

Lab Exercise 1

SYNOPSIS OF THE B.Tech. (CSE) III Year PROJECT for SE and APL-III

Tentative Title of Project: Forest Fire Prediction

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Problem Formulation: The increasing frequency and severity of forest fires poses a significant threat to natural ecosystems, human communities, and economic development. Despite efforts to prevent and control forest fires, current methods are often reactive and not always effective. A reliable, accurate, and efficient forest fire predictor system is needed to anticipate and mitigate the risk of forest fires, in order to reduce their negative impact on the environment, human lives, and property.

Key words- Machine Learning, Forest Fires, Climate Change, Wildfire prediction, Fire behavior

Objectives/Aim- Develop a system or model that can anticipate and predict the likelihood and potential spread of forest fires in a given area. This system should be able to analyze data from various sources such as weather conditions, topography, vegetation, and human activity to identify areas at high risk for fires.

Description (not more than 100 words)- The need for a forest fire predictor is crucial for preventing and managing forest fires. Forest fires can have severe impacts on the environment, wildlife, and human communities. By predicting when and where a fire is likely to occur, officials and firefighters can take preventative measures and respond more quickly and effectively when a fire does break out. Additionally, a forest fire predictor can help identify areas that are at high risk for fires, so that resources can be allocated accordingly and steps can be taken to reduce the likelihood of fires in those areas. Overall, a forest fire predictor can help protect both human and natural resources and reduce the damage caused by forest fires.

Technical Details: The forest fire predictor will be trained using a supervised machine learning approach. We will use regression and classification algorithms to build and detect future fires based on a certain weather report. We will further present our findings in the form of a website.

Details of Methodology/ Approach of Development- Waterfall Model

Tools/ Languages to be used – Python, Jupyter Notebook, Html5 , CSS , Javascript

Synopsis Status

Faculty Remark-

Approved / Approved with Changes / Not Approved

Signature -

Date:-