitis, ductal blockage, or abscess formation. The pad is wireless, portable, and rechargeable, allowing easy use at home or in hospital settings without dependence on caregiver intervention. By combining self-care convenience with nursing applicability, LactoSoother serves as both a maternal empowerment tool and a clinical nursing aid, providing a reliable alternative to manual massage, compresses, or invasive measures.

No. of Pages : 11 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096822 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MULTISENSORY HAND FUNCTION REHABILITATION CUBE

(51) International classification	:A63B0023160000, A61N0001360000, A61H0023020000, A61B0005110000, A61B0005000000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:NA
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(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
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(62) Divisional to Application Number	:NA
Filing Date	:NA

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2)DR. AHALYA S
3)DEEPAK NALLASWAMY VEERAIYAN

(57) Abstract :
Hand function rehabilitation requires targeted sensory and motor stimulation, especially in individuals with neurological or musculoskeletal impairments. This invention introduces a lightweight, portable multisensory cube designed to promote fine motor recovery and sensory re-education. The cube features six interactive faces, each offering a different sensory modality— including compressible foam for grip strength, textured surfaces for tactile input, thermo chromic layers for thermal training, vibration modules for mechanoreceptor stimulation, elastic surfaces for proprioception, and soft bristles for light touch. Patients engage with the cube by squeezing, stretching, rubbing, and exploring each surface, stimulating multiple sensory pathways essential for neuroplasticity and functional recovery. The device is compact, cost-effective, and suitable for clinical and home-based therapy, especially in settings with limited therapist supervision.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096823 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SENSOR INTEGRATED ASYMMETRICAL POSTURE CORRECTION CHAIR PAD

(51) International classification	:A61B0005110000, A61B0005000000, A61F0005020000, A61B0005103000, A61G0007057000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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(72)**Name of Inventor :**
1)DR. PRIYADHARSHINI K
2)DR. AHALYA S
3)DEEPAK NALLASWAMY VEERAIYAN

(57) Abstract :
Stroke survivors frequently experience difficulty maintaining a symmetrical sitting posture due to muscle weakness, impaired trunk control, and reduced body awareness. One of the most common postural problems observed during rehabilitation is lateral leaning, where the patient unconsciously shifts weight more onto one side while seated. This leads to uneven pressure distribution, poor sitting balance, discomfort, and an increased risk of falls or injuries. Persistent asymmetry can further contribute to complications such as pressure sores, musculoskeletal pain, spinal deformities, and a decline in functional independence over time. Traditional rehabilitation approaches often rely on therapist supervision to manually correct posture, which may not be consistently available during all activities of daily living. To address these challenges, a sensor- integrated posture correction chair pad has been developed. The pad is placed on a chair and is equipped with pressure sensors capable of detecting asymmetrical weight distribution when the patient leans more to one side. This allows for early identification of postural imbalance, enabling caregivers or therapists to assist in correcting the patient's posture promptly. By providing continuous, real-time monitoring of sitting posture without requiring additional patient effort, the device supports safer rehabilitation practices, reduces secondary complications, and promotes better recovery outcomes for individuals following a stroke.

No. of Pages : 9 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541096824 A

(19) INDIA

(22) Date of filing of Application :08/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART ELASTIC SLEEVE FOR GPS BASED SPECTACLE TRACKING

(51) International classification	:G08B0021020000, H04W0004029000, G02C0011000000, A01K0011000000, H04L0067520000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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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2)DR. SUSANNA THOMAS

3)DEEPAK NALLASWAMY VEERAIYAN

(57) Abstract :

The smart elastic sleeve for eyeglasses that incorporates a GPS tracking device is the subject of the current innovation, which allows for real-time location tracking of the glasses. The sleeve fits tightly over the majority of eyeglass frames and is composed of high-quality, flexible, and long-lasting elastic material, guaranteeing comfort and prolonged use. By connecting to a smartphone application, the GPS tracker in the sleeve enables users to monitor the whereabouts of their glasses. Additionally, the mobile app has shared tracking capabilities and allows access for two to three authorized users. Lightweight, discrete, and aesthetically pleasing, the sleeve protects the glasses' appearance while providing a useful way to avoid misplacing them. To add another degree of security, the mobile app may also notify users when the glasses are moved past a predetermined distance. The GPS device's long-lasting or rechargeable battery ensures uninterrupted operation for prolonged periods of time. This innovation guarantees that users' glasses are always within reach, improving convenience, security, and peace of mind.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096826 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : DESIGN OF HYDROSENTINAL FOR MATSYA USING IMAGE PROCESSING TECHNIQUE

(51) International classification	:G01N0033180000, G16H0030200000, A23K0010220000, G16H0040670000, A23K0050800000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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 :**
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2)DIVYA U
3)MENAGASOUNDARI B
4)Dr.N.MANI

(57) Abstract :
ABSTRACT OF THE INVENTION The HydroSentinal is an innovative fish health monitoring system designed to enhance aquaculture management through advanced image processing techniques. Specifically developed for Matsya (fish) applications, the system captures high-resolution underwater images offish gills and body features using corrosion-resistant, camera-integrated platforms such as RC boats. Captured images are processed using color-based segmentation, edge detection, and machine learning algorithms to detect abnormalities, including inflammation, discoloration, or parasitic infections. By providing real-time health assessments, the HydroSentinal enables early intervention, reducing fish mortality and improving Field. In addition to health monitoring, the HydroSentinal can be integrated with water quality sensors to measure parameters such as temperature, pH, and turbidity, creating a comprehensive aquatic ecosystem assessment tool. The device's portability and corrosion-resistant materials make it well-suited for deployment in rural and village settings. The system's data analytics capabilities allow trends to be tracked over time, enabling farmers and aquaculture managers to make informed decisions regarding stocking . density, feed schedules, and disease control measures. By reducing reliance on manual inspections and costly laboratory tests, HydroSentinel promotes cost-effective and sustainable aquaculture practices. Its modular design further allows future integration of autonomous navigation, wireless data transfer, and cloud-based dashboards for remote monitoring. The HydroSentinel thus represents a scalable, field-ready innovation that combines mechanical design, embedded systems, and computer vision to improve fish welfare, optimize resources, and support sustainable aquaculture development in diverse

No. of Pages : 18 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096827 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART ASSET LOCATOR:AN IOT-BASED SOLUTION FOR EFFICIENT OBJECT TRACKING AND RETRIEVAL

(51) International classification	:G06K0007100000, G06Q0010087000, G08G0001000000, G06K0017000000, G08B0021020000	(71)**Name of Applicant :** **1)SRI SAIRAM ENGINEERING COLLEGE (AUTONOMOUS)** Address of Applicant :SRI SAI RAM ENGINEERING COLLEGE, Sai Leo Nagar, WEST TAMBARAM, CHENNAI Tamil Nadu India-600044, Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)SOMANATH E R**
(33) Name of priority country	:NA	**2)BALAMURUGAN G**
(86) International Application No	:NA	**3)VIGNESH R**
Filing Date	:NA	**4)Dr. G VALARMATHY**
(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	

(57) Abstract :
ABSTRACT Disclosed is a SMART ASSET LOCATOR system designed for efficient real-time tracking and guided retrieval of assets within diverse environments using 1111 intt:grated loT-based architecture. The invention incorporates an ESP32 microcontroller linked via UART to a M5Stack JRD-4035 passive UHF RFID reacler module, capable of detecting and identifying multiple assets fitted with compact, battery-free RFID tags. Each tag stores a unique electronic procluct code, facilitating reliable mapping across personal and enterprise assets. Tag detection data, consisting of electronic product code and received signal strength indication, is wirelcssly transmitted to a centralized cloud database to enable synchronized multi-device monitoring and management. A cross-platform mobile;: application connects to the cloud, allowing users to register assets, name and categorize items, and select lost objects for retrieval. Upon selection, the application pro~esses proximi.iy data derived from RFID signal strength, dynamically guiding the user towards the asset through an interactive interface without sending unsolicited alerts. The system employs robust anti-collision algorithms to support simultaneous detection of multiple assets, and utilizes calibrated RSSI thresholds for precise spatial localization. This scalable solution offers a portable, user-friendly platform adaptable to smart homes, laboratories, offices, and warehouse environments. it addresses the technical problem of rapid asset loss and retrieval by combining advanced RFID technology, cloud synchronization, and intuitive proximity guidance .

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541096851 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : INCENTIVE BASED WASTE MANAGEMENT SYSTEM

(51) International classification	:B65F0001000000, B65F0001140000, F21Y0115100000, G06Q0010300000, B65F0003000000	(71)**Name of Applicant :** **1)SRI SAIRAM ENGINEERING COLLEGE (AUTONOMOUS)** Address of Applicant :SRI SAI RAM ENGINEERING COLLEGE, Sai Leo Nagar, WEST TAMBARAM, CHENNAI Tamil Nadu India-600044, Tamil Nadu India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)RAKSHITH VARMAN V**
(33) Name of priority country	:NA	**2)KANISH R B**
(86) International Application No	:NA	**3)THARUNKARTHI G**
Filing Date	:NA	**4)CHITRA R**
(87) International Publication No	: NA	**5)GAYATHRI S**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT A system and method for automated waste classification and segregation along with user incentivization has been disclosed. The system is comprised of an enclosure which contains a dedicated segregation and identification module, a minimum of two compartments for storage of segregated wastes and a sensor and control unit. Upon deposition of a waste item, the sensor unit captures an image of the item under diffuse LED lighting. A Raspberry Pi 4 processor then utilizes a MobileNet V2 model to classify the waste item. Based on this classification and measured weight, the segregation module directs the waste item into one of at least two separate compartments. An incentive value is calculated with a multi-variable formula, and the incentive is deposited into the account of the user through a cloud-based service. This invention promotes responsible waste disposal and recycling by introducing a - factor of gamification, while also collecting data for waste management analytics.

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541098055 A

(19) INDIA

(22) Date of filing of Application :11/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : ASSESSING THE ROLE OF DIGITAL DISTRIBUTION CHANNELS IN ENHANCING MUTUAL FUND PENETRATION IN TIER-2 CITIES

(51) International classification	:G06Q0040040000, G06Q0040060000, G06F0008380000, G06Q0010067000, G06Q0020400000	(71)**Name of Applicant :** **1)SR University** Address of Applicant :Warangal, Telangana-506371, India. Warangal Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Mr. Modem Shravan**
(33) Name of priority country	:NA	**2)Dr. Kafila**
(86) International Application No	:	**3)Dr. Geetha Manoharan**
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	

(57) Abstract :

ASSESSING THE ROLE OF DIGITAL DISTRIBUTION CHANNELS IN ENHANCING MUTUAL FUND PENETRATION IN TIER-2 CITIES ABSTRACT This invention discloses a digital distribution framework designed to enhance mutual fund penetration in Tier-2 cities. It integrates financial literacy, advisory, and transaction features within a unified digital ecosystem optimized for regional socio-economic contexts. The invention leverages lightweight mobile applications, localized digital advisory modules, gamified education tools, biometric KYC processes, and AI-driven personalization to overcome barriers of trust, accessibility, and awareness. Unlike existing urban-focused solutions, the invention uniquely addresses infrastructure limitations, regional language needs, and socio-cultural investment behaviors in Tier-2 cities. The result is a comprehensive, trust-oriented digital distribution methodology that significantly expands financial inclusion and mutual fund adoption beyond metropolitan markets.

No. of Pages : 12 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541098058 A
(19) INDIA
(22) Date of filing of Application :11/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Soft robotic gripper with magnetorheological fluid-based stiffness control and pneumatic actuation

(51) International classification	:B25J0015000000, B25J0009160000, B25J0015120000, B25J0009140000, F16F0009530000	(71)**Name of Applicant :**
(31) Priority Document No	:NA	**1)Dr. G. Ramkumar**
(32) Priority Date	:NA	Address of Applicant :Department of Mechanical Engineering, Coimbatore Institute of Technology, Coimbatore Coimbatore Tamil Nadu India
(33) Name of priority country	:NA	**2)Mr. S Dhiraj Srihari**
(86) International Application No	:	**3)Mr. S. Jai Sudhiksh**
Filing Date	:01/01/1900	**4)Mr. S.G. Yaswin**
(87) International Publication No	: NA	**5)Mr. Shiyamalachidambaram A.**
(61) Patent of Addition to Application Number	:NA	(72)**Name of Inventor :**
Filing Date	:NA	**1)Dr. G. Ramkumar**
(62) Divisional to Application Number	:NA	**2)Mr. S Dhiraj Srihari**
Filing Date	:NA	**3)Mr. S. Jai Sudhiksh**
		4)Mr. S.G. Yaswin
		5)Mr. Shiyamalachidambaram A.

(57) Abstract :
ABSTRACT The present invention is a soft robotic gripper with magnetorheological fluid-based stiffness control and pneumatic actuation. A MR fluid recess (1) cavity has been incorporated into the 3D model of the fingers therein, an air inlet (2) allows air to flow inside and an air passage (3) flow into it thereby, a silicone-based fingers (4) containing internal MR fluid chambers and each finger having an internal chamber configured to contain a magnetorheological (MR) fluid. An electromagnetic coils (5) or external magnetic field sources arranged near the chambers for stiffness control. A pneumatic actuation (6) system that bends or inflates the fingers to match the object's shape and the magnetic field adjustment to either stiffen the fingers for stability or soften them for delicate handling.

