



WILDFIRE DAMAGE REDUCTION

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WHOA!

2,500

★ Deaths from House Fires
Annually in the US



THE NUMBERS



Cost of Damage

\$2.5 Billion spent fighting
wildfires between 2016
and 2020



Area Burned

9 Million hectares of trees
burned down



Changing Conditions

Climate change and
changing patterns make it
unpredictable



**It is a financial,
environmental, and
humanitarian issue**



LANDSCAPES WITH HIGH RISK OF FIRE



RISK OF FIRE

Highlighted Places have a
high risk of fire

PROBLEM

- Naturally Caused Fires are a natural threat and will continue to exist
- Predictions methods are limited to spottings and reportings using satellites
- Current methods are done as fires arise, limited to a few days before
- Minimal preparation time for firefighters increasing damage done



HOW FOREST FIRES START

NATURAL CAUSES

Volcanic Eruptions

Spontaneous fires

Underground coal fires

Dry lightning storms

Rockfall sparks

MAN-MADE CAUSES

Cigarette stubs

Campfires / Bonfires

Equipment related fires

Arson for land clearing

Global warming



Opportunity for Innovation

Existing Methods

Satellites for to see live state of fire

Data

Indexes and Data are already present



Fire Prediction

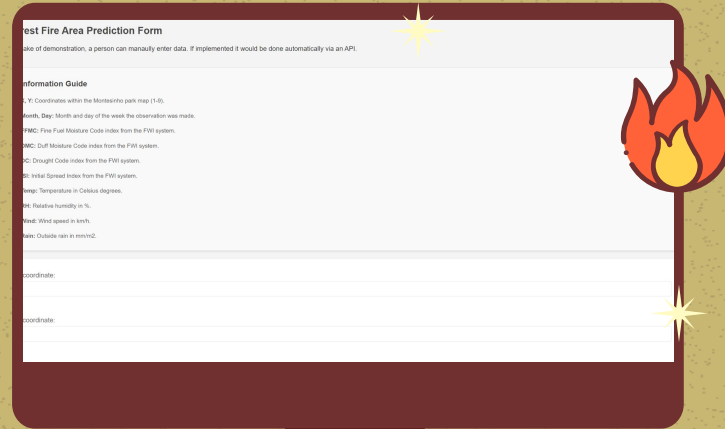
Predicting fires with ML weeks in advance

Opportunity

Revolutionize how fires are approached

My Solution

Intelligent, ML based,
platform for predicting area
burned by fires. Using
industry standard indexes,
the scale of fires can be
predicted.



test Fire Area Prediction Form

For sake of demonstration, a person can manually enter data, if implemented it would be done automatically via an API.

Information Guide

L, Y: Coordinates within the Montserrat park map (1-4).

Month, Day: Month and day of the week the observation was made.

FMCI: Fire Fuel Moisture Code index from the FWI system.

DMCI: Duff Moisture Code index from the FWI system.

DC: Drought Code index from the FWI system.

ISI: Initial Spread Index from the FWI system.

Temp: Temperature in Celsius degrees.

RH: Relative humidity in %.

Wind: Wind speed in km/h.

Rain: Outside rain in mm/h.

Coordinate:

Coordinate:

Demonstration





Strengths

- Predict area burned days to weeks in advance allowing firefighters to prepare beforehand
- May reduce damage and scale of fires
- Performance increases as more data is collected
- Can be connected to an automated platform that collects data so this process is automated

THANKS!

Do you have any questions?



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Sources

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