Abstract

Agriculture is one of the most important inventions of human civilization. It is considered to be a primary occupation of the major portion of world population. Agriculture domain is moving towards a production decline for the few decades. Most of the currently available methods and materials in rural agriculture field have been used for decades. The objective of this work is to focus on bringing new techniques in rural area to improve overall agriculture production and management using expert system technology. This paper presents a new methodology for the expert system design and uses a novel approach for the development with some data mining technique and implements a rule based expert system for rice plant. The main idea is that in addition to the predefined rule set already stored in a typical expert system, the proposed system includes the rules that are automatically generated from data set instances of agriculture field. Here the rule generation is done through a process of decision tree based data mining technique. The generated as well as predefined rules together form the automated knowledge base for the rice plant expert system. So this work presents the development of an integrated system for agriculture domain by bridging the data mining aspects with expert system technology. The system is intended to support the decision making and problem solving in respective domain especially for the rural area farmers.
References

- Yethiraj N G 2012 Applying data mining techniques in the field of agriculture and allied sciences.
- B V Chowdary, Annapurna Gummad 2012 Decision Tree Induction Approach for Data Classification Using Peano Count Trees.
- Ravindra M1, V. Lokesha2, Prasanna Kumara3, Alok Ranjan 2012 Study and Analysis of Decision Tree Based Irrigation Methods in Agriculture System.
- Raorane A.A 2013 Review- Role of Data Mining in Agriculture.
- Hetal Patel 2014 A Brief survey of Data Mining Techniques Applied to Agricultural Data”.
- Kittisak Kerdprasop and Nittaya Kerdprasop 2012 Bridging Data Mining Model to the Automated Knowledge Base of Biomedical Informatics.

Index Terms

Computer Science

Artificial Intelligence

Keywords

Agriculture, Expert System, Data Mining, Decision Tree