No. of Pages : 13 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541098060 A
(19) INDIA
(22) Date of filing of Application :11/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTONOMOUS AI-INTEGRATED AGRICULTURAL ROBOT FOR ADAPTIVE MULTI-STAGE FARMING OPERATIONS

(51) International classification	:G05D0001000000, G06V0020100000, A01B0079000000, A01B0069040000, A01D0046300000
(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

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2)Dayananda Sagar Academy of Technology and Management
3)Dr.Abhinav
4)Rajeev Kumar Gupta
5)P. M. G. Bashir Asdaque
6)Radha Krishna Dhawad
(72)**Name of Inventor :**
1)Dr.Abhinav
2)Rajeev Kumar Gupta
3)P. M. G. Bashir Asdaque
4)Radha Krishna Dhawad

(57) Abstract :
Autonomous AI-Integrated Agricultural Robot for Adaptive Multi-Stage Farming Operations This invention describes an AI-powered agricultural robot capable of autonomously performing essential farming tasks including plowing, seeding, and harvesting. Equipped with artificial intelligence algorithms, environmental sensors, and precision navigation, the robot dynamically adapts to diverse soil and crop conditions. Its modular mechanical architecture allows toolhead interchangeability, while integrated GPS, LiDAR, multispectral cameras, and soil sensors enable centimeter-level accuracy and adaptive decision-making. A hybrid energy system with solar and lithium-ion battery power supports sustainable operations. Wireless connectivity facilitates real-time monitoring and data integration with cloud-based farm management platforms. Unlike existing solutions limited to single-stage tasks, the Agrimech Robot consolidates multiple operations within one intelligent platform, thereby reducing labor dependence, enhancing productivity, and ensuring consistent agronomic standards. The system's adaptability across terrains and crops makes it suitable for high-intensity cultivation environments, providing a scalable and efficient alternative to traditional and semi-mechanized farming practices.

No. of Pages : 21 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541098061 A

(19) INDIA

(22) Date of filing of Application :11/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : An Artificial Intelligence–Driven Multimodal Data Integration Framework for Early Detection of Cervical Cancer through Comprehensive Medical Diagnosis

(51) International classification	:G16H0050200000, G06N0003080000, G06N0003045000, G16H0050700000, G06N0005045000	(71)**Name of Applicant :** **1)SR University, Warangal** Address of Applicant :Ananthasagar, Hasanparthy(M), Warangal Urban-506371, Telangana, INDIA Warangal Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Pravalika Kaithoju**
(32) Priority Date	:NA	**2)Dr. Santosh Kumar Henge**
(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	

(57) Abstract :

The invention discloses an Artificial Intelligence–Driven Multimodal Data Integration Framework for the early detection of cervical cancer through comprehensive medical diagnosis. The system integrates heterogeneous data sources such as medical images, clinical records, and genomic information using deep learning and attention-based fusion mechanisms. It provides interpretable and accurate diagnostic predictions supported by explainable visualizations and feature analyses. The invention enhances early diagnosis, reduces human error, and enables real-time, privacy-preserving decision-making for clinicians, contributing to improved patient outcomes and scalable clinical deployment.

No. of Pages : 12 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541098063 A
(19) INDIA
(22) Date of filing of Application :11/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Assessing the Role of Digital Distribution Channels in Enhancing Mutual Fund Penetration in Tier-3 Cities

(51) International classification	:G06Q0040040000, G06Q0040060000, G06F0009451000, G06Q0020380000, G06Q0030025100	(71)**Name of Applicant :** **1)SR University** Address of Applicant :Warangal, Telangana-506371, India. Warangal Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Mr. Modem Shravan**
(32) Priority Date	:NA	**2)Dr. Kafila**
(33) Name of priority country	:NA	**3)Dr. Geetha Manoharan**
(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	

(57) Abstract :
ASSESSING THE ROLE OF DIGITAL DISTRIBUTION CHANNELS IN ENHANCING MUTUAL FUND PENETRATION IN TIER-3 CITIES ABSTRACT This invention discloses a comprehensive digital distribution framework for enhancing mutual fund penetration in Tier-3 cities. It integrates mobile applications, digital kiosks, multilingual investor education, and hybrid advisory mechanisms to overcome barriers of accessibility, literacy, and trust. The invention introduces AI-driven recommendation tools, simplified digital onboarding with automated KYC verification, and low-bandwidth compatibility, ensuring inclusivity for underserved populations. Unlike existing digital platforms limited to Tier-1 and Tier-2 regions, this system provides a localized and culturally sensitive model, bridging gaps in financial literacy and accessibility. The invention thus enables sustainable mutual fund adoption in smaller geographies through a unified, scalable, and investor-centric digital ecosystem.

No. of Pages : 12 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541098064 A

(19) INDIA

(22) Date of filing of Application :11/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : An AI-Enabled Hybrid Deep Learning Framework Utilizing Ensemble and Blended Models for Comprehensive Cardiovascular Risk Assessment

(51) International classification	:G16H0050200000, G06N0003045000, G06N0003080000, G16H0050300000, G06N0020200000	(71)**Name of Applicant :** **1)SR University, Warangal** Address of Applicant :Ananthasagar, Hasanparthy(M), Warangal Urban-506371, Telangana, INDIA Warangal Telangana India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Rowthu Neelima** **2)Dr. Santosh Kumar Henge**
(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	

(57) Abstract :

The invention discloses an AI-enabled hybrid deep learning framework for comprehensive cardiovascular risk assessment using ensemble and blended models. The framework integrates multimodal medical data, including imaging, clinical, and demographic inputs, to generate a unified and interpretable risk score. Ensemble learning combines the strengths of CNNs, LSTMs, and machine learning models, while a blending layer optimally fuses their outputs. Explainable AI modules provide transparent reasoning for each prediction. This invention enhances diagnostic precision, supports real-time deployment, and ensures privacy-preserving medical decision support for early cardiovascular disease detection and prevention.

No. of Pages : 11 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :11/10/2025
(21) Application No.202541098085 A
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART CROWD FLOW OPTIMIZER

(51) International classification	:G06V0020520000, G08B0021020000, G08B0031000000, G06Q0010063500, G06Q0090000000
(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

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(72)**Name of Inventor :**
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2)SURENDAR P
3)ROHITHA P
4)ROSHINI J
5)SANJANA R
6)NIVETHA SRI T

(57) Abstract :
This project presents Smart Crowd Flow Optimizer, an innovative AI-driven system designed to manage and optimize the movement of people in crowded spaces through real-time intelligence. As cities, events, and public places face the growing challenge of overcrowding and safety risks, the proposed system addresses these issues by providing instant analysis, guidance, and control for smooth and safe crowd flow. Smart Crowd Flow Optimizer works by collecting data from cameras, IoT sensors, and tracking devices, and then processing it using advanced AI and machine learning models. The system continuously learns from past crowd patterns and applies predictive analytics to understand crowd behaviour. By doing so, it can forecast potential congestion points and take proactive measures to reduce risks such as bottlenecks, stampedes, or accidents. Using deep learning, computer vision, and real-time monitoring, the system can detect crowd density, movement speed, and direction. It then generates actionable responses such as alerting authorities, guiding people through optimized routes, or issuing instant notifications to digital boards and mobile devices. Authorized personnel can also update the system instantly with new safety protocols or emergency instructions, ensuring quick adaptability during dynamic crowd situations. The AI engine ensures that large gatherings—from religious festivals and stadium events to transport hubs and shopping malls—are managed efficiently without delays. Rigorous testing demonstrates its ability to handle high-volume data streams and provide accurate solutions with minimal lag, making it a critical tool for public safety, event management, and city infrastructure. By combining advanced technology with real-time decision-making, Smart Crowd Flow Optimizer offers a scalable and reliable solution to transform the way we manage human movement in crowded environments.

No. of Pages : 7 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202431055962 A

(19) INDIA

(22) Date of filing of Application :23/07/2024

(43) Publication Date : 07/11/2025

(54) Title of the invention : A DUAL-STAGED POROUS RADIANT BURNER FOR TRADITIONAL AND SLOW BURNING FUELS WITH RADIAL-FLOW INLET AND ULTRA-LOW EMISSIONS.

(51) International classification	:F23C7/00, F23C6/04, F23D14/24, F23D14/26, F23D14/22	(71)**Name of Applicant :** **1)INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR** Address of Applicant :Sponsored Research & Industrial Consultancy, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India. PIN-721302 Kharagpur West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Vanteru Mahendra Reddy**
(33) Name of priority country	:NA	**2)Gadi Udaybhanu**
(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	

(57) Abstract :

ABSTRACT TITLE:A DUAL-STAGED POROUS RADIANT BURNER FOR TRADITIONAL AND SLOW BURNING FUELS WITH RADIAL-FLOW INLET AND ULTRA-LOW EMISSIONS. The present invention relates to a dual-staged porous radiant burner system for traditional and slow burning fuels with radial-flow inlet to provide an ultra-low emissions. The invention provides a burner configuration featuring two-stage (fuel staging) porous media combustion to achieve stable combustion of the low reactive green fuels introduced in an intermediate ammonia injection chamber to the hot gases generated by combustion of the highly reactive fuels in the first stage, for complete combustion in porous media of second stage,thus employs two-stage porous media combustion for stable ammonia-blended flames, significantly reducing NOx emissions and eliminating NH3 emissions. Flame stabilization is enhanced by internal heat recirculation and evenly distributed air/fuel mixtures inside the porous domain of second stage. The burner operates across a range of thermal intensities, from approximately 1.28 MW/m^3 to 4.87 MW/m^3, and supports global equivalence ratios from 0.6 to 1.3 for thermal inputs ranging from 7.5 kW to 28 kW. (Figure 1)

No. of Pages : 36 No. of Claims : 15

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202431056422 A
(19) INDIA
(22) Date of filing of Application :24/07/2024
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN ENERGY-EFFICIENT SELF-ASPIRATED DOUBLE STACK PNG POROUS BURNER FOR COOKING APPLICATIONS

(51) International classification	:F24C3/02, F24C3/04, F24C3/08
(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 :**
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1)Vanteru Mahendra Reddy
2)Gadi Udaybhanu
3)Mani Bhusan Rajguru Mohapatro
4)Yempally Vijrumbana
5)Muddada Srinivasarao

(57) Abstract :
ABSTRACT TITLE: AN ENERGY-EFFICIENT SELF-ASPIRATED DOUBLE STACK PNG POROUS BURNER FOR COOKING APPLICATIONS The present invention provides a self aspirated porous burner system and its method of fabrication, operable under commercially available domestic LPG supply regulators at 30mbar pressure and piped natural gas supply systems under line gauge pressures of 0.2 bar. The burner system comprises, a mixing chamber operatively connected to (i) at its side to a mixing tube for supply of fuel and a primary air entrainment and (ii) at its bottom a secondary air entrainment; a combustion zone (CZ) comprising of a double stack porous burner combination including a lower 30 PPI Zirconia foam and a 20 PPI Zirconia foam on top thereof; a perforated plate supporting said double stack porous burner configuration above said mixing chamber, said perforated plate including holes as flashback arrester, for enabling flame flashback free submerged mode of combustion. The burner system is operable under power range of 1.5 to 5.4 kW for LPG and 2.1 to 7.7 kW for PNG and attains thermal efficiency of 82.2% for LPG and 73.53 % for PNG and reduced CO and NO emissions of 43 - 149 ppm and 7 - 18 ppm, respectively, for LPG, and 23 - 74 ppm and 8 - 14 ppm, respectively, for PNG. Figure 1

No. of Pages : 32 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531001200 A
(19) INDIA
(22) Date of filing of Application :06/01/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN AZOLLA-BASED POULTRY FEED FORMULATION AND A METHOD FOR PREPARING THE SAME

(51) International classification	:A23K0050750000, A23K0010300000, A23K0020142000, A23K0050300000, C05G0005230000
(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

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(72)**Name of Inventor :**
1)Bapan Das
2)Ajita Tiwari

(57) Abstract :
The present invention generally relates to a cost-effective, nutritionally balanced, and health-enhancing poultry feed formulation and a method for its preparation. The formulation synergistically combines Azolla pinnata, Black Soldier Fly (BSF) larvae, and a blend of herbal additives to create a sustainable, antibiotic-free feed solution. The method includes cultivating Azolla in nutrient-rich beds, rearing BSF larvae on organic waste, and mixing dried Azolla (20–30% by weight), BSF larvae (10–20%), grains, bran, groundnut meal, vegetable oil, vitamin/mineral mix, probiotics, and less than 2% herbal powder. The mixture is then ground, pelletized for uniformity, dried to 10–12% moisture content, and packaged for long shelf life. The herbal additives enhance immunity and gut health while eliminating the need for synthetic antibiotics. Designed for small-scale and sustainable poultry farming, the feed ensures improved growth performance, reduced mortality rates, and higher economic returns, making it suitable for widespread rural adoption and environmentally conscious poultry production systems.

