Predicting Future Forest Fires Using Meteorological Data

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***Introduction:***

**Problem Statement:** How to prevent and determine when and where the next forest fire will take place by using meteorological data for the northeast region of Portugal.

**Objective:** A key component of preventing forest fires is early intervention and detection. This can be achieved by conducting surveillance with early detection methods. These methods include using the meteorological data that we have available to us to help predict and prevent any potential future wildfires.

**Motivation:** Forest fires are a very costly and dangerous event. They can cause massive amounts of destruction to not just the forest, but to the wildlife and to people’s property. Having a method in which we are able to predict future events is vital to the longevity of forest in all regions of the world. One of the biggest culprits in how wildfires are formed is meteorological events. Some of these events include things like relative humidity, atmospheric conditions, strong winds, and lighting storms. Using meteorological data, we will have the capability to predict where and when the next possible forest fire might occur in the northeast region of Portugal.

**Related Work:** A student at the University of Minho created a data mining approach to predict forest fires by using given meteorological data. He conducted a similar analysis in regards to meteorological data forest fire predictions.