Wildfire Prediction:

a classification problem

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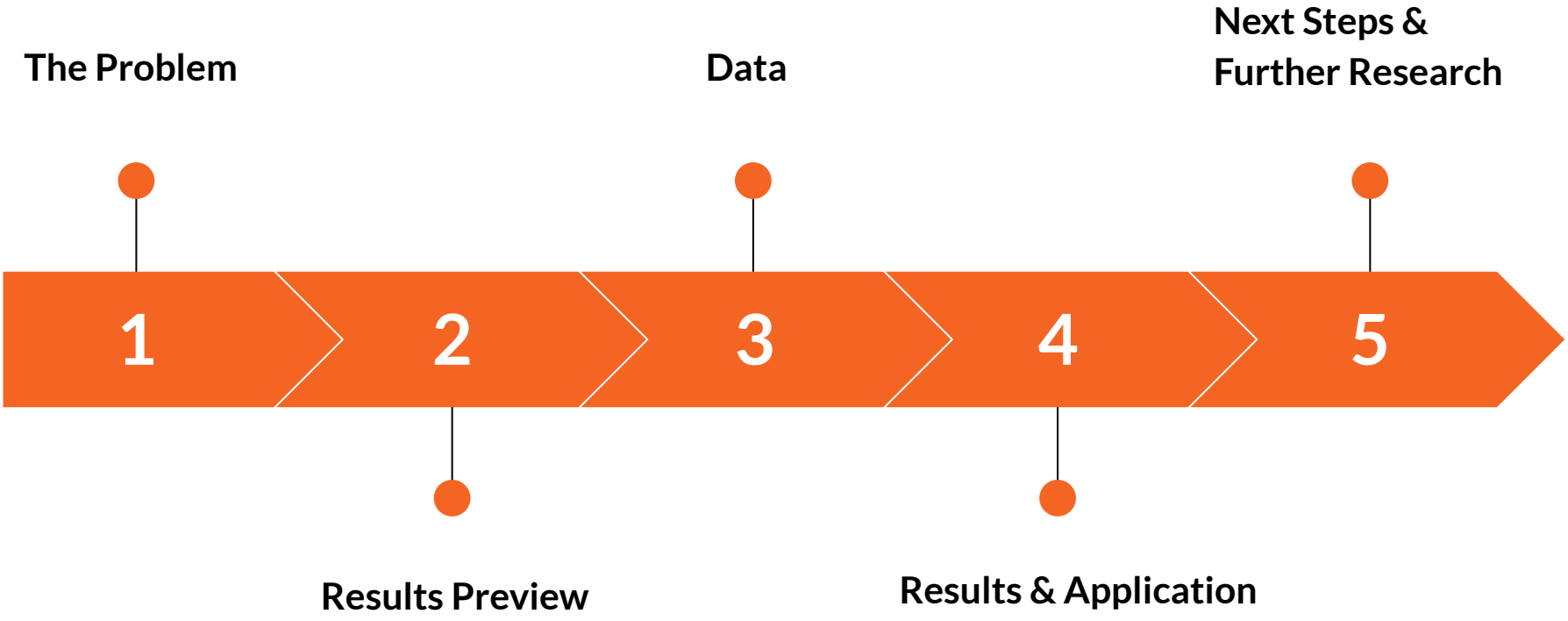
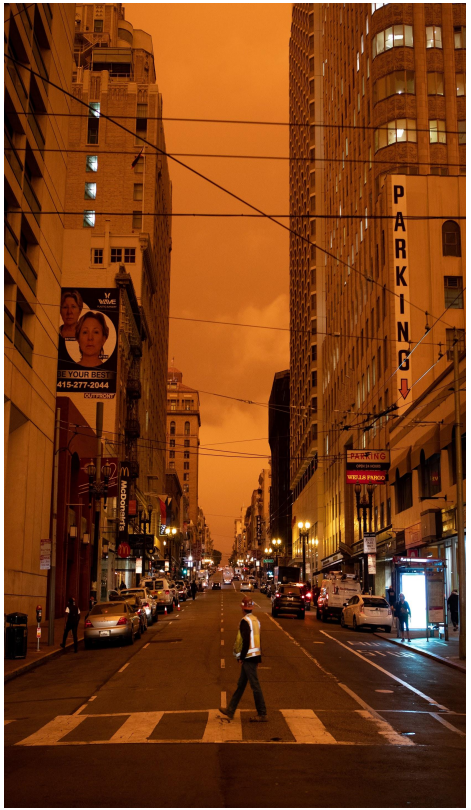