No. of Pages : 26 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531077977 A
(19) INDIA
(22) Date of filing of Application :16/08/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM FOR ANALYZING MEDICAL IMAGING DATA AND ITS METHOD THEREOF

(51) International classification	:G06T7/00, G06V10/82, G16H30/20, G06N3/02
(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

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2)Kumar Abhishek
3)Ajay Kumar
4)Abhay Kumar
5)Kumar Rahul

(57) Abstract :
The present invention relates to a system for analyzing medical imaging data and its method thereof. The present invention provides a system with modified framework for the analysis of mail components (MGPCA), which integrates the kernel PCA, robust PCA, and sparse PCA, into one framework, to address the non-linear problem of data, and difficulty with complex medical visualization sets or images. The proposed system is implemented to the data of the NIH chest radiation photo, including multiple cases of collecting chest disease. The system is configured to extract clinically significant signs, improving the classification of the disease, when processing through convolutional neural networks (CNNs). The outcomes from the implementation of the system to the NIH dataset, showed that system is able to extract significant features that enhanced classification results, providing an accurate and reliable tool for medical decision support systems that uses information from medical images.

No. of Pages : 35 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531078394 A

(19) INDIA

(22) Date of filing of Application :18/08/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM FOR OPTICAL DETECTION OF PARTIAL DISCHARGE (PD) IN HIGH-VOLTAGE EQUIPMENT

(51) International classification	:G01L0001240000, G01D0005353000, G01B0011160000, G02B0006020000, G02B0006293000
(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

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1)ADHIKARI, Krishanlal

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3)ROY, Nirmal Kumar

(57) Abstract :

The present disclosure relates to a system (100) comprises a sensing assembly (102) that includes a honeycomb-structured mechanical beam (104) with periodic hexagonal-cell geometry. The beam (104) is configured to exhibit multi-mode mechanical resonance in response to acoustic signals generated by PD events and provides enhanced strain distribution and vibration damping. A sensing fiber Bragg grating (FBG) sensor (106) is bonded to the beam (104) to detect mechanical strain from the acoustic signals and convert it into wavelength shifts in reflected light. A reference FBG element (110) reflects a fixed wavelength under unstrained conditions, providing a baseline for comparison. A photodetector (118) receives reflected light from the sensing FBG sensor (106) and generates an electrical signal based on optical intensity. The system (100) detects PD events by measuring intensity variation due to wavelength differences between the reference and sensing FBG elements.

No. of Pages : 27 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531082880 A
(19) INDIA
(22) Date of filing of Application :01/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DEOXIDISER BLOCK AND A METHOD OF PREPARATION THEREOF

(51) International classification	:C21C0007060000, C22B0001248000, G06F0030200000, C12R0001070000, C21C0007000000	(71)**Name of Applicant :** **1)Raj Calciners Private Limited** Address of Applicant :The Bay, 3rd Floor, Niwaranpur Doranda, Ranchi, Jharkhand 834002, India Jharkhand India (72)**Name of Inventor :** **1)BIYANI, Rajeev** **2)BIYANI, Mayank** **3)BIYANI, Dheeraj** **4)SAMANTA, Aniruddha**
(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	

(57) Abstract :
ABSTRACT A DEOXIDISER BLOCK AND A METHOD OF PREPARATION THEREOF The present disclosure relates to a deoxidizer block for steel making process and a method for preparing the deoxidizer block using industrial waste. The deoxidizer block of the present disclosure is molded in compact ingots, notch bars and shots/briquettes of high-density (2.5 g/cc) green Fe-Al ingots, notch bars, or briquette shots by using scraps from industrial waste. The deoxidizer block prepared by the cost-effective process of the present disclosure ensures that the produced deoxidizers reach the steel-slag interface during secondary steelmaking, thereby improving oxygen reduction efficiency and minimizing alloy losses. The present disclosure also ensures environmental sustainability by recycling aluminium and iron waste, reducing energy consumption, and eliminating the need for primary aluminium ingots or ferro aluminium.

No. of Pages : 28 No. of Claims : 20

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531085314 A
(19) INDIA
(22) Date of filing of Application :09/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Smart System for Emergency Vehicle Priority and Traffic Regulation

(51) International classification	:G08G0001017000, G08G0001096500, G08G0001040000, G08G0001087000, G08G0001000000	(71)**Name of Applicant :** **1)Corpwiz Holding Pvt. Ltd.** Address of Applicant :Vijendra Singh Urbana NRI Complex, Near Ruby Hospital Tower 6, Apartment 4202 Kolkata, West Bengal kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Vijendra Singh**
(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	

(57) Abstract :
The present invention relates to a Smart System for Emergency Vehicle Priority and Traffic Regulation that ensures uninterrupted passage of ambulances, fire trucks, and police vehicles while enabling automated enforcement against obstructing vehicles. The system comprises a siren-linked activation module, a trigger button module operable by the driver for reflex-speed use, and a dashboard-mounted wide-angle camera module. Upon activation, the trigger button captures photographs or video recordings of obstructing vehicles, embedding GPS location, timestamp, and siren status. Captured evidence is automatically transmitted to a centralized law enforcement server, where automated number plate recognition (ANPR) identifies the obstructing vehicle. The server cross-verifies ambulance emergency status with hospital or dispatch records before issuing penalties, fines, or legal notices to the registered owner of the violating vehicle. The invention ensures timely emergency response, enforces road discipline, reduces congestion, and integrates seamlessly with smart city traffic command centers.

No. of Pages : 19 No. of Claims : 17

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531086046 A
(19) INDIA
(22) Date of filing of Application :10/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A HEPATOPROTECTIVE POLYHERBAL FORMULATION AND A METHOD OF PREPARATION THEREOF

(51) International classification	:A61P0001160000, A61K0036185000, A61K0035745000, A61K0035280000, A23L0033105000
(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

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2)Banjai Mochahary
3)Sushil Kumar Middha
4)Talambedu Usha

(57) Abstract :
ABSTRACT A HEPATOPROTECTIVE POLYHERBAL FORMULATION AND A METHOD OF PREPARATION THEREOF The proposed invention provides a polyherbal formulation (PHF) for management of liver disorders comprising Stephania japonica, Oroxylum indicum, Alstonia scholaris, Drymaria cordata, Senna occidentalis, Solanum indicum, Centella asiatica, Hydrocotyle sibthorpioides, Senna hirsuta. This composition offers synergistic effect and potential health benefits. A method of preparation of PHF comprises steps of collecting, cleaning, and shade-drying the plant materials, followed by pulverization and sieving to obtain fine powders. Obtained powders are uniformly blended in predetermined proportions and subjected to Soxhlet extraction using different solvents to obtain crude extracts. The resulting extracts are concentrated under reduced pressure and stored. In an in-vivo investigation of the PHF significantly reduced the high levels of liver serum enzymes. These findings confirm the antioxidant and hepatoprotective potential of the formulation, highlighting its promise as an effective alternative for the treatment of liver diseases.

No. of Pages : 29 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087461 A
(19) INDIA
(22) Date of filing of Application :15/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : LIVE LOCATION TRACKING SYSTEM USING NODEMCU ESP8266 WITH GEO-FENCING AND OFFLINE CACHING

(51) International classification	:G06F0021620000, H04W0004021000, H04W0004029000, H04L0009400000, G08G0001000000
(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

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2)Ms. MADHURIMA SARKAR
3)Dr. AVALI BANERJEE
4)Ms. HRITIKA MONDAL
5)Ms. NISHU KUMARI YADAV

(57) Abstract :
ABSTRACT The present disclosure discloses a live geolocation tracking system utilizing a NodeMCU ESP8266 microcontroller integrated with a GPS receiver. The system provides dual-mode operation, transmitting real-time coordinates to a remote server when internet connectivity is available and caching location data in non-volatile memory during outages for later synchronization. A geo-fencing mechanism generates alerts when user-defined boundaries are crossed. An artificial intelligence engine analyzes historical trajectory data to predict future movement patterns. The system is compact, energy-efficient, and cost-effective, ensuring continuous monitoring for applications in personal safety, fleet management, logistics, and asset protection. Secure data transmission safeguards user privacy. The disclosure thereby overcomes the limitations of conventional GPS trackers by delivering a robust, intelligent, and scalable solution adaptable to environments with unstable connectivity.

No. of Pages : 17 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087776 A
(19) INDIA
(22) Date of filing of Application :15/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A LIGHTWEIGHT CNN MODEL FOR SKIN-SPECIFIC CANCER PREDICTION ON SMALL DEVICES

(51) International classification	:G06N0003080000, G06N0003045000, G06V0010820000, G06N0003040000, G06N0003082000	(71)**Name of Applicant :** **1)GURU NANAK INSTITUTE OF TECHNOLOGY** Address of Applicant :157/F Nilgunj Road, Panihati Kolkata West Bengal India Kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)SUMIT KUMAR BANERJEE**
(32) Priority Date	:NA	**2)MAHAMUDA SULTANA**
(33) Name of priority country	:NA	**3)SUMAN BHATTACHARYA**
(86) International Application No	:	**4)SUCHISMITA MAITI**
Filing Date	:01/01/1900	**5)BIDISHA BHABANI**
(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	

(57) Abstract :
ABSTRACT The present disclosure discloses a lightweight convolutional neural network (CNN) model optimized for skin-specific cancer detection and classification, designed for deployment on resource-constrained devices such as smartphones and embedded systems. The disclosure comprises an image acquisition module, a pre-processing pipeline for image normalization and augmentation, and a compressed CNN classification engine trained on dermatological datasets. Through pruning, quantization, and knowledge distillation, the architecture achieves reduced computational footprint and memory usage while maintaining high diagnostic accuracy. The system outputs classifications with confidence scores and optionally generates explainability visualizations such as saliency maps. Operable in offline mode, the disclosure enables real-time skin cancer screening in underserved regions, thereby providing an affordable, portable, and scalable diagnostic solution.

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087777 A
(19) INDIA
(22) Date of filing of Application :15/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-BASED MENTAL HEALTH MONITORING SYSTEM FOR EMPLOYEES

(51) International classification	:A61B5/16, G06F3/01, G06N20/00, G16H50/20, G16H20/70
(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

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2)NILANJANA ADHIKARI
3)ANANJAN MAITI
4)PALLABI BAIRAGI

(57) Abstract :
ABSTRACT The present invention discloses an artificial intelligence-based system for continuous, passive, and multimodal monitoring of employee mental health in workplace environments. The system collects speech, facial, behavioral, and physiological data through workplace devices and wearable sensors, preprocesses said data, and transmits it to an AI processing engine comprising modality-specific neural networks, temporal analysis, and cross-modal correlation modules. A mental health score is generated and compared with thresholds to produce graduated alerts ranging from self-care recommendations to supervisor notifications and professional interventions. The system preserves privacy through encryption, anonymization, and compliance with applicable regulations. By enabling real-time detection and proactive intervention, the invention reduces absenteeism, improves employee well-being, and enhances organizational productivity.

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

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531087814 A

(19) INDIA

(22) Date of filing of Application :15/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTONOMOUS MOSS BASED ECOLOGICAL SELF DRIVEN BOT FOR CO2 REDUCTION AND MICROCLIMATE RESTORATION

(51) International classification	:B25J5/00, B25J11/00, B25J19/02, A01C7/08	(71)**Name of Applicant :** **1)GURU NANAK INSTITUTE OF TECHNOLOGY** Address of Applicant :157/F, Nilgunj Rd Sahid Colony Panihati, Khardaha West Bengal India Kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(33) Name of priority country	:NA	**2)DR. DEBASREE SAHA**
(86) International Application No	:	**3)SUSOVAN DUTTA**
Filing Date	:01/01/1900	**4)EKARNA**
(87) International Publication No	: NA	**5)SOUMYADEEP**
(61) Patent of Addition to Application Number	:NA	**6)SOUGATA PAUL**
Filing Date	:NA	**7)CHAHAT SHAW**
(62) Divisional to Application Number	:NA	**8)SUCHANDRA KUNDU**
Filing Date	:NA	

(57) Abstract :

ABSTRACT The disclosure discloses an autonomous moss-deploying ecological robot for carbon sequestration and microclimate restoration. The system comprises a multimodal sensing framework for detecting CO_2 levels, air pollutants, humidity, temperature, and soil moisture, coupled with a microcontroller-based decision-making engine. A precision dispersal subsystem including a peristaltic pump and directional nozzle applies moss slurry composed of Sphagnum moss, water, nutrients, and natural adhesives to stressed environments. A closed-loop feedback mechanism re-evaluates conditions post-dispersal, ensuring adaptive intervention. Data are stored locally and transmitted wirelessly for remote monitoring. The disclosure enables autonomous restoration of polluted or degraded ecosystems, providing a scalable, sustainable, and intelligent solution for environmental remediation.

