Problem & Current Methods

Aerial Patrol
High Location Accuracy
Expensive

Optical Detection
Low Location and Fire Accuracy
Expensive

Fire Tower
Low Cost
Limited by visibility

49,432
US Wildfires in 2018 [1]

7.8 million
Acres Burned in 2018 [1]

Our Solution

0.5 miles
Challenges

Fire Detection

- How far can we detect fire from?
- What can hinder the accuracy of detection?

Communication

- How can we communicate location signals?

Power

- How do we power the communication and sensor?
Sketch Model Testing

Flame Sensor

Infrared Sensor

LED

Testing Method
Conclusions

Must not be blocked by leaves

IR Sensor must be above ground

Bigger fires can be detected from farther

IR has low angle of vision