

R Mini-Project: Predicting Forest Cover Type

Abstract:

The project aims to predict the forest cover type in various regions using only cartographic variables, which are aspects of a graphical object that can visually differentiate it from other objects. The dataset includes remotely-sensed variables that are used to train models for multi-class classification. The study area comprises four wilderness areas in the Roosevelt National Forest of northern Colorado, with minimal human-caused disturbances. The actual forest cover type is determined from US Forest Service data, and independent variables are derived from US Geological Survey and USFS data. The study utilizes various machine learning and deep learning algorithms to predict the forest cover type using only the provided set of cartographic variables. The results of this study could support natural resource managers in developing ecosystem management strategies.