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| **Team Name** | Savage |
| **Project Title** | Forest Fire Detection |
| **Team members** | Anusha M S  Aishwarya Patel  Keerthana B  Chitrashree R M |
| **Domain**  **(Agriculture/ HealthCare…etc)** | Environment |
| **Proposed Idea (In 500 words):**  A Forest Fire is an uncontrolled fire that occurs mainly in forest areas, although it can also invade urban or agricultural areas.  Nowadays, forest fires often cause serious threats to the environment and produce real emergency situations and natural disasters. Huge losses and serious threats to ecosystems are common consequences of forest fires. The number and impact of forest fires are expected to grow as a consequence of the global warming.  The Amazon is experiencing a more severe dry season than last year, which scientists attribute in part to warming in the tropical North Atlantic Ocean pulling moisture away from South America. The entire Amazon, which spans nine countries, currently has 28,892 active fires, according to a fire monitoring tool funded in part by the US space agency, Nasa. Data from Inpe released on Thursday showed that in 2019, fires spiked in August and declined considerably the month after, but this year’s peak has been more sustained. Both August and September of 2020 have matched or surpassed last year’s single-month high.  Bushfires in Australia are a widespread and regular occurrence that have contributed significantly to shaping the nature of the continent over millions of years. Eastern Australia is one of the most fire-prone regions of the world, and its predominant eucalyptus forests have evolved to thrive on the phenomenon of bushfire. However, the fires can cause significant property damage and loss of both human and animal life. Bushfires have killed approximately 800 people in Australia since 1851, and billions of animals.  The response time of emergency corps greatly affects the consequences and losses caused by them, so the enhancement of forest fire prevention and detection systems can be considered a main goal for conserving the environment. With respect to this, the real-time monitoring of certain environmental variables may make the forest fire prevention, detection, and fighting more efficient.  Weather factors such as temperature, humidity, air stability, and wind speed and direction directly affect the way that fires burn. The weather’s long-term climatic influence on fuels and their dryness, indirectly affect fires. Weather greatly determines how a fire will behave, when, and where they occur. Dry lightning storms are one of the main sources of combustion for fires.  Our idea is to make a webpage to predict the probability of occurrence of forest fire. The probability of forest fire depends on three major factors – temperature, oxygen and humidity. The prediction is done on the basis that, if the temperature and oxygen content is high and humidity is low, the probability of occurrence of forest fire is high.  The user needs to provide the temperature, oxygen content and humidity of the area. This data is then sent to the python program where it is given to machine learning model. The Machine learning model uses that and predicts the probability of forest fire. This output is reflected back onto the webpage.  **Input data ---> Python program ---> Machine learning model ---> Predicted output**  Our intension is to predict the occurrence of forest fire, so that, required measurements could be taken to prevent the huge impact of forest fire. | |
| **Technology Stack:**   * **Python** * **Html, CSS** * **Flask** * **Machine Learning** | |
| **Project Importance (In 2 to 3 lines):**  Forest fires cause serious threats to the environment. Our intension is to predict the occurrence of forest fire, so that, required measurements could be taken to prevent the huge impact of forest fire. | |