The Problem
Data
Next Steps &
Further Research
1
2
3
4
5
Results Preview
Results & Application

Climate change is exacerbating wildfires

Our goal:

Build a highly interpretable classification model that can predict which fires will become “catastrophic,” and aid fire departments in decision making and resource allocation



Our Results

Interpretability

Identified conditions that lead to large fires

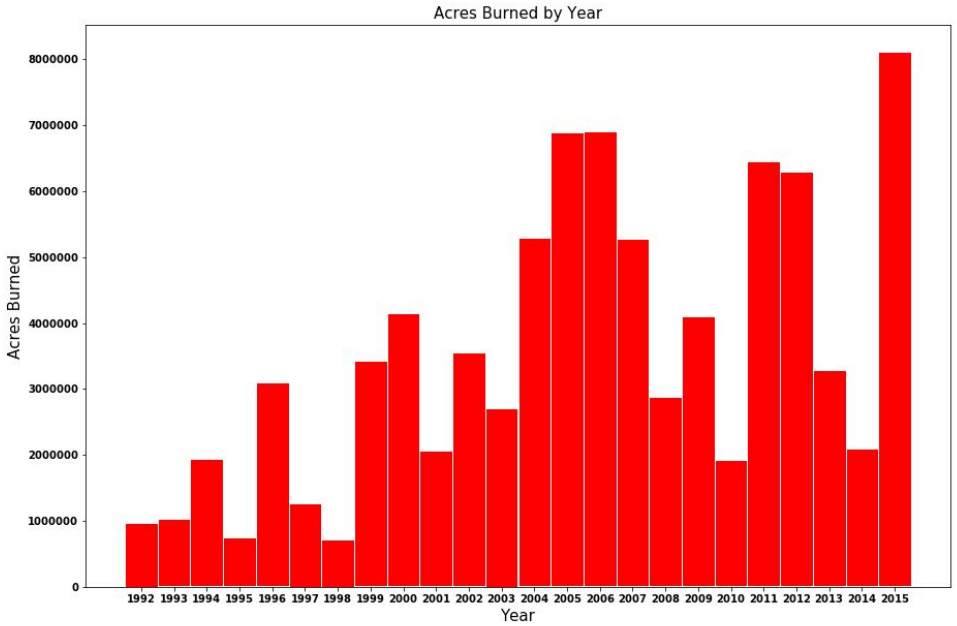
- Remoteness of Location
- Lightning Storms
- High Winds
- Geographic Location