No. of Pages : 21 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087815 A
(19) INDIA
(22) Date of filing of Application :15/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-BASED MULTI-DISEASE COMORBIDITY PATTERN MINING AND PATIENT RISK PROFILING SYSTEM

(51) International classification	:G16H0050200000, G16H0050300000, G16H0010600000, G16H0050700000, G16H0040670000	(71)**Name of Applicant :** **1)GURU NANAK INSTITUTE OF TECHNOLOGY** Address of Applicant :157/F, Nilgunj Rd Sahid Colony Panihati, Khardaha West Bengal India Kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)RAJESH BOSE**
(32) Priority Date	:NA	**2)CHIRANJIB DUTTA**
(33) Name of priority country	:NA	**3)ANANJAN MAITI**
(86) International Application No	:	**4)INDRANIL SARKAR**
Filing Date	:01/01/1900	**5)SANDIP ROY**
(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	

(57) Abstract :
ABSTRACT The present disclosure discloses an artificial intelligence-based healthcare system and method for predicting multiple chronic diseases and profiling comorbidity risks. The system comprises modules for preprocessing and balancing patient data, feature engineering, multi-label predictive modeling, and comorbidity pattern mining. Disease probabilities are generated concurrently by machine learning models, while association rule mining identifies statistically significant disease co-occurrence patterns. A personalized risk profiling module integrates both predictions and comorbidity rules to create interpretable patient-specific risk reports. Optionally, visualization and simulation subsystems enable clinicians to explore risk trends and intervention strategies. The disclosure provides a scalable, accurate, and interpretable solution for early detection, prevention, and management of chronic disease comorbidities.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087837 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : EFFICIENT PRIVACY-PRESERVING MULTI-CLOUD DATA ANALYTICS

(51) International classification	:H04L0009000000, G06F0021620000, G06N0020000000, G06F0021600000, H04L0009080000
(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

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2)MR. MOLOY DHAR
3)PROF. (DR.) SWARUP KUMAR MITRA
4)MR. INDRANIL SARKAR

(57) Abstract :
ABSTRACT The present disclosure discloses a privacy-preserving multi-cloud data analytics system that integrates federated learning, homomorphic encryption, and adaptive gradient compression to enable secure, efficient, and collaborative model training across heterogeneous cloud providers. Each cloud node trains on its private data and transmits encrypted, compressed gradients to a federated aggregator, which performs secure aggregation on ciphertexts without decryption. The aggregated encrypted updates are decrypted by an authorized entity to produce a global model that is redistributed to nodes for iterative training. The system eliminates the need for raw data exchange, mitigates gradient leakage attacks, reduces communication costs, and ensures compliance with data protection regulations.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531087838 A

(19) INDIA

(22) Date of filing of Application :16/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : CYBER-SECURE HEALTHCARE SYSTEM INTEGRATING INTERNET OF THINGS AND BLOCKCHAIN FOR TAMPER-PROOF MEDICAL DATA MANAGEMENT

(51) International classification	:H04L0009320000, H04L0009000000, G16H0010600000, H04L0009080000, G06F0021640000	(71)**Name of Applicant :** **1)GURU NANAK INSTITUTE OF TECHNOLOGY** Address of Applicant :157/F, Nilgunj Rd Sahid Colony Panihati, Khardaha West Bengal India Kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)MS. BIDYUTMALA SAHA**
(33) Name of priority country	:NA	**2)DR. SAYAN NATH**
(86) International Application No	:	**3)MS. PRIYANKA GHOSH**
Filing Date	:01/01/1900	**4)SOUMILI DEY**
(87) International Publication No	: NA	**5)ANUSHKA SENGUPTA**
(61) Patent of Addition to Application Number	:NA	**6)SOUMYAJIT DUTTA**
Filing Date	:NA	**7)DIPANJAN CHAKRABORTY**
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

ABSTRACT The disclosure discloses a cyber-secure healthcare system integrating IoT devices and blockchain technology for tamper-proof medical data management. Patient health data is encrypted at the source, pre-processed at edge gateways using anomaly-detection algorithms, and encapsulated as NFTs for immutable blockchain storage. A dual-mode consensus mechanism employing Proof-of-Authority for routine data and Proof-of-Work for critical events ensures both efficiency and security. Device authenticity is verified via blockchain-bound QR codes, preventing spoofing, while patient-controlled zero-knowledge proofs govern data access without disclosure of cryptographic keys. The disclosure significantly reduces breach risks, improves energy efficiency, and enhances data integrity, offering a scalable, decentralized, and patient-centric solution for healthcare ecosystems.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087839 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HEALING CRYPTOGRAPHIC DEVICE WITH DISTRIBUTED KEY STORAGE AND AUTOMATIC RECOVERY

(51) International classification	:H04L0009080000, H04L0009320000, H04L0009400000, H04L0009000000, G06F0021570000
(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

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(72)**Name of Inventor :**
1)DR. SUDEEP GHOSH
2)DR. KRISHNA KUMAR JHA
3)MS. PRIYANJANA MITRA

(57) Abstract :
ABSTRACT The present disclosure discloses a self-healing cryptographic device configured to provide secure and resilient management of cryptographic keys. The device employs distributed key storage using secret sharing protocols, real-time integrity monitoring, and tamper detection modules capable of immediate secure erasure upon detection of compromise. An autonomous recovery engine reconstructs or regenerates cryptographic keys from surviving shares, thereby restoring device functionality without human intervention. The disclosure thus eliminates single-point storage vulnerabilities, offers resistance to tampering, and ensures uninterrupted operation in high-security applications such as banking, military communications, and blockchain infrastructures.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087907 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART SOLAR CHARGING T-SHIRT WITH MEDICAL MONITORING

(51) International classification	:A61B0005000000, A61B0005145500, A61B0005020500, H04W0004900000, H02M0003158000	(71)**Name of Applicant :** **1)Guru Nanak Institute of Technology** Address of Applicant :157/F, Nilgunj Rd, Sahid Colony, Panihati, Khardaha, West Bengal 700114 Kolkata West Bengal India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)SUPARNA BISWAS**
(33) Name of priority country	:NA	**2)KOUSHIK PAL**
(86) International Application No	:	**3)MOLOY DHAR**
Filing Date	:01/01/1900	**4)CHANDRAMOULI HALDAR**
(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	

(57) Abstract :
ABSTRACT The present disclosure discloses a smart garment integrating solar photovoltaic modules, biomedical sensors, geolocation tracking, and emergency communication subsystems. The garment comprises flexible solar panels connected to a buck-boost converter for stable energy harvesting and storage, sensors for monitoring heart rate, body temperature, and oxygen saturation, and a GPS-GSM module for location tracking and geo-fencing alerts. A concealed emergency switch enables real-time distress communication by transmitting alerts and initiating calls independently of smartphones. The system is managed by a microcontroller and supported by wireless communication to cloud platforms, with outputs accessible via mobile or web applications. The garment is washable, modular, and comfortable for daily wear. The disclosure thereby provides an autonomous, multifunctional, and safe wearable solution combining renewable energy, continuous health monitoring, location safety, and emergency connectivity.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531087908 A

(19) INDIA

(22) Date of filing of Application :16/09/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : IOT-ENABLED INTELLIGENT SYSTEM FOR REAL-TIME DETECTION AND MONITORING OF ELECTRICITY THEFT IN POWER DISTRIBUTION NETWORKS

(51) International classification	:G01R22/06, G06Q50/06, G08C17/02, G16Y10/35, G16Y40/10	
(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	

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9)Farhan Akhtar

10)Aditi Karfa

(57) Abstract :

ABSTRACT The present disclosure discloses an IoT-enabled intelligent system for real-time detection of electricity theft in power distribution networks. The system comprises current and voltage sensors coupled with a microcontroller and wireless communication unit, transmitting data to a cloud-based backend. Anomaly detection algorithms analyze deviations in current and voltage patterns to identify unauthorized tapping or meter bypassing. Real-time alerts are generated for utility providers through a secure dashboard, with historical records maintained for theft pattern recognition. The system reduces financial losses, enhances operational efficiency, and improves safety in electricity distribution by providing a scalable, cost-effective, and accurate theft detection mechanism.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087910 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : EYEWEAR WITH MULTI-SENSOR BRAIN–EYE INTEGRATION FOR COGNITIVE FATIGUE DETECTION AND REAL-TIME ALERTING

(51) International classification	:G06F0003010000, A61B0003113000, A61B0005000000, A61B0005160000, G06T0019000000
(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

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(57) Abstract :
ABSTRACT The present disclosure discloses a smart eyewear system for real-time cognitive fatigue detection. The system integrates electroencephalographic electrodes and infrared oculometric sensors within a wearable frame to monitor brainwave activity and eye parameters, including blink rate, saccade velocity, and pupil dilation. Data from both modalities are processed through an artificial intelligence fusion engine to compute a cognitive fatigue index, with predictive alerts issued through multimodal feedback including haptic vibrations, augmented reality visual cues, and auditory signals. The system adapts thresholds to individual user profiles and may interface with external devices for safety-critical applications. The disclosure thereby provides an ergonomic, portable, and accurate solution for fatigue detection, addressing limitations of prior art single-modality systems.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087911 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED IOT INTEGRATED CLEANING SYSTEM FOR ON GRID SOLAR PANELS IN HARSH ENVIRONMENTS WITH HYBRID POWER AND SELF-CLEANING CAPABILITIES

(51) International classification	:H02S40/10, B08B1/12, B08B1/14, B25J11/00, G05B19/02, G16Y40/10
(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

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4)MR. TANOY DUTTA

(57) Abstract :
ABSTRACT The present disclosure discloses an automated IoT-integrated robotic cleaning system for on-grid solar panels, specifically designed for harsh environmental conditions such as industrial, coastal, and desert regions. The system comprises a robotic cleaning device equipped with brushes and wiping elements, controlled by an IoT-based monitoring framework that processes environmental data including dust density, salinity, and humidity. A hybrid energy management module powers the device using either solar-derived energy or grid-based electricity, enabling uninterrupted operation. The robotic device further incorporates a self-cleaning mechanism to maintain its operational efficiency. The disclosure ensures real-time, autonomous cleaning of solar panels without manual intervention, thereby enhancing photovoltaic efficiency, reducing maintenance costs, and extending panel lifespan.

No. of Pages : 16 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087912 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A MULTIMODAL, HUMAN-CENTRIC APPROACH FOR SCALABLE MENTAL HEALTH INTERVENTIONS

(51) International classification	:G16H0020700000, G06N0020000000, G16H0010200000, G16H0050200000, G16H0040670000
(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

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4)Mahamuda Sultana
5)Dola Saha

(57) Abstract :
ABSTRACT The disclosure discloses a scalable, ethical, and adaptive AI-powered therapy system for mental health. It integrates multimodal data from text, voice, and biometrics for a comprehensive user assessment, using privacy-preserving AI, specifically federated learning, and reinforcement learning for real-time personalization. The hybrid AI-human model ensures safety and effectiveness by providing professional intervention when necessary. This system makes therapy more accessible, affordable, and inclusive for diverse populations, while addressing the key limitations of current digital and traditional mental health solutions

No. of Pages : 17 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087913 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : 1. TITLE OF THE INVENTION TOXIC DYE DEGRADATION BY SILVER NANOPARTICLES AS PHOTOCATALYSTS

(51) International classification	:B82Y30/00, B82Y40/00, C02F1/30, B01J35/45, B01J35/39, C02F101/30, C01G5/00
(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

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4)RUPKATHA GOSWAMI
5)SAYANDIP DUTTA

(57) Abstract :
ABSTRACT The present disclosure discloses a photocatalytic wastewater treatment system utilizing silver nanoparticles for the degradation of synthetic dyes. Aqueous dye-containing effluents are treated with colloidal or supported silver nanoparticles and subjected to irradiation by sunlight or artificial light. The nanoparticles generate reactive oxygen species via surface plasmon resonance-induced electron-hole pair formation, thereby oxidizing and decomposing dye molecules into non-toxic compounds. The process achieves rapid decolorization, operates under ambient conditions, and allows reusability of the nanoparticles over multiple cycles. The disclosure offers a cost-effective, eco-friendly, and scalable alternative to conventional dye removal methods, ensuring efficient detoxification of industrial wastewater without generating secondary pollutants.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087914 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : UNLOCKING NUTRITIONAL POTENTIAL OF RICE BRAN MEAL

(51) International classification	:A23K0010370000, A23K0020189000, A23K0020260000, A23K0010140000, A23K0010120000
(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

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(57) Abstract :
ABSTRACT The present disclosure discloses a process for enhancing the nutritional potential and shelf stability of rice bran meal. The process comprises cleaning rice bran meal, enzymatically treating it with phytase and protease to degrade phytic acid and protein inhibitors, subjecting it to mild chemical treatment with food-grade acids, fermenting it with beneficial microorganisms such as Lactobacillus plantarum, incorporating natural antioxidants such as tocopherols or rosemary extract, and subsequently drying and milling the product into a fine powder. The resulting rice bran meal exhibits improved protein digestibility, enhanced mineral bioavailability, reduced anti-nutritional content, and extended oxidative stability. The disclosure thus provides an eco-friendly, cost-effective, and scalable solution for valorizing rice bran meal into nutritionally enriched food and feed products.

