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Patent Search

Invention Title	OTIC AND MAP LEAD METAIOT AND AI IMAGE PROCESSING BASED ROB VEHICLE TO IDENTIFYL CONCENTRATION IN AGRICULTURAL SO
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Abstract:

This invention is a robotic vehicle that identifies and map lead metal concentration in agricultural soil employing a camera. The data from the camera are collected al[...] time stamp and sent to the server dedicated for this product via the Internet employing an IoT Module. This soil type will be -detected with the image data collected f[...] camera. Next the camera sensor identifies whether the soil has lead content or not. If lead content is found in the soil collected it maps the lead metal concentration [...] agricultural soil. .The Machine learning model is trained by providing various images of soil with lead metal concentration.The entire robot can be made to traverse in [...] programmed route in a field to collect data from throughout. A trained Ensemble Machine Learning model for soil information inference from the data collected from [...] mentioned above is loaded at the centralized server. The data collected from different soils is first categorized and employed to train the ensemble machine learning [...] the model is trained, it can operate as a reliable predictive model. A combination of Convolutional Neural Network, Support Vector Machine, Linear Regression and K [...] employed for the above said ensemble machine learning model.

Complete Specification

JField of Invention. IoT Application in Agriculture

*   Background Art including citations of prior art: There are no IOT And AI Image Processing based robotic vehicle to Identify and Map Lead Metal Concentration in [...] Agricultural Soil as presented in this invention.

*Objective of invention (the invention's objectives and advantages, or alternative embodiments of the invention):The objective of the invention is to employ multiple [...] sensor data fusion technique integrated with ensemble machine learning model to identify and map lead metal concentration in agricultural soil. The collected data [...] the sensor is sent to the server and the ensemble machine learning training performed

*   Summary of Invention:

This invention is a robotic vehicle that identifies and map lead metal concentration in agricultural soil employing a camera.The soil is first collected from the agricult[...] land using a cup and stirred periodically using a stirrer.The data from the camera are collected along with a time stamp and sent to the server dedicated for this pro[...] via the Internet employing an IoT Module. The camera sensor first detects the type of the soil with the colour as primary parameter. The soil can be red soil, black s[...] other such types. This soil type will be detected with the image data collected from the camera. Next the camera sensor identifies whether the soil has lead content [...]

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Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
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TITLE OF INVENTION	OTIC AND MAP LEAD METAIOT AND AI IMAGE PROCESSING BASED ROB VEHICLE TO IDENTIFYL CONCENTRATION IN AGRICULTURAL SOIL
FIELD OF INVENTION	COMPUTER SCIENCE
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APPLICATION STATUS	Awaiting Request for Examination

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➡️ Disposed
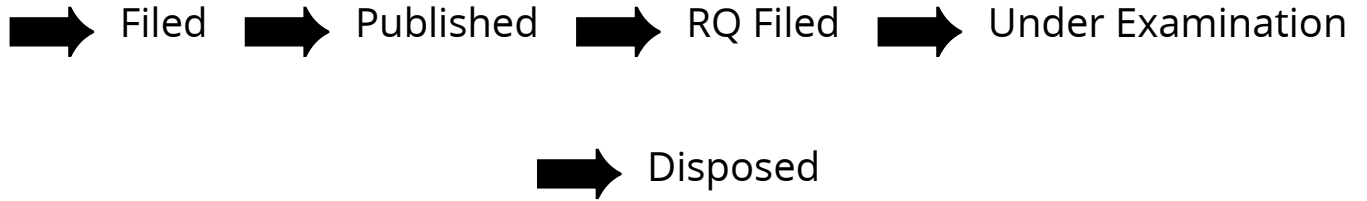
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