Abstract

The recent development and improvements in fields of computer science and technology has led to several innovations and inventions with the help of trending Algorithms, Domains, Techniques and tools. Data science is the domain of computer science comprising of Big Data and Data Mining, where Data Mining is the backbone of data science and has provided a base to Big Data which is now a trend in data science. Applications of Data Mining range from fields of Healthcare, Military, Aviation, Business systems and Agriculture. Agriculture, an application and area of data mining is a very recent research topics. Trending methods and techniques are nowadays able to produce and supply a large amount of data and knowledge on farming and agriculture activities, which can further be analysed in order to uncover some important matter out of it. The paper explains the proposed system which uses the combined technology of Data mining and Image processing. The data mining algorithms such as Random forest, Decision tree induction’s J48 and others are compared on a testing platform on basis of accuracy and other performance factors. Algorithm which outclasses the comparative study is selected for direct implementation in the system and its database. Image processing is used for identifying
the crops, and process their image to forward it to further analysis. The crops will be classified by the Data Mining algorithms on basis of labels such as weak, strong, or mid-healthy. Data Mining and Image processing, technologies when combined together in one system can exploit the levels of parallelism and can achieve an enhanced faster rate of classification and processing. The records and tabular structure of the plants or agriculture data can be visualized using Data Mining Visualization techniques such as 2D/3D Graphs, Pie charts, tree graph etc.

References

8. Wikispaces https://weka.wikispaces.com
9. Prof. Navneet Goyal, “Data Mining Applications in Agriculture”, BITS PILANI.

Index Terms

Computer Science Image Processing
Keywords

Image Processing, Image Recognition, Data Mining, Sensors, Data Warehouse, J48, Random Forest, Visualization.