No. of Pages : 14 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087915 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART HOME CARE AND SERVICE SYSTEM

(51) International classification	:G05B0019418000, G06Q0050163000, G06Q0010200000, G05B0015020000, G06Q0010109300
(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

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4)Ms. Priyanka Ghosh

(57) Abstract :
ABSTRACT The present disclosure discloses a smart home care and service system that integrates IoT-enabled sensors, a central processing hub, artificial intelligence algorithms, and a digital service management module to monitor household appliances and environments, detect anomalies, execute automated corrective actions, and connect users to maintenance service providers. The system provides multimodal interfaces including mobile, web, and voice-based controls, and optionally incorporates smart lifestyle modules such as augmented reality interfaces, smart mirrors, pet care automation, and indoor agriculture systems. By combining real-time monitoring, predictive maintenance analytics, and seamless service provisioning, the disclosure offers a comprehensive smart home ecosystem that enhances safety, convenience, and operational efficiency beyond the limitations of existing systems.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531087916 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PROACTIVE DEFENCE FRAMEWORK FOR PACKET INJECTION ATTACK DETECTION AND MITIGATION IN SDN ENVIRONMENTS

(51) International classification	:H04L0009400000, H04L0043200000, H04L0045640000, H04L0045000000, H04L0045036000
(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

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5)Dr. Neepa Biswas

(57) Abstract :
ABSTRACT A method and system for detecting and mitigating packet injection attacks in Software-Defined Networking (SDN) environments is disclosed. The system operates externally to the SDN controller and includes a packet monitoring interface to intercept Packet-In messages, a packet feature extractor to derive flow characteristics, and a traffic behaviour analyzer to compare traffic patterns with baseline profiles. A rule decision engine classifies packets using adaptive thresholds, and a mitigation engine applies defensive actions such as flow blocking, rate limiting, or host isolation via OpenFlow messages. The architecture is non-intrusive, controller-agnostic, and lightweight, enabling real-time detection without impacting network performance. A logging and alert system records events and notifies administrators. The disclosure enhances SDN security by addressing vulnerabilities in reactive mode operation, offering a scalable and efficient solution suitable for varied deployment contexts.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088116 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM FOR CHARGING ELECTRIC VEHICLES WIRELESSLY USING SOLAR POWER

(51) International classification	:B60L53/51, B60L53/12, H02J50/12, B60L53/66, H02J50/90
(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

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4)KAUSTAV RAY

(57) Abstract :
ABSTRACT The present disclosure discloses a system for charging electric vehicles wirelessly using solar energy. The system comprises a photovoltaic array configured to convert solar irradiance into direct current, a charge controller and battery bank for storing said energy, and an inverter for converting stored energy into alternating current to drive a ground-mounted transmitting coil. A corresponding receiving coil mounted on the vehicle captures energy through inductive coupling, which is rectified and conditioned to charge the vehicle's battery. A microcontroller-based control unit detects vehicle presence, monitors coil alignment, regulates power transfer, and ensures operational safety by preventing hazards such as overheating or foreign object intrusion. The system operates autonomously using stored solar energy, thereby enabling sustainable, cable-free, and off-grid EV charging.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088117 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR ADAPTIVE ON-CHAIN FRAUD DETECTION AND RULE ENFORCEMENT USING MACHINE LEARNING

(51) International classification	:G06Q20/40, G06N20/00
(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

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3)Ms. Promita Chakraborty

(57) Abstract :
ABSTRACT The present disclosure discloses a system and method for adaptive on-chain fraud detection and rule enforcement using machine learning. The system employs an off-chain machine learning engine trained on historical transaction datasets to generate probabilistic fraud scores for new transactions. These scores are securely transmitted via blockchain oracles to smart contracts, which enforce dynamically configurable rules for permitting, delaying, or blocking transactions based on fraud risk thresholds. The disclosure further incorporates feedback mechanisms for continuous retraining of machine learning models, thereby adapting to evolving fraud strategies. By integrating intelligent fraud detection with immutable blockchain enforcement, the disclosure delivers a transparent, adaptive, and real-time framework for securing financial and blockchain-based ecosystems.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088118 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AUTOMATED PLANT WATERING SYSTEM WITH REFILL ALERT FUNCTION

(51) International classification	:A01G25/16, G01N33/24, G08B21/18, A01G27/00
(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

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4)Mr. Dipan Dutta
5)Mr. Md Sajid Alam
6)Mr. Prithbi Ghosh

(57) Abstract :
ABSTRACT The present disclosure discloses an automated plant watering system incorporating a soil moisture sensor, a water pump, a water reservoir, a water level sensor, a buzzer, and a microcontroller-based control unit. The system autonomously irrigates plants by activating the pump when soil moisture falls below a threshold and deactivating it once sufficient hydration is achieved. A refill alert mechanism, comprising a water level sensor coupled with an audio or visual notifier, alerts the user when the reservoir is depleted. The disclosure thereby provides a compact, cost-effective, and intelligent solution for maintaining optimal soil moisture while ensuring uninterrupted operation through timely refill notifications.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088186 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SMART, COLLAPSIBLE, SOLAR-POWERED MEDICAL-GRADE WATER FILTRATION DEVICE WITH MULTISTAGE NANO-ANTIMICROBIAL AND SENSOR-ASSISTED PURIFICATION

(51) International classification	:C02F0001000000, C02F0009000000, C02F0001440000, C02F0101200000, H02J0007350000
(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

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3)Dr. Debasree Saha

(57) Abstract :
ABSTRACT The present disclosure discloses a smart, collapsible, solar-powered water filtration device configured to produce medical-grade water suitable for clinical and healthcare applications. The device comprises a foldable housing, an integrated solar photovoltaic array with energy storage, and a multi-stage filtration assembly including sediment filtration, heavy metal adsorption, activated carbon, nano-antimicrobial membranes, and optional ultraviolet sterilization. Self-cleaning mechanisms employing ultrasonic vibration and ultraviolet irradiation prevent biofilm buildup and extend filter life. Embedded sensors measure turbidity, pH, flow rate, and pressure, with an artificial intelligence algorithm analyzing data to ensure compliance with medical standards. An autonomous shutdown function prevents unsafe water output, while alerts are transmitted to user devices via wireless communication. The disclosure thus provides a portable, renewable, and intelligent system for ensuring reliable access to medical-grade water in emergency, rural, and healthcare settings.

No. of Pages : 17 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088246 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AI-POWERED DUAL-MODE REAL-TIME SIGN LANGUAGE-TO-SPEECH CONVERSION SYSTEM

(51) International classification	:G10 13/00, G06V40/20, G06F3/01
(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

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7)Rohan De

(57) Abstract :
ABSTRACT The present disclosure discloses an AI-powered dual-mode sign language-to-speech conversion system that enables real-time translation of hand gestures into fluent, multi-language spoken output. The system comprises a wearable locket-style device and a non-wearable standalone AI camera unit. Both embodiments integrate computer vision modules for capturing gestures, deep learning models such as convolutional neural networks and hidden Markov models for gesture recognition, natural language processing for sentence construction, and text-to-speech synthesis for generating human-like speech. The wearable embodiment is compact, battery-powered, and portable, while the non-wearable embodiment serves multi-user environments such as classrooms and hospitals. Both versions support offline operability and cloud-enabled adaptive learning for personalized training and multi-language expansion. The disclosure eliminates the need for gloves, sensors, or fixed setups, offering a low-cost, scalable, and user-friendly assistive technology that bridges communication gaps between sign language users and the general public.

No. of Pages : 15 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088247 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM FOR MONITORING WATER TURBIDITY AND TDS UNDER THERMAL VARIATION

(51) International classification	:G01N0033180000, G01N0021530000, G06N0020000000, A47L0015420000, D06F0034220000
(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

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3)Dr. Surajit Basak
4)Abir Mitra

(57) Abstract :
ABSTRACT The present disclosure discloses a system for monitoring water quality by simultaneously measuring turbidity and total dissolved solids (TDS) under thermal variation. The system comprises a turbidity sensor, a TDS sensor, and a temperature sensor, operatively connected to a microcontroller configured to acquire, process, and compensate measurements for temperature-induced variations. By correlating turbidity, TDS, and temperature data, the system generates thermally stabilized values that provide an accurate and reliable representation of water quality across a temperature range of 15°C to 150°C. The disclosure thereby addresses the deficiencies of conventional water monitoring systems, which neglect thermal effects, and enhances decision-making in household, industrial, and environmental applications.

No. of Pages : 18 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088248 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : AN ADVANCED INTEGRATED PATIENT AND DOCTOR MANAGEMENT SYSTEM

(51) International classification	:G16H0010600000, G16H0040670000, H04L0009400000, G16H0010650000, G06F0016951000	(71)**Name of Applicant :** **1)Guru Nanak Institute of Technology** Address of Applicant :157/F, Nilgunj Rd, Sahid Colony, Panihati, Khardaha, West Bengal 700114 Kolkata West Bengal India
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(86) International Application No	:	**3)Dola Saha**
Filing Date	:01/01/1900	**4)Sunit Jana**
(87) International Publication No	: NA	**5)Rakhi Biswas**
(61) Patent of Addition to Application Number	:NA	**6)Mrinmoy Pal**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT The present disclosure discloses MediQR, an integrated patient and doctor management system implemented as a mobile application. The system employs QR code technology to facilitate secure and efficient medical data management. Patients and healthcare providers may generate and scan encrypted QR codes encapsulating prescriptions, medical histories, and diagnostic reports, enabling real-time data retrieval through cloud synchronization. The system incorporates a secure authentication module with OTP and email verification, a data management system employing encryption and Firebase-based storage, and a geolocation service for locating nearby healthcare facilities. MediQR reduces administrative burdens, eliminates dependence on paper-based records, and enhances accessibility in both routine and emergency contexts. The disclosure thus provides a transformative, scalable solution for secure healthcare communication and medical information management.

No. of Pages : 24 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088249 A
(19) INDIA
(22) Date of filing of Application :16/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : BLOCKCHAIN-BASED KIDNEY STONE DETECTION SYSTEM

(51) International classification	:A61B5/00, G06T7/00, G16H50/20, G06N20/00, H04L9/40, H04L9/32, G16H30/20, G16H10/60
(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

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5)Mr. Souradipta Ghosh
6)Mr. Shubhodip Ghoshal

(57) Abstract :
ABSTRACT The present disclosure discloses a blockchain-enabled artificial intelligence system for kidney stone detection and secure diagnostic record management. Medical imaging data, including CT and ultrasound scans, are processed through a trained AI diagnostic engine employing convolutional neural networks to detect, localize, and classify kidney stones. The resulting diagnostic output, including stone characteristics and confidence scores, is cryptographically hashed and stored on a blockchain ledger along with metadata such as pseudonymized patient identifiers and timestamps. The blockchain ledger ensures data integrity, immutability, and verifiability, thereby preventing tampering and preserving accountability. Secure role-based access mechanisms regulate the retrieval of diagnostic results by clinicians, patients, and auditors. A web-based interface provides visualization of AI detection outputs alongside blockchain verification proofs. The disclosure thus combines automated, accurate kidney stone detection with tamper-proof diagnostic data storage, offering a scalable and secure solution for integration into hospital systems, telemedicine platforms, and cloud-based healthcare environments.

No. of Pages : 21 No. of Claims : 8

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088273 A
(19) INDIA
(22) Date of filing of Application :17/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DATA-DRIVEN, MULTI-MODAL FRAMEWORK FOR CLIMATE- RESILIENT CROP RECOMMENDATION SYSTEMS

(51) International classification	:G06F0021620000, G06N0020000000, G06Q0050020000, B64U0101300000, B64C0039020000
(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

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3)Arghadip Chakraborty
4)Nilanjana Adhikari
5)Suchismita Maiti
6)Neepa Biswas

(57) Abstract :
ABSTRACT The present disclosure discloses EdgeTwin, a data-driven, multi-modal, and climate-resilient crop recommendation system. The framework integrates edge computing, digital twin simulations, multi-modal sensing through soil sensors and drone-based imaging, and federated learning to provide adaptive, offline-capable, and privacy-preserving agricultural decision support. Encrypted AI models running on solar-powered microcontrollers analyze soil and crop data locally, while digital twins simulate alternative planting and irrigation strategies. A federated learning network aggregates model updates across farms without sharing raw data, thereby improving global performance while maintaining privacy. Trials demonstrate significant improvements in yield, early detection of crop stress, and reduced resource consumption, making the disclosure a scalable and sustainable solution for both smallholder and large-scale farming operations.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531088274 A
(19) INDIA
(22) Date of filing of Application :17/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A DECENTRALIZED STRUCTURE WITH PATIENT CENTRIC EHR MANAGEMENT SYSTEM AND BLOCK-CHAIN TECH

(51) International classification	:H04L0009320000, H04L0009400000, H04L0009000000, H04L0009060000, G16H0010600000
(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

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3)Mandira Banik
4)Pallabi Das
5)Sayan Nath
6)Tiyasha Sen
7)Subhradeep Dey

(57) Abstract :
ABSTRACT The present disclosure discloses Med-Chain, a decentralized, patient-centric system for secure management of electronic health records (EHRs). The disclosure integrates AES-256 symmetric encryption for confidentiality, IPFS for decentralized off-chain storage, and blockchain for immutable recording of metadata and access events. Patients control access permissions through programmable smart contracts, while doctors authenticate using zero-knowledge proof protocols. Proxy re-encryption enables secure third-party access without compromising patient privacy. A decentralized application interface allows transparent viewing of access logs and modifications, thereby reinforcing patient ownership of records. The system reduces gas consumption, increases storage scalability, and ensures compliance with global data protection regulations, thereby overcoming the limitations of existing blockchain-based EHR management systems.