Predictive Power

Created models to accurately predict size of fires

- F1 =
- Precision =
- Recall =

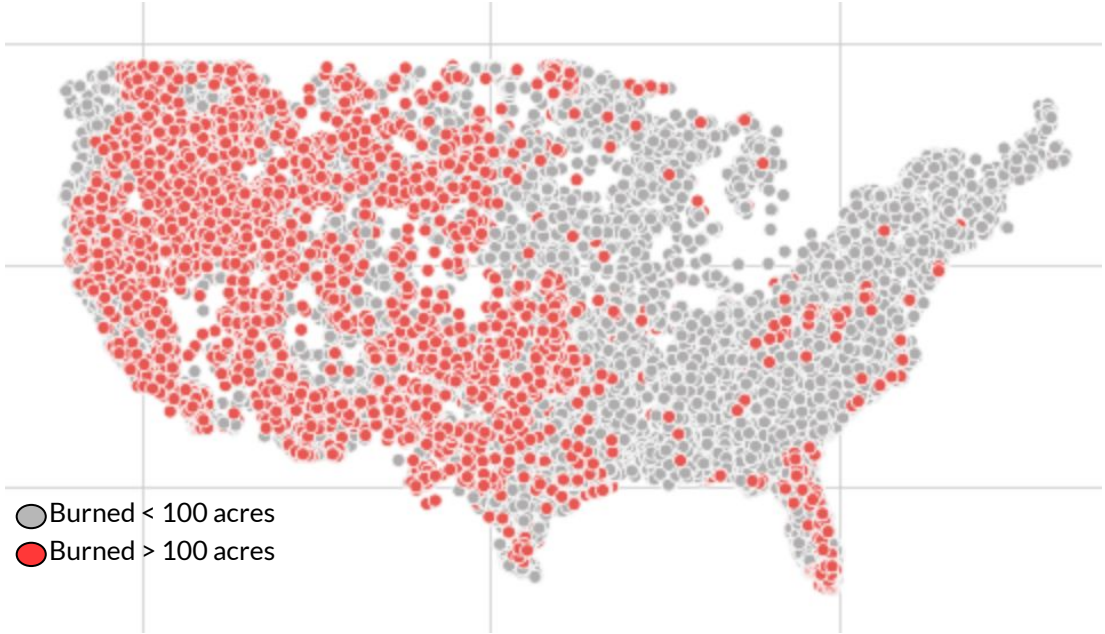
The Data



Retrieved From

- Forest Service Research Data Archive
- NOAA National Centers for Environmental Information

Our Process

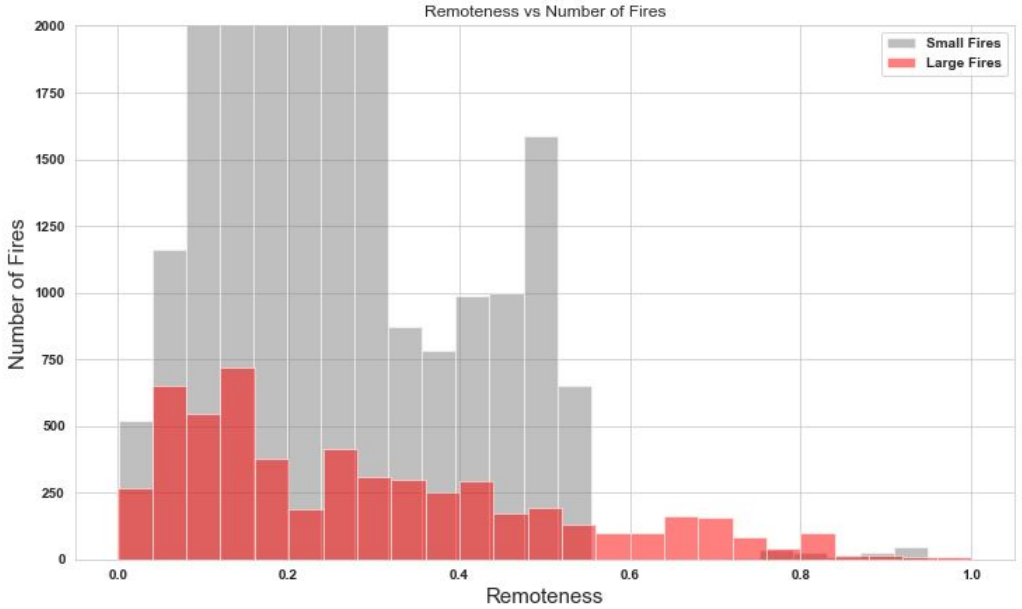


Wildfires in US, 1992-2015
(Not pictured, AK, HI, & PR)

Feature Engineering

- Categorical Dummies (Vegetation, State, Month)
- Remoteness
- Location in US
- Wind Speeds
- Humidity Levels

Results & Application



1) Catching a fire early will reduce risk of a fire getting out of control

2) Climate during start of fire

Next Steps & Further Research

More Data

- Nearest Road
- Nearest Fire Tower

More Clear Features

- Meaning of some features

Focus On Western United States

Thank you!

Questions?

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