Abstract

The traditional soil analysis technique when applied is time consuming, labour intensive and expensive. The research made an attempt to develop an intelligent system that is capable of classifying soil in a particular location if the hyperspectral data of such location is available. The system was developed using unsupervised learning. Wavelet transform was used to denoise the spectral signal at preprocessing stage. Fuzzy c-means was used for clustering in order to identify the cluster centre. KSOM is applied for the purpose of classifying soil into various classes. The system was implemented using R programming language.
An Intelligent System for Soil Classification using Unsupervised Learning Approach


Index Terms

Computer Science  Artificial Intelligence

Keywords

Intelligent System  Hyperspectral Data  Spectral  Fuzzy C-means  KSOM  Cluster Centre

Wavelet Transform