No. of Pages : 20 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531090634 A
(19) INDIA
(22) Date of filing of Application :22/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A THRESHING MACHINE WITH A DUST TRAPPING SYSTEM

(51) International classification :A01F12/54
(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

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7)Suhail Majeed
8)Amit Kumar Dey

(57) Abstract :
Embodiment of the present invention herein relates to a threshing machine with a dust trapping system, comprising of an airflow drive unit configured within the said threshing machine, which is a combination of a motor and a propeller system within an airflow chamber to generate and direct airflow thereby creating a passage for a cyclone separator wherein the said motor drives the propeller thereby generating a high-velocity airflow, and a cyclone separator unit is configured within the said threshing machine, and the said airflow chamber is configured to generate airflow into the ducting system, ensuring that dust and debris are transported efficiently towards the said cyclone separator wherein, as the dust-laden air moves through the ducts, it directs into the cyclone separator where the heavier particles are separated from the lighter ones; and wherein, as and when the air enters the cyclone separator it is forced to move in a circular path due to the tangential entry which creates a swirling motion within the conical body of the cyclone separator, and the centrifugal force generated by this swirling motion causes heavier dirt particles to move outward towards the walls of the cyclone separator, and wherein, the heavier dirt particles concentrated towards the wall of the said cyclone separator lose their momentum and fall down due to gravity, and the said heavier dirt particles are collected in tank which is incorporated at the bottom of the cyclone separator, and wherein, the lighter dust particles remain suspended in the air stream and move upward through the center of the cyclone separator and the said lighter dust particles are expelled through the outlet port at the top of the cyclone separator. Figure 1

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531091252 A
(19) INDIA
(22) Date of filing of Application :24/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : SAHABUL UNLIMITED GREEN ENERGY

(51) International classification	:G02F0001133570, G02F0001133500, A01N0059000000, H02J0007350000, H02J0050120000	(71)**Name of Applicant :** **1)SAHABUL SK** Address of Applicant :NOWDAPARA, DAULATABAD, BERHAMPORE, MURSHIDABAD, WEST BENGAL, PIN-742302, INDIA. West Bengal India (72)**Name of Inventor :** **1)SAHABUL SK**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(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	

(57) Abstract :
The present invention relates to a self-sustaining and sequential energy-amplifying mechanical system, which is capable of continuously generating a net-positive mechanical or electrical energy output through an internal, repetitive energy cycle. The core operational principle of the system is comprised of one or more'Amplification Stages'. Each stage includes an 'Energy Conversion Module', which converts the flow energy of a working medium into mechanical energy. This mechanical energy then drives a 'Pressure Amplification Module', which increases the pressure of said working medium at a geometric rate. The key innovation of the system is a'chain reaction'principle, wherein the amplified output of a preceding stage serves as the sole driving force or input for the subsequent stage. The system is initiated using a primary energy source. An automatic control system monitors the system's energy production, and when the internal power generation exceeds its operational demand (an energetic break-even point), the control system disconnects the initial source. As a result, the system enters a self-sustaining, perpetual, and self-renewing operational loop, running without external assistance and supplying surplus energy for external use. Other key innovative features of the invention include a unique principle of applying force directly and linearly onto stationary pistons by a rotating component, in contrast to conventional pumps; and a systematic design principle wherein the dimensions of all primary components are determined by a single parametet rendering the system proportionally sca la ble

No. of Pages : 35 No. of Claims : 57

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531091813 A
(19) INDIA
(22) Date of filing of Application :25/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A Sustainable Farming System (Fish Crop)

(51) International classification	:A01K0063000000, A01K0063040000, A01G0009240000, A01G0027000000, A01M0007000000	(71)**Name of Applicant :** **1)Shivam Kumar** Address of Applicant :Arsaniyan, Pakribarwan, Nawada, Bihar, India– 805106 Nawada Bihar India **2)Rabindranath Tagore University**
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Shivam Kumar**
(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	

(57) Abstract :
ABSTRACT A Sustainable Farming System (Fish Crop) A sustainable farming system (100) comprises a water tank (101) provided to fishes (102) farming therein. Multiple frames (103) provided on the water tank (101) to hold crop's/plant's (104) pots (105) thereon to float lower side of the pots (105) on the water such that to grow the roots of crops/plants (104) in the nutritious water. A water inlet (106) provided in the tank (101) to supply required water. Multiple oxygen pumps (107) are provided to pump up the oxygen in the water tank (101). Multiple water heaters (108) are provided to maintain the temperature of water required for fishes farming and crops/plants farming. [Fig. 1]

No. of Pages : 19 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531093261 A
(19) INDIA
(22) Date of filing of Application :29/09/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A PROCESS FOR INCORPORATION CINNAMALDEHYDE AND CINNAMIC ACID IN THE DIET OF VANARAJA CHICKEN

(51) International classification	:A01K0045000000, A61K0031110000, A01K0067020000, C07C0057440000, A61K0031192000	(71)**Name of Applicant :**
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(32) Priority Date	:NA	Address of Applicant :Sr. Professor, Department of Livestock Production and Management, School of Agricultural Sciences, Nagaland University, Medziphema, Distt: Chumukedima, Nagaland Nagaland India
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(86) International Application No	:	**3)Dr. RAMESHWAR**
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(87) International Publication No	: NA	**1)Dr. V. K. VIDYARTHI**
(61) Patent of Addition to Application Number	:NA	**2)THEJANUO RIO**
Filing Date	:NA	**3)Dr. RAMESHWAR**
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
ABSTRACT “A PROCESS FOR INCORPORATION CINNAMALDEHYDE AND CINNAMIC ACID IN THE DIET OF VANARAJA CHICKEN” The present invention investigates the effect of dietary cinnamic acid and cinnamaldehyde supplementation on Vanaraja chicken on growth performance and economic of rearing. 80 day-old sexed female Vanaraja birds were randomly divided into 4 treatment groups. Each treatment had 5 replications with 4 birds each. The chicks were reared in a deep litter system for 8 weeks and later transferred to layer cages and were reared till 34 weeks of age. The experimental bird was fed with a basal diet however in treatment 1 there was no addition of dietary supplement whereas in treatments 2(T2) and 3(T3) chicks received 2.5g and 5g cinnamic acid/ kg feed; treatment 4(T4) was given 2.5g cinnamic acid and 2.5g cinnamaldehyde per kg of feed. Though body weight was higher in control group, feed intake was lower and feed conversion efficiency was better in cinnamic acid & cinnamaldehyde groups resulting in a better performance index. But due to the high cost of the dietary supplemented product, control group had higher benefit cost-ratio comparing to treatment group. Thus, it would be advisable to lower the dosage of cinnamic acid and cinnamaldehyde on the Vanaraja feed to get a higher economic return.

No. of Pages : 11 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531095434 A
(19) INDIA
(22) Date of filing of Application :04/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A SYSTEM AND A METHOD TO DEVELOP RESISTANCE-PREVENTIVE HERBAL ANTIBIOTIC FORMULATIONS AND ANTIBACTERIAL DRUG COMBINATIONS

(51) International classification	:H04L0009000000, G16H0020100000, B01L0003000000, H04L0009320000, G06N0020000000
(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

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3)Dr. Frijo Xavier
4)Dr. Pratima Vishwakarma
5)Neetu
6)Dr. Kausik Pradhan
7)Johny Lakra
8)Kochumol Abraham

(57) Abstract :
ABSTRACT A SYSTEM AND A METHOD TO DEVELOP RESISTANCE-PREVENTIVE HERBAL ANTIBIOTIC FORMULATIONS AND ANTIBACTERIAL DRUG COMBINATIONS The current disclosure is about a method and system for creating herbal antibiotic formulations and drug combinations to help to mitigate microbial resistance. The system includes a processor in operative communication with an AI-based synergy prediction platform for predicting synergistic ratios through the analysis of phytochemical and antibiotic datasets, a microfluidic screening unit for testing the predicted combinations in a simulated biological environment, and a nanocarrier formulation component for capturing validated blends into responsive delivery systems for controlled release. Additionally, the system includes a blockchain-enabled standardization module to verify phytochemical fingerprints and reproducibility between batches of a product. The system also includes an adaptive feedback engine to facilitate dynamic adjustments to the formulations based on laboratory or clinical insights, thus making the process self-learning. The method comprises receiving datasets, predicting synergistic ratios, validating the ratio using microfluidics, loading the herbs into smart nanocarriers, authenticating ingredients via blockchain, and adapting formulations with feedback. The disclosure presents a standardized, intelligent, and technological framework that provides a more integrated process than traditional methods of combined formulations.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531095638 A
(19) INDIA
(22) Date of filing of Application :05/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A HIGH-PERFORMANCE COMBAT ROBOT DEVICE

(51) International classification	:B25J0009160000, B25J0009000000, G05B0013040000, B25J0015000000, G05D0001000000
(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

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10)Pallab Pratihar
11)Supreet Singh
12)Priyanka Bardhan

(57) Abstract :
The present invention relates to a high-performance combat robot device. The device mainly comprises: a chassis assembly, a drive system with plurality of drive motor with planetary gearboxed for driving the colson wheels; a voltage booster with a dual battery system; an actuator system with hammer operated through a motor controlled by an actuator controller; a capacitor bank connected with voltage booster to power the actuator system; and a safety system comprising a relay, a manual cable operated release mechanism with a kill switch, to disconnect the power of the robot, wherein a mechanical safety pin to restrict the hammer movement. With the module configuration, the device, allows replacement or repair of drive and actuator system, independently without disassembling the main chassis. Advanced power management, precise control systems, and durable Colson wheels ensure reliability and competitiveness, making the proposed robot a highly optimized solution for robotic combat.

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531097196 A
(19) INDIA
(22) Date of filing of Application :08/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : HYBRID MACHINE LEARNING–HEURISTIC PREDICTIVE CONTROL FOR STOCHASTIC ELECTRIC VEHICLE CHARGING IN STANDALONE DC MICROGRIDS

(51) International classification	:G06Q0050060000, H02J0003380000, H02J0003320000, B60L0053510000, B60L0053660000	(71)**Name of Applicant :** **1)National Institute of Technology Jamshedpur** Address of Applicant :NIT Jamshedpur, Adityapur, Jharkhand-831014 Jamshedpur Jharkhand India
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(32) Priority Date	:NA	**2)Dr. M. Krishna Siva Prasad**
(33) Name of priority country	:NA	**3)Prof. Mohan Lal Kolhe**
(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	

(57) Abstract :
ABSTRACT HYBRID MACHINE LEARNING–HEURISTIC PREDICTIVE CONTROL FOR STOCHASTIC ELECTRIC VEHICLE CHARGING IN STANDALONE DC MICROGRIDS The present disclosure relates to a standalone direct current (DC) microgrid system configured to supply power adaptively to electric vehicle charging stations (EVCSs). The system (100) comprises a data collection unit (102) configured to obtain input data on stochastic EV charging demand, including nonlinear charging characteristics and cold ambient conditions, and a processor (104) coupled to the data unit. The processor (104) predicts EV charging demand using a polynomial regression-based machine learning technique with feature selection and neural network-assisted modeling, compares predictions with real-time demand, and generates control signals. Prediction errors are corrected via heuristic learning with adaptive weight updates. Control signals are updated in real time to adjust outputs of one or more power sources, including a dispatchable power source (DPS), solar photovoltaic (PV) unit, and battery storage system (BSS) connected in parallel to a common DC bus. FIG. 1 will be the reference figure.

No. of Pages : 37 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531100322 A
(19) INDIA
(22) Date of filing of Application :16/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : "A ML-POWERED EDGE DEVICE FOR SAFEGUARDING AGRICULTURAL CROPS FROM BIRD INFESTATION"

(51) International classification	:G06N0003080000, G06N0020000000, A01B0079000000, G06V0010820000, G06N0003045000	(71)**Name of Applicant :** **1)ASSAM ENGINEERING COLLEGE** Address of Applicant :ASSAM ENGINEERING COLLEGE, KAMRUP (METROPOLITAN), JALUKBARI, GUWAHATI, PIN CODE – 781013, ASSAM, INDIA Guwahati Assam India
(31) Priority Document No	:NA	(72)**Name of Inventor :**
(32) Priority Date	:NA	**1)Siddhanta Borah**
(33) Name of priority country	:NA	**2)Abinash Kalita**
(86) International Application No	:	**3)Niranjan Jyoti Borah**
Filing Date	:01/01/1900	**4)Sudem Daimary**
(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	

(57) Abstract :
ABSTRACT A ML-POWERED EDGE DEVICE FOR SAFEGUARDING AGRICULTURAL CROPS FROM BIRD INFESTATION The present invention pertains to the technical domain of agricultural protection systems, with a particular emphasis on machine learning-assisted edge devices designed to safeguard crops from avian infestations, more precisely, the invention intersects the fields of computer vision, embedded systems engineering, and precision agriculture, wherein advanced sensing technologies, automated response mechanisms, and intelligent data processing are utilized to mitigate crop damage inflicted by birds. Fig 2

No. of Pages : 27 No. of Claims : 11

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531100506 A
(19) INDIA
(22) Date of filing of Application :16/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Low alloyed copper containing advanced high strength steel and method of fabricating the same

(51) International classification	:C22C0038020000, C22C0038040000, C22C0038060000, C22C0038380000, C21D0006000000
(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

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(72)**Name of Inventor :**
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2)Debarpan Ghosh
3)Suman Kumar
4)Dr. Sumantra Mandal

(57) Abstract :
ABSTRACT TITLE: Low alloyed copper containing advanced high strength steel and method of fabricating the same Copper containing low alloyed advanced high strength steel for automotive applications is provided related to chemical and/or metallurgical engineering, with said low alloyed copper added advanced high strength steel (AHSS) comprising of C: 0.2-0.4 wt.%; Mn: 1-2 wt.%; Al: 1-2 wt.%; Cu: 1-2 wt.%; as-alloying element having Fe as balance co-acting to provide for said AHSS high strength- ductility synergy at lower alloying elements of ~5 wt.%. Figure 1

No. of Pages : 25 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531100700 A
(19) INDIA
(22) Date of filing of Application :17/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : MONONUCLEAR NICKEL COMPLEX INCORPORATING A DISULPHIDE-BASED SCAFFOLD AND APPLICATIONS THEREOF

(51) International classification	:B01J0031220000, A61P0031040000, A61P0037040000, C07F0015040000, B01J0031180000
(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

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1)KUMAR, Sunil
2)KUMAR, Mukesh
3)MAHTO, Krishna Kumar
4)AHMAD, Khursheed

(57) Abstract :
Described herein is a nickel(II) complex [Ni(L1)2S2·DMF] of structure I as below: Structure I The mononuclear nickel complex of structure I shows significant antibacterial activity against gram positive and gram negative bacteria. The complex further exhibits a selective affinity for Fluoride ions. The invention further relates to a process for manufacturing said nickel(II) complex [Ni(L1)2S2·DMF].

