EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRES

- Forest and urban fires have been and still are serious problem for many countries in the world.
- Currently, there are many different solutions to fight forest fires.
- These solutions mainly aim to mitigate the damage caused by the fires, using method for their early detection.
- The (UAVs), which constantly patrol over potentially threatened by fire areas.
- The UAVs also utilize the benefits from Artifical intelligence (AI) and are equipped with on board processing capabilities.

PROBLEM STATEMENT

- ✓Since satellites have this inherently huge revisit time issues making them less valuable to detect forest fires as soon as possible, because of the huge deploying costs of wireless sensor networks plus the upkeep that comes with them and because UAVs are extremely versatile, widespread, cheap and can cover huge areas easily, this study will focus only on methods employing UAV data or data similar to UAV data.
- ✓Using the predicted mask paired with the altitude of the drone, fire units or another algorithm could de-duce the spread of the fire to help organize fire suppression, assert damage and possibly help decide whether to evacuate citizens in relevant areas.

USER PAINS AND GAINS

PAINS

- Reduces flame reflections
- false alarms
- Detection distance
- Sensitivity
- Speed of response
- Range of application

GAINS

- Difficult to port as Real Time
- Human interaction not considered
- No verification algorithm
- Need of sufficient and specific condition
- Variability of shape, motion, colors and patterns of fire and smoke
- Hight cost