Fire & Smoke Detection

The human, ecological and financial impacts of fires can be devastating, no matter the location. In 2023, the global economic damage from wildfires was $4 billion USD. Spotting fires and smoke as quickly as possible enables faster responses in order to mitigate potential damage from indoor and outdoor fires.

Noema applications use Computer Vision and AI to monitor fire-prone areas and automatically detect fire and smoke. The Fire & Smoke Detection application quantifies fire and smoke pixel area to accurately detect different types of fire events. Real-time detection and alerts allow for a faster response from operators and emergency services.

Noema's app automatically monitors areas for smoke and fire while also quantifying the fire and smoke pixel-area. Operators get useful, real-time data and alarms to help reduce the human, environmental and financial impacts from fires.
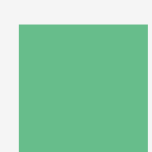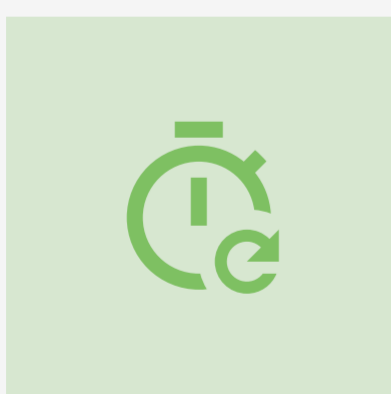
Benefits

Provides alarm types for varied situations: fire, smoke, and fire with smoke

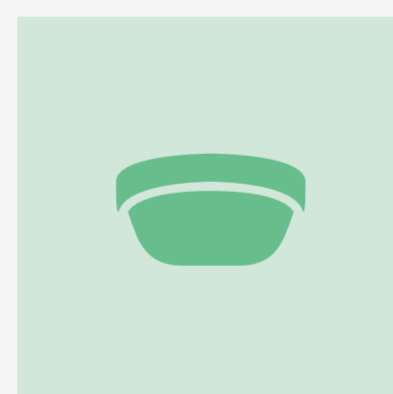Implements alarm filtering based on pixels on target (via fire and smoke quantification)
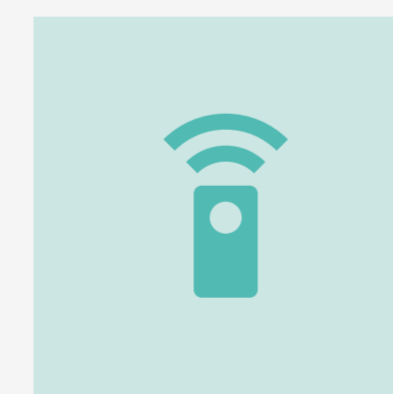
Indoor and outdoor deployments

Automated, 24/7 monitoring

Noema's Fire & Smoke Detection application operates continuously, providing reliability better than a human operator. Eliminating the need for manual monitoring minimizes costs and errors. Real-time alerts reduce response times and mitigate the impact from fires.
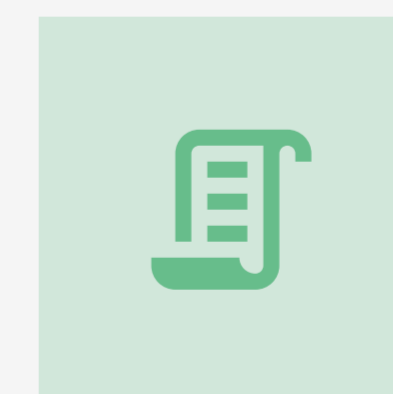
Computing at the Edge

Noema's Fire & Smoke Detection application operates at the edge or can deployed on a cloud server or another AI-enabled device. Computing at the edge means the algorithm runs entirely on the camera, allowing you to monitor multiple areas on a single camera, with no additional hardware or network connectivity.

Remote Installation & Configuration

Noema's computer vision applications are easy to install. Mount a new camera or equip an existing one, and configure the application remotely over the internet. In addition to the camera, no hardware or measurements are required.

Data and Integrations

Original and augmented (overlayed with app features) image data captured from video.

Integration with VMS and SCADA

Integration using Local API:
- Timestamp
- Measurement data
  - fire pixel area
  - smoke pixel area
  - fire average color
  - smoke average color