

SI No	Name of the paper	Year of publication	Author name	Methods used	Significant contributions	Performance measures	Remarks
1	Prediction of Crop Yield Using Deep Learning Techniques: A Concise Review	2017	Varman, et al.,	Wireless sensor Network, Long-Short Term Memory (LSTM)	The wireless sensor network is used to monitor the soil parameters and later the data is applied with the LSTM algorithm for optimising the best-suited crop.	The fog architecture is developed to improve the response time for processing the data. Ideal time is observed through neural networks for predicting the sowing time. For training data, LSTM is chosen and its validation loss: 2.1354 and training time 57.62s better compared to Gated Recurrent unit (GRU), and Deep Forward Feed Networks.	LSTM takes more time to get trained, hence the large datasets will provide poor results.
2	Wheat yield prediction using machine learning and advanced sensing techniques	2016	Pantezi, et al.,	Self-organizing map models (SOMs), Counter propagation ANN, XY- Fused Network, Supervised Kohen Network (SKN)	For the yield prediction, the fusion vectors are determined as an input. Through this, the weight parameters are collected from the sensors and the satellite imagery data are calculated.	Using SKN, the prediction of wheat yield for correct classification reached to 91.3%.	The limitation concerns are, inability for non linear modelling approaches related to provide continuous output relations.
3	A Bayesian network approach for predicting seismic liquefaction based on interpretive structural modeling	2010	Jia, et al.,	Bayesian Network (BN)	The algorithm proposed the similarity of learning tasks and the geographical position of land squares to calculate the soil grading.	The BN has the ability to train in the probability semantics. The small dataset is trained with the network improve performance.	The datasets used in the model are very less, hence the uncertainty of average in the findings are satisfied. Further increase in the datasets, increase the cost of the training and varies the uncertainty. In this model, the missed data is ignored.
4	Journal of Applied Ecology_Species richness&bioremediation	2012	Li, et al.,	Neural Network	The model propose to predict the yield of the crop by the soil fertility and the crop yield is observed under various fertilizer models. By using the combined methods of principal components analysis (PCA) and Radial basis function (RBF) neural networks.	In RBF network, the non linear function can approximately measure the group of weight proposed which can provide the accuracy. The RBF neural network is supported by the mathematical principles which can provide high certainty	While using the datasets, the following limitations are observed in PCA; orthogonality, linearity and large variance. The final nutrient data is applied for RBF where the training of the data is faster but the classification for every node in the hidden layer applied with the input vector becomes slower.
5	Comparing spatial regression to random forests for large environmental data sets	2016	Li, et al.,	Partial Least Square regression, ANN, Random fForest, Regression Kriging, Random Forest (RF) Residual Kriging Method	To provide timely and accurate predictions of the crop land. Several regression models and hybrid geometrical methods are used. The experimental result shows that the RF has the most accurate predictions	The RF has highest accuracy compared to other proposed methods. Random forest can be trained with large datasets.	Compared to other regression methods, RF method can provide better performance to the overfitting problem and also for the noisy data.
6	Recurrent Convolutional Neural Network for Object Recognition	2015	Liang, et al.,	Artificial Neural Network (ANN), Random Forest Regression (RFR)	The hybrid inversion method is used for estimating the leaf area index value of the crops. In this paper, ANN and RFR are used where RFR has a better method of modelling compared to the ANN.	RFR has the high modelling regression for crop estimations. In the generic and specific datasets, the resultant values are observed with higher Square of Roots (R2) and lower Root mean square error (RMSE).	The model used in this paper is observed with low input parameters, hence the low inversion accuracy is also observed. Even though, the RFR has good performance with single or multi-parameters.