

### Project Initialization and Planning Phase

Date	15 November 2024
Team ID	739839
Project Name	Fireguardian yolov8 Empowered wildfire smoke surveillance
Maximum Marks	3 Marks

#### Define Problem Statements (Customer Problem Statement Template):

Wildfires pose a critical and escalating threat to communities, ecosystems, and infrastructure worldwide, with early detection being vital to minimizing damage. However, existing wildfire detection systems often rely on outdated methods, such as satellite imagery or manual observation, which are hindered by delays, limited coverage, and low accuracy in distinguishing smoke from other visual anomalies. These challenges leave communities vulnerable to rapid wildfire spread, endangering lives and resources.

FireGuardian, powered by YOLOv8's advanced object detection capabilities, addresses this gap by enabling real-time, high-accuracy surveillance of wildfire smoke. This innovative solution empowers users with precise identification of smoke patterns across diverse terrains and weather conditions, ensuring rapid response times. By providing automated monitoring with minimal false positives, FireGuardian mitigates the inefficiencies of traditional systems, helping protect communities, reduce environmental damage, and save costs associated with wildfire management.

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A wildfire monitoring and response manager.	Detect and respond to wildfire smoke in real-time to prevent disasters.	Current systems are slow, inaccurate, or resource-intensive.	Rapid identification and action are critical to protect lives, property, and the environment.	Anxious and frustrated due to the limitations of existing solutions.