

| S. No. | Title of the Patent and Copyright | Authors | Filed/ Granted / Published | National/ International |
|--------|---|--|----------------------------|---|
| 1. | <p>Cnn and image processing based device for evaluation and analysis of financial report</p> <p>Patent No.: 202401293</p> <p>https://patents.google.com/patent/ZA202401293B/en?q=(murugesan+selvam)&oq=murugesan+selvam</p> | <p>Murugesan Selvam Dr</p> <p>J M Velmurugan Dr</p> <p>S Mohan Dr</p> <p>Chinnaraj Elavarasan</p> <p>Santhoshkumar Sakthivel</p> <p>Basuvaraj Marappan D</p> <p>rAshutosh Mohan Dr</p> <p>Ishi Mohan Dr</p> | Granted and Published | International (South Africa- Patent) |

REPUBLIC OF SOUTH AFRICA



REPUBLIEK VAN SUID AFRIKA

PATENTS ACT, 1978

CERTIFICATE

in accordance with section 44 (1) of the Patents Act, No. 57 of 1978, it is hereby certified that:

**DR. MURUGESAN SELVAM; DR. J.M. VELMURUGAN; DR. S. MOHAN;
ELAVARASAN CHINNARAJ; SAKTHIVEL SANTHOSHKUMAR; DR. BASUVARAJ
MARAPPAN; DR. ASHUTOSH MOHAN; DR. ISHI MOHAN**

Has been granted a patent in respect of an invention described and claimed in complete specification deposited at the Patent Office under the number

2024/01293

A copy of the complete specification is annexed, together with the relevant Form P2.

In testimony thereof, the seal of the Patent Office has been affixed at Pretoria with effect from the **28th** day of **August 2024**


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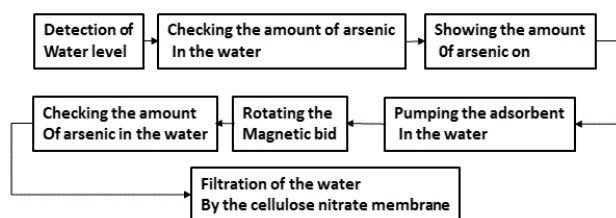
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Das, Dr. Milan Hait, Dr. Nanda Kumar Kashyap, Bidisha Bera, Aditya Shankar Ghosh, Suvankar De, Sudarshan Chakra Mandal, Janmejey Sahoo

54: AN EFFICIENT SYSTEM AND METHOD FOR REMOVAL OF ARSENIC FROM WATER

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This invention pertains to a novel method and device designed for the highly effective removal of arsenic from drinking water, addressing a critical issue in water purification. The method involves the passage of contaminated water through a specially designed adsorption unit containing a granular adsorbent material with a high affinity for arsenic. PH adjustment is implemented to optimize adsorption efficiency, and the treated water is collected after a predetermined contact time, resulting in a significant reduction in arsenic concentration. The accompanying device integrates key components such as an inlet for contaminated water, an adsorption unit, a pH adjustment system, a retention chamber, and an outlet for discharging treated water. The invention offers a comprehensive solution for arsenic removal, ensuring the provision of safe and potable drinking water for communities facing arsenic contamination challenges. Fig. 4 will be the reference figure.



21: 2024/01252. 22: 2024/02/09. 43: 2024/08/15
51: G06Q

71: PRASANALAKSHMI BALAJI, THAVAVEL VAIYAPURI, MOUSMI AJAY CHAURASIA, ANANDHAVALLI MUNIASAMY, MARIYAM AYSHA BIVI

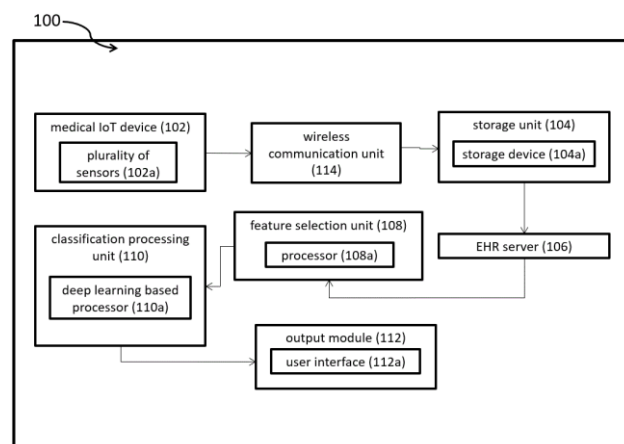
72: PRASANALAKSHMI BALAJI, THAVAVEL VAIYAPURI, MOUSMI AJAY CHAURASIA, ANANDHAVALLI MUNIASAMY, MARIYAM AYSHA BIVI

54: A SMART HEALTHCARE SYSTEM FOR INFECTIOUS DISEASE PREDICTION AND A METHOD THEREOF

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The present invention relates to a smart healthcare system for predicting infectious disease at an early stage, and a method thereof. This invention

revolutionizes epidemic disease prediction by integrating a deep learning approach as an alternative to traditional healthcare systems. Utilizing the Manhattan Hessian Locally-Linear Embedding technique in the initial neural network layer expedites prediction time by reducing dataset dimensionality. The technique distinguishes relevant features based on Manhattan distance measures, enhancing subsequent analyses. Classification employs Tucker coefficient of congruence regression, deeply analyzing training and testing disease data for accurate predictions. Positive similarity levels are crucial at the output layer, ensuring precise disease identification and minimizing incorrect predictions. The system focuses on error reduction, emphasizing accuracy and reliability in epidemic disease prediction. This invention not only advances predictive capabilities but also streamlines the identification process, contributing to effective disease control and mitigation.



