Proposed solution for Emerging method for early detection of forest fire

|  |  |  |
| --- | --- | --- |
| **S.NO** | **Parameter** | **Description** |
| 1. | problem statement (Problem to be stated) | Huge losses and serious threats to ecosystems are common consequences of forest fires. Fires have been a source of trouble. Fires have notable influence over the ecological and economic utilities of the forest, being a prime constituent in a great number of forest ecosystems. Fires are considered as a significant environmental issue because they cause prominent economical and ecological damage despite endangering the human lives. Due to the forest fires, several hundred million hectares of forest and other vegetation are destroyed every year. Therefore , we monitoring and early detecting of forest fire. |
| 2. | Idea/Solution description | The propose a platform that uses **(UAVs)** **Unmanned Aerial Vehicles** , which constantly patrol over potentially threatened by fire areas. The UAVs also utilize the benefits from **Artificial Intelligence(AI)** and are equipped with on-board processing capabilities. This allows them to use **computer vision methods for recognition and detection of smoke or fire, based on the still images or the video input from the drone cameras**. The system is designed for monitor the causing factors of forest fires such as temperature, humidity , air pressure level,oxygen and Carbon dioxide on the surface of air. |
| 3. | Novelty/Uniqueness | Using real-time monitoring, instant  data **allows pre-cursors to potential**  **issues (such as corrosion) to be flagged**  **up and immediately be addressed before**  **major issues occur**. The ability to make  real-time decisions during critical moments  can be vital in preventing forest fires. |
| 4. | Social Impact/Customer satisfaction | * It gives the early detection of smoke and other temperature issues. * Reduce the potential damage as well as the cost of fire fighting. * The **wireless sensor networks and machine learning** was found to be an effective method for fire detection in forests that provides more accurate results. |
| 5. | Business Model(Revenue Model) | The section presents the system deployment strategy and focuses on the sensor probes, wireless sensor networks and machine learning analyzing the data obtained from the deployment environment |
| 6. | Scalability of the solution | * Well monitoring system with accurate indication. * Reasonable cost * Easy maintenance |