LITERATURE SURVEY

1. EXISTING SOLUTIONS

There are many existing solutions deployed for this use case.

A. IQ firewatch

- IQ FireWatch is a multi-spectral sensor able to process data in chronological synchronicity, which means it can be perfectly calibrated for all regions, vegetation as well as for all operating and weather conditions.
- The system is also unique in its software, due to the combination of the classic feature-based approach, which has been delivering very good results for years, and the newly introduced approach of Artificial Intelligence in smoke detection.

B. ALERTWildfire

- ALERTWildfire is a consortium of three universities – The University of Nevada, Reno (UNR), University of California San Diego (UCSD), and the University of Oregon (UO) – providing access to state-of-the-art Pan-Tilt-Zoom (PTZ) fire cameras and associated tools to help firefighters and first responders:
  1. *discover/locate/confirm fire ignition*
  2. *quickly scale fire resources up or down appropriately*
  3. *monitor fire behavior through containment*
  4. *during firestorms, help evacuations through enhanced situational awareness, and*
  5. *ensure contained fires are monitored appropriately through their demise.*

2. TECHNICAL PAPERS

A. Forest-Fire Response System Using Deep-Learning-Based Approaches With CCTV Images and Weather Data

B. Using Popular Object Detection Methods for Real Time Forest Fire Detection

3. EXISTING PRODUCTS

A. FireTIR Early Fire Detection System- https://visiontir.com/forest-fire-detection/

B. SmokeD- https://smokedsystem.com/