No. of Pages : 26 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531102630 A
(19) INDIA
(22) Date of filing of Application :24/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD AND SYSTEM FOR REAL-TIME IDENTIFICATION OF ARRHYTHMIA BEATS ON MICROCONTROLLER

(51) International classification	:A61B0005000000, A61B0005366000, A61B0005024000, A61B0005349000, A61B0005316000
(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 :**
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Address of Applicant :National Institute of Technology Rourkela, Rourkela - 769008, Dist: Sundargarh, Odisha, India Rourkela Orissa India
(72)**Name of Inventor :**
1)SINHA, Mr. Vikas Kumar
2)KAR, Dr. Sougata Kumar
3)ROY, Dr. Lakshi Prosad

(57) Abstract :
Embodiments herein discloses a real-time arrhythmia beat identification system (100) implemented on an Advanced RISC Machines (ARM) Cortex-M4 microcontroller. The system (100) comprises a preprocessing unit (110) configured to filter an Electrocardiogram (ECG) signal using a Chebyshev Type-I bandpass filter and a QRX- complex detection unit (120) employing Absolute Curve Length Transform (A-CLT) with Digital Fractional Order Differentiation (DFDO) A feature extraction unit (130) computes temporal and morphological features comprising QRS Energy Ratio (QER), skewness, slope, Preceding RR-Interval (PRRI), kurtosis, Average Rectified Value (ARV), and Root Mean Square (RMS). Classification is carried out by a Binary-Weighted Neural Network (BWNN) optimized using Electric Eel Foraging Optimization (EEFO). The BWNN distinguishes between Nonectopic Beat (N), Supraventricular Ectopic Beat (SVEB), and Ventricular Ectopic Beat (VEB). The system (100) achieves real-time classification with low computational complexity and execution time, supporting efficient integration into wearable and portable cardiac monitoring devices.

No. of Pages : 29 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531103573 A
(19) INDIA
(22) Date of filing of Application :28/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD OF PREPARING ENVIORNMENTALLY SUSTAINABLE INCENSE STICKS AND THE INCESNE STICKS SO OBTAINED

(51) International classification	:A23L0033105000, A61Q0015000000, A61L0009012000, B60S0003000000, A01N0003000000	(71)**Name of Applicant :** **1)National Institute of Technology Rourkela** Address of Applicant :National Institute of Technology Rourkela, Rourkela - 769008, Dist: Sundargarh, Odisha, India Rourkela Orissa India (72)**Name of Inventor :** **1)YADAV, Mr. Aditya Kumar** **2)MISHRA, Mr. Deepak** **3)DAS, Dr. Rakhee**
(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	

(57) Abstract :
Embodiments herein discloses a method for developing an eco-friendly incense stick by utilizing floral waste comprising steps of collecting and preprocessing collected floral waste by manually removing leaves, threads, and contaminants, and by washing flower waste to remove dust, powdered residues, and odor, drying washed floral waste, grinding the dried floral waste, mixing the dried floral powder with a predefined quantity of a natural binder and a combustible material, grinding dried floral waste powder, natural binder and combustible material to obtain a fine powder mixture, hand rolling and air drying the hand rolled incense sticks, scenting the air dried hand rolled incense sticks by dipping in an essential oil solution and air drying the scented incense sticks for at least 7 days.

No. of Pages : 51 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531103627 A
(19) INDIA
(22) Date of filing of Application :28/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : LABORATORY LEVEL INTEGRATED MECHANICAL POWER TRANSMISSION DEVICE FOR RESEARCH AND EDUCATION

(51) International classification	:G09B0025020000, B60K0006200000, B27M0003040000, A63B0071020000, A01D0041120000
(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 :**
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3)Mr. Aswini Prusty
4)Mr. Debashis Behera
5)Dr. Shubhangi Gondane
6)Dr. Huzaifa Fidvi
(72)**Name of Inventor :**
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2)Mr. Jiban Jyoti Sahoo
3)Mr. Aswini Prusty
4)Mr. Debashis Behera
5)Dr. Shubhangi Gondane
6)Dr. Huzaifa Fidvi

(57) Abstract :
Disclosed herein is laboratory level integrated mechanical power transmission device that combines three distinct drive mechanisms belt drive, chain drive, and gear drive within a single compact model. The device is designed to demonstrate and analyse the fundamental principles of power transmission, mechanical advantage, and efficiency across different drive configurations. The device offers an effective and practical model for educational, experimental, and research applications. It allows users to compare performance, understand drive compatibility, and visualize the conversion of rotational motion through various mechanical linkages within one unified setup. Fig. 1

No. of Pages : 10 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531104026 A
(19) INDIA
(22) Date of filing of Application :29/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Antibacterial activity of leaves extract of Impatiens latiflora hook F. and Thomson

(51) International classification	:C12N0001200000, A61P0031040000, C12R0001125000, A01N0065220000, A61K0036185000
(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 :**
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(72)**Name of Inventor :**
1)Shilu Venuh
2)Chuchangnungla
3)Sutalii Rume
4)Prabhakar Maddela

(57) Abstract :
The present invention relates to extraction and analysis of an impatiens latiflora hook f. & Thomson using methanol and hexane solvents which is a medicinal plant that is effective at healing wounds and resolving digestive problems, is used for phytochemicals and antibacterial activity against four pathogens Bacillus subtilis, Staphylococcus aureus, Escherichia coli, and Klebsiella pneumoniae. According to phytochemical screening, the methanol extract contained alkaloids, terpenoids, saponins, and flavonoids, whereas the hexane extract contained alkaloids and steroids. The greatest inhibition zone against Bacillus subtilis is 14±1.73 mm at 300 mg/ml of methanol and 14.33±0.58 mm at 250 mg/ml of hexane. The results show that Impatiens latiflora is a sustainable and safe natural antibacterial agent, which calls for more study of its bioactive ingredients.

No. of Pages : 25 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531104112 A
(19) INDIA
(22) Date of filing of Application :29/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : METHOD AND SYSTEM FOR DISEASE-ADAPTIVE THRESHOLDING IN FUNDUS IMAGE-BASED BIOMETRIC AUTHENTICATION

(51) International classification	:G06T7/00, G06V10/82, G06N3/08
(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

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2)ROYCHOWDHURY, Saptarshi
3)RAHMAN, Uzra
4)AZAD, Dr. Chandrashekhar
5)SINGH, Dr. Binod Kumar
6)YADAV, Prof. (Dr.) Dilip Kumar

(57) Abstract :
METHOD AND SYSTEM FOR DISEASE-ADAPTIVE THRESHOLDING IN FUNDUS IMAGE-BASED BIOMETRIC AUTHENTICATION Provided are a method (300) and system (100) for disease-adaptive thresholding in fundus image-based biometric authentication. The method comprises capturing (302) a digital fundus image by a retinal imaging sensor (102). The method further comprises extracting (304) biometric features representing retinal vascular and structural characteristics, and thereby determining (306) a disease severity score based on a classification of diseases. Moreover, the method comprises evaluating (308) an image quality parameter of the digital fundus image to identify quality of extracted biometric features. Thereby, the method comprises computing (312) an adaptive biometric threshold based on the disease severity score and the image quality parameter. Further, the method comprises comparing (314) the extracted biometric features of the digital fundus image with a plurality of stored reference templates to generate respective similarity score to authenticate (318) the user when the similarity score meets or exceeds the adaptive biometric threshold. Figure 3

No. of Pages : 29 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531104123 A
(19) INDIA
(22) Date of filing of Application :29/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : ACTIVE RAY STEAM AGING AND GRANULATION FOR LD (LINZ-DONAWITZ) SLAG

(51) International classification	:C09D0011101000, G03F0007004000, G03F0007200000, G06T0015060000, C04B0018140000	(71)**Name of Applicant :** **1)PRASENJIT RAY** Address of Applicant :102E, UJJAWALA MIG COMPLEX, RAJARHAT, NEW TOWN, WEST BENGAL, PIN-700161 West Bengal India (72)**Name of Inventor :** **1)PRASENJIT RAY**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(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	

(57) Abstract :
Active Ray steam aging & granulation for LD slag is made in a closed environment by blowing air on Iiquid slag which is solidified by sprinkling water on it and aging the granulated slag inside the steam aging box with predefined steam temperature, pressure and time; Steam hydrates each slag particle of calcium oxide and magnesium oxide which comes into contact with steam to from calcium hydroxide and magnesium hydroxide respectively. This will help to remove free CaO and MgO in a faster and effective way with uniform steam aging of the granulated slag. Metal and non-metal slag separation occurs easily in the steam aging process and optimum utilization for end user is increased. Steam aging process is done in a closed environment due to that dust emission is less, time required for aging is less, separation of metal and non metal slag becomes easy, utility of slag is increased more than 90 o/o, dumping of unused slag on precious land of steel company is reduced. Slag dumping outside the plant premises is not allowed as per pollution control board. Thus Active Ray steam aging & granulation for LD slag offers several benefits over the conventional system of slag cooling and aging in open area.

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531104850 A
(19) INDIA
(22) Date of filing of Application :30/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Adaptive Nanofluid Lubrication system with ambient temperature compensation and industry 4.0 integration for sustainable machining

(51) International classification	:B23Q0011100000, C10N0040220000, G06F0003044000, F16N0007320000, G06Q0010060000
(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

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(72)**Name of Inventor :**
1)Mahip Singh
2)Prof. Amit Rai Dixit
3)Dr. Anuj Kumar Sharma

(57) Abstract :
Adaptive nanofluid lubrication system with ambient temperature compensation and industry 4.0 integration for sustainable machining. The invention pertains to a modular minimum quantity lubrication (MQL) system integrating nanoparticle-enriched cutting fluids, adaptive flow control algorithms and industry 4.0 compliant automation. The system comprises of five reservoirs 1 preloaded with fluids of fixed nanoparticle/synthetic composition, each containing a specific coolant blend tailored for various machining objectives. The system includes a smart cool selector (2) which is a solenoid valve array responsible for selecting one of five coolant reservoirs (1). Each reservoir (1) is connected to a dedicated normally closed solenoid valve, which receives a 12VDC signal from the control system for a corresponding solenoid valve according to selected machining objective for opening the selected flow path. The system includes a sonicated mixing system for breaking nanoparticle agglomerates into uniformly disposed suspension. A compressor delivers compressed air to coolant to form an aerosolized mist for targeted lubrication. An thermistor embedded near a nozzle measures ambient temperature and adjust the base flow rate accordingly. A 7-inch capacitive touchscreen HM1 serves as the primary user interface (8) to enable selection of material type, machining objectives, and manual parameters. Fig 1.

No. of Pages : 20 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531104852 A
(19) INDIA
(22) Date of filing of Application :30/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Wearable Offline Vision System for Real-Time Environmental Awareness in Visually Impaired Users

(51) International classification	:G06N0003045000, A61H0003060000, H04N0013239000, G06V0040160000, G09B0021000000	(71)**Name of Applicant :** **1)National Institute of Technology Durgapur** Address of Applicant :M G Avenue Durgapur West Bengal India 713209 Durgapur West Bengal India (72)**Name of Inventor :** **1)ABHISHEK KUMAR GUNJAN** **2)EARLAGADDA PRANEETH** **3)NARAYAN MURMU** **4)ROHIT AGARWAL** **5)DEBASHIS NANDI**
(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	

(57) Abstract :
ABSTRACT Wearable Offline Vision System for Real-Time Environmental Awareness in Visually Impaired Users The present invention (100) relates to a wearable assistive vision system for visually impaired individuals, integrating a head-mounted camera module (101) with one RGB (106) and two monochrome cameras (102) (105) for stereo vision, a portable processing unit (104), such as a Raspberry Pi, and an audio interface with microphone (108) and earphones (107). The unit performs real-time, offline computer vision tasks including object detection, depth estimation via stereo disparity, scene captioning, face recognition, and voice command recognition using lightweight deep learning models. Text-to-speech conversion delivers contextual, multilingual guidance, including Indian languages. The modular architecture supports future functionalities like terrain classification, document reading, and visual question answering. The ergonomic, portable device ensures real-time environmental awareness through multimodal processing, enhancing independence without internet, GPS, or cloud reliance.

