

# **SMART AGRICULTURE THROUGH NUTRITION-BALANCED RECOMMENDATION AND OPTIMIZATION**

## **ABSTRACT**

Recommender systems are tools for interacting with large and complex information spaces. They provide a personalized view of such spaces, prioritizing items likely to be of interest to the user. Recommendation system can be broadly classified into three categories: content-based, collaborative, and hybrid recommendation approaches. Existing system uses Deep neural networks (DNNs) which is a powerful machine learning models and have succeeded in various artificial intelligence tasks. Although various architectures and modules for the DNNs have been proposed, selecting and designing the appropriate network structure for a target problem is a challenging task. Also, Optimization is the basic factor needed to enhance recommender systems. The existing model lacks in providing Optimization. To overcome the disadvantages in the existing model, it is proposed to use neural network approach.

The proposed model will predict the output using the neural networks concept. A neural network is a series of algorithms that endeavors to recognize underlying relationships in a set of data through a process that mimics the way the human brain operates. Neural networks can adapt to changing input so the network generates the best possible result without needing to redesign the output criteria. The conception of neural networks is swiftly gaining popularity in the area of trading system development. The accuracy will be increased using gradient descent algorithm. Comparing the error rates, it is identified that the average rate in the existing model is not up to the mark and the prediction will be partially satisfied. The proposed system is developed to optimize the error rate and accuracy. The developed model will predict not only the recommended crops but also the hidden patterns which will be efficient and with reduced error rate.