21: 2024/01293. 22: 2024/02/12. 43: 2024/08/15
51: G06Q

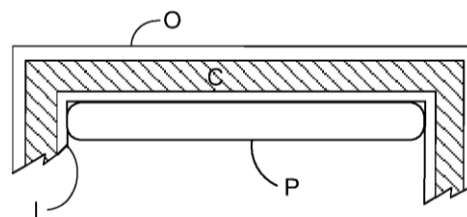
71: Dr. Murugesan Selvam, Dr. J.M. Velmurugan, Dr. S. Mohan, Elavarasan Chinnaraj, Sakthivel Santhoshkumar, Dr. Basuvaraj Marappan, Dr. Ashutosh Mohan, Dr. Ishi Mohan

72: Dr. Murugesan Selvam, Dr. J.M. Velmurugan, Dr. S. Mohan, Elavarasan Chinnaraj, Sakthivel Santhoshkumar, Dr. Basuvaraj Marappan, Dr. Ashutosh Mohan, Dr. Ishi Mohan

54: CNN AND IMAGE PROCESSING BASED DEVICE FOR EVALUATION AND ANALYSIS OF FINANCIAL REPORT

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The present invention relates to a financial analysis device equipped with advanced image capture, fraud detection, consumer identification, and data analysis capabilities, aimed at providing comprehensive financial document analysis, fraud detection, and market trend forecasting. Through the use of convolutional neural networks (CNN), intelligent adaptive learning, and time series analysis, the device offers accurate financial predictions and analyses, enhancing user experience with multi-language support and auditory output features.



21: 2024/01496. 22: 2024/02/20. 43: 2024/07/03

51: G06K

71: LONGYEAR TM, INC.

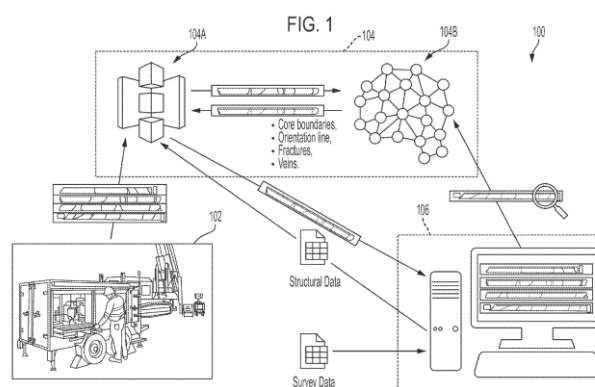
72: GEORGE, Luke

33: US 31: 63/062,975 32: 2020-08-07

54: SYSTEMS AND METHODS FOR IMPROVED CORE SAMPLE ANALYSIS

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Provided herein are methods and systems for improved core sample analysis. At least one image of a core sample may be analyzed to determine structural data associated with the core sample (e.g., attributes of the core sample). A machine learning model may analyze the at least one image and determine one or more attributes associated with the core sample. The machine learning model may generate a segmentation mask. An output image may be generated. A user may interact with the output image and provide one or more user edits. The one or more user edits may be provided to the machine learning model for optimization thereof.



21: 2024/01628. 22: 2024/02/26. 43: 2024/07/04

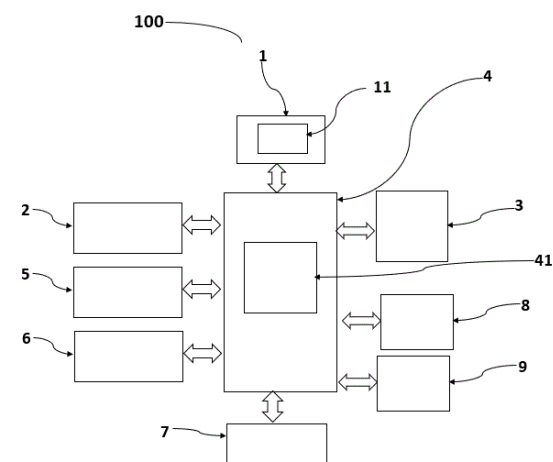
51: C21B; H01M

71: ELECTRASTEEL, INC.

72: PHAM, Ai Quoc, NIJHAWAN, Sandeep, ALVAREZ, Adolfo, WALLACE, Colleen, FATUR, Steven

33: US 31: 63/165,502 32: 2021-03-24

54: 2-STEP IRON CONVERSION SYSTEM



21: 2024/01353. 22: 2024/02/14. 43: 2024/07/03

51: B32B

71: INNOVIA FILMS LTD

72: SINGH, Shalendra, LEWUCHA, Cezary

33: GB 31: 2105310.3 32: 2021-04-14

33: GB 31: 2111513.4 32: 2021-08-11

54: NAKED COLLATION PACKAGE FILM

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A naked collation film comprises a core layer (C), an inner sealing layer (I) of polyolefinic material and an outer sealing layer (O) of polyolefin material, each sealing layer comprising at least two, and preferably three, polyolefins selected from C4, and at least one of C2 and C3 polyolefins. At least one of the inner layer and the outer layer has at least one of: i. a C4 content of greater than about 10mol%; ii. a C4/C2 molar ratio of at least about 1.2; and/or iii. a C4/C3 molar ratio of at least about 0.15. The collation film is preferably non-blocking and has a large incompatibility window with the individually wrapped packages (P) of a naked collation package and has a strong optical performance.