No. of Pages : 30 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531104899 A

(19) INDIA

(22) Date of filing of Application :30/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : Earthen dam structure with compacted clay mix with fly ash and lime to enhance strength and seepage properties

(51) International classification	:E02B0007060000, E02D0017180000, E02B0003120000, E02D0031000000, E02B0008060000
(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

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(72)**Name of Inventor :**

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3)Vishwas Nandkishor Khatri

4)Ashes Banerjee

(57) Abstract :

Earthen dam structure with compacted clay mix fly ash and lime to enhance strength and seepage properties. The invention discloses an earthen dam structure A laboratory-scale earthen dam model is developed to assess seepage behavior across various core composition. The core comprised clay mixed with 5% to 25% of fly ash and 2% or 4% of lime with sand being used in the shell zones to simulate zoned embankment structures. The dam model features 60cm height, 260 cm base width and 50 cm crest. The core gradually widens towards the base, increasing the seepage path length and reducing internal erosion risk. The upstream shell of the core has a slope of 1:2 to resist hydraulic and wave forces, while the downstream shell is sloped at 1:1.5, to enhance structural stability by counteracting seepage forces. The structure is constructed in a narrow rectangular flume of 10m in length, 0.4 in width and 0.6 m in depth. The fume features a stainless-steel base and transparent glass sidewalls. The flow rate is monitored using a venturi meter connected to a precision manometer. Fig. 2(b).

No. of Pages : 21 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531105118 A

(19) INDIA

(22) Date of filing of Application :30/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : A Nutritional Feed Composition Comprising Paper Mulberry (Broussonetia papyrifera) Leaf Meal for Enhanced Growth and Health Performance in Tenyi Vo Piglets

(51) International classification	:A23K0050300000, A23K0010300000, A61K0036600000, A23K0050600000, A61P0003040000	(71)**Name of Applicant :**
(31) Priority Document No	:NA	**1)Nagaland University** Address of Applicant :Medziphema, District Chümoukedima, Nagaland – 797106 Nagaland India
(32) Priority Date	:NA	**2)Ms. Imsunaro Longkumer**
(33) Name of priority country	:NA	**3)Prof. Vijay Kumar Vidyarthi**
(86) International Application No	:	**4)Ms. Imkongsangla Jamir**
Filing Date	:01/01/1900	**5)Mr. Jagdish Choudhary**
(87) International Publication No	: NA	**6)Mr. Gaurav Dubey**
(61) Patent of Addition to Application Number	:NA	(72)**Name of Inventor :**
Filing Date	:NA	**1)Ms. Imsunaro Longkumer**
(62) Divisional to Application Number	:NA	**2)Prof. Vijay Kumar Vidyarthi**
Filing Date	:NA	**3)Ms. Imkongsangla Jamir**
		4)Mr. Jagdish Choudhary
		5)Mr. Gaurav Dubey

(57) Abstract :

[045] The present invention relates to a nutritional feed composition and method for enhancing the growth performance, immunity, and feed efficiency of Tenyi Vo piglets through the inclusion of Paper Mulberry (Broussonetia papyrifera) leaf meal. The invention incorporates a 6% concentration (60 g/kg of feed) of shade-dried and finely ground Paper Mulberry leaves into a standard piglet diet comprising cereals, protein sources, vitamins, and minerals. Experimental results demonstrated significant improvements in body weight gain, feed conversion efficiency, and immunological parameters, including elevated IgA, IgG, and IgM levels, with no adverse health effects. The formulation also lowered total cholesterol, LDL, and triglyceride concentrations, indicating improved metabolic health. Furthermore, the feed composition reduced overall feeding costs and increased profitability, providing an eco-friendly, sustainable, and economically viable alternative to conventional piglet feed. Accompanied Drawing [FIGS. 1-2]

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

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531105193 A
(19) INDIA
(22) Date of filing of Application :31/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : Cadmium Removal Method Through Cell Wall Protein of Limisilactobacillus Fermentum

(51) International classification	:G01N0021310000, C12N0001200000, B09C0001100000, C02F0003340000, C02F0101200000
(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

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(72)**Name of Inventor :**
1)Dr. Ranjit Kumar
2)Dr. Disha Chauaan
3)Dr. Pranay Punj Pankaj

(57) Abstract :
The present invention relates to a bioremediation technique that uses the lactic acid bacterium Limosilactobacillus fermentum to remove cadmium from aquatic settings. Cadmium ions are adsorbed and extracted from contaminated water and industrial effluents using the bacterial cell wall proteins in this economical and environmentally beneficial method. Cadmium solutions of different concentrations are made during the procedure, and L. fermentum is cultured for predetermined amounts of time. Using Atomic Absorption Spectroscopy (AAS), the amount of cadmium is measured following filtration and acid digestion. Experimental results showed that after 4 hours of incubation with 2120 CFUs of L. fermentum, the maximum cadmium removal efficiency is 78.15% at a 200 ppb concentration. The technique reduces heavy metal contamination in aquatic environments in a sustainable way.

No. of Pages : 26 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(21) Application No.202531105203 A
(19) INDIA
(22) Date of filing of Application :31/10/2025
(43) Publication Date : 07/11/2025

(54) Title of the invention : A Moulded Freezing Apparatus (packaged ice cube trays)

(51) International classification	:B29K0023000000, B29K0105000000, C08G0018760000, B29L0031000000, C08L0051040000	(71)**Name of Applicant :** **1)MERAKI ICEBER (OPC) PRIVATE LIMITED** Address of Applicant :North Market, Upper Bazar Ranchi, G.P.O, Ranchi, Jharkhand – 834001 Ranchi Jharkhand India **2)Ashish Goutam**
(31) Priority Document No	:NA	(72)**Name of Inventor :**
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(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	

(57) Abstract :
The present invention relates to a moulded freezing apparatus (packaged ice cube trays) (100) is disclosed, comprising a body portion (110) approximately 151 mm in length and including at least two cavities (120) configured to hold water or other liquids for forming ice cubes. The body portion (110) is fabricated from polyethylene terephthalate (PET) or food-grade silicone, sheet or HIPS(high impact poly styrene) PP polypropylene and features an integrally formed flexible silicone grip portion (130) to facilitate demoulding and improve handling. The apparatus (100) includes a mould diameter of approximately Ø163.7 mm with a symmetrical two-cavity or more configuration (120) for uniform freezing. The silicone grip portion (130) offers enhanced flexibility and mechanical strength across multiple freeze-thaw cycles. A method of manufacturing the apparatus (100) is also described, involving thermoforming a PET or silicone sheet or HIPS(high impact poly styrene) PP polypropylene using a mould (140) with a diameter of about Ø163.7 mm, forming the body portion (110) and cavities (120), and integrating the silicone grip portion (130). The thermoforming process is conducted between 120°C and 160°C with vacuum pressure between 0.6 and 0.9 bar to ensure uniform wall thickness and structural durability of the cavity matrix and gripping reinforcement. Fig 01 to 02

No. of Pages : 23 No. of Claims : 2

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202531105457 A

(19) INDIA

(22) Date of filing of Application :31/10/2025

(43) Publication Date : 07/11/2025

(54) Title of the invention : SYSTEM AND METHOD FOR PRIVACY-PRESERVING OBJECT DETECTION USING FEDERATED YOLOV8 IN CONNECTED AND AUTONOMOUS VEHICLES

(51) International classification	:G06F0021620000, H04L0009400000, G06N0020000000, A61G0005100000, G06N0003098000
(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

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(72)**Name of Inventor :**

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2)Swastik Kumar Sahu

3)Prof. Kaushik Mazumdar

(57) Abstract :

SYSTEM AND METHOD FOR PRIVACY-PRESERVING OBJECT DETECTION USING FEDERATED YOLOV8 IN CONNECTED AND AUTONOMOUS VEHICLES This invention reveals a system and method for real-time object detection using Federated Learning and deep vision AI models, developed for Connected and Autonomous Vehicles (CAVs) and assistive mobility systems such as smart wheelchairs. The proposed framework introduces a privacy-preserving decentralized training approach that enables collaborative development of object detection models without sharing raw sensor data between devices. The centralized systems used in connected and autonomous vehicles have a number of vulnerabilities including, side threats as well as privacy issues concerning the raw data sent to central processors. The invention particularly focuses on enhancing autonomous mobility in object recognition capabilities in smart wheelchairs. This invention proposes a learning platform which is decentralized, preserves privacy, and uses federated learning to mitigate these risks. The system ensures secure, efficient, and privacy-aware learning across distributed smart wheelchair networks, maintaining robust performance even under non-IID (non-identically distributed) data scenarios typical of real-world environments. Fig. 5

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(54) Title of the invention : “PERFORMANCE IMPROVEMENT OF VOIP AND MDVC VIDEO STREAMING USING AN OPTIMIZATION TECHNIQUE IN WIRELESS MESH NETWORKS”

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(57) Abstract :

ABSTRACT OF THE INVENTION Title: "METHOD FOR OPTIMIZATION ALGORITHM TO ENHANCING THE PERFORMANCE FOR VOIP AND MDVC VIDEO TRANSMISSION IN WIRELESS MESH NETWORK" The present invention discloses a novel optimization method for enhancing the quality of service for Voice over Internet Protocol (VoIP) and Multiple Description Video Coding (MDVC) based video transmission in a Wireless Mesh Network (WMN). The method holistically addresses key performance challenges such as packet loss, jitter, end-to-end delay, and packet collision inherent in multi-hop wireless environments. The core of the invention lies in an integrated system that synergistically combines MDVC with intelligent multipath routing. At the transmitter, video data is processed by splitting it into multiple independent, self-decodable descriptions using an MDVC algorithm. These descriptions are encoded, packetized, and protected with forward error correction. Concurrently, a multipath routing protocol dynamically discovers a plurality of distinct paths within the mesh network topology. The packets containing the multiple video descriptions and VoIP data are then transmitted simultaneously across these divergent paths. This approach ensures that the failure or congestion of a single path does not result in a complete loss of service, as the receiver can reconstruct a usable video stream from any successfully received subset of descriptions. At the receiver, the system incorporates a jitter buffer to compensate for network-induced delay variation. The received packets are depacketized, decoded, and the multiple video descriptions are merged using an inverse MDVC process to reconstruct the output video stream. A critical component of the invention is a quality control mechanism that dynamically monitors real-time network conditions—such as node mobility and traffic load—and proactively adjusts the output data transmission rate to mitigate congestion and maintain stringent Quality of Service (QoS) requirements for real-time multimedia. Simulation results demonstrate that the proposed method yields a significant performance enhancement over conventional transmission techniques. Key metrics such as Packet Delivery Ratio (PDR) and throughput are markedly improved, while detrimental factors including Average End-to-End Delay (AEED), jitter, and Packet Collision Ratio (PCR) are substantially reduced. This invention is particularly advantageous for providing robust, high-quality, and reliable VoIP and video streaming services in last-mile communication networks, community networks, and scenarios requiring rapid, deployable wireless infrastructure.

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(54) Title of the invention : SYSTEM AND METHOD FOR DETERMINING PRODUCE SAMPLE CONDITION USING MACHINE LEARNING TECHNIQUE

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(57) Abstract :
Disclosed herein is a system and method for determining produce sample (fruit) condition in terms of freshness, ripeness, and remaining shelf-life. The system comprises a cylindrical sampling chamber (100), sensors (600), a microcontroller (700), a user application interface device (800), and a server (900). The chamber (100) has a rubber gasket (200) at its front to isolate a produce sample (S), a plunger (300) movably mounted therein to create vacuum through manual pulling while isolating the produce sample (S), a lock assembly (400) adapted to restrict backward movement of the plunger (300), a stopper flange (500) adapted to restrict forward movement of the plunger (300). The sensors (600) are mounted in/on the sampling chamber (100) to generate signals corresponding to volatile organic compounds (VOC) and gaseous concentration emitted from the produce sample (S), and atmospheric temperature and humidity while the isolating the produce sample (S). The microcontroller (700) is mounted in the chamber (100) to receive the signals of the sensor modules (600). The user application interface device (800) is configured to transmit the signal data from the microcontroller (700) to the server (900) and receive the produce condition status therefrom over a communication network. The server (900) has embedded therein codes and machine learning model configured to determine freshness index score, produce class (fresh, ripe, overripe, or rotten), and remaining shelf-life. Fig. 1

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(54) Title of the invention : MODULAR VEHICLE TRUNK STORAGE SYSTEM WITH EXTRUSION-BASED FASTENING

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(57) Abstract :
This invention related to a modular vehicle trunk storage system (100) provides a reconfigurable and lightweight framework for organizing and securing items within a vehicle trunk (200). The system (100) includes a plurality of extrusions (102) formed of metal or composite material, each having longitudinal T-slot channels and clearance holes (102a) positioned at regular intervals. A plurality of connectors (104) having connector holes (104a) are aligned with the clearance holes (102a) and secured by fasteners (106) to form rigid or adjustable joints. T-nuts (108) are slidably disposed within the T-slot channels of the extrusions (102) to enable adjustable positioning of attachments such as panels (110), hinged lids (112), and sticking mechanisms (114). The system (100) is designed to be supplied as a flat-pack kit and assembled by an end user using only basic tools, allowing customizable configurations and reusability across different vehicle models.

No. of Pages : 28 No. of Claims : 14