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Patent Search

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Abstract:

Machine Learning and Deep Learning Techniques for Agricultural Yield Predictions in Changing Climates is the proposed invention. The proposed invention focuses on understanding the functions of how well we can improve the agricultural yield predictions in changing climates. The invention focuses on analyzing the parameters of Agri Yield Predictions in Changing Climates using algorithms of Deep Learning.

Complete Specification

Description:[0001] Background description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0002] Machine learning is a subfield of artificial intelligence that uses algorithms trained on data sets to create models that allow machines to perform tasks that hum would otherwise only be able to do. These tasks include categorizing images, analyzing data, or predicting price fluctuations. The four basic types of machine learning are Supervised learning, Unsupervised learning, Semi supervised learning and Reinforcement learning.

[0003] A number of different types of agricultural yield analysis systems that are known in the prior art. For example, the following patents are provided for their supportive teachings and are all incorporated by reference.

[0004] US20050234691A1: Crop yield may be assessed and predicted using a piecewise linear regression method with break point and various weather and agriculture parameters, such as NDVI, surface parameters (soil moisture and surface temperature) and rainfall data. These parameters may help aid in estimating and predicting crop conditions. The overall crop production environment can include inherent sources of heterogeneity and their nonlinear behavior. A non-linear multivariate optimization method may be used to derive an empirical crop yield prediction equation. Quasi-Newton method may be used in optimization for minimizing inconsistencies and error: yield prediction. Minimization of least square loss function through iterative convergence of pre-defined empirical equation can be based on piecewise linear regression method with break point. This non-linear method can achieve acceptable lower residual values with predicted values very close to the observed values. The present invention can be modified and tailored for different crops worldwide.

[0005] Deep learning is a type of artificial intelligence (AI) that teaches computers to process data like the human brain does. Deep learning models can recognize

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