

Forest Fires in the U.S

By: Arturo Delgado



Thats a lot of damage.



Why care?



My data

Kaggle

Total 1.88 million

Sample of 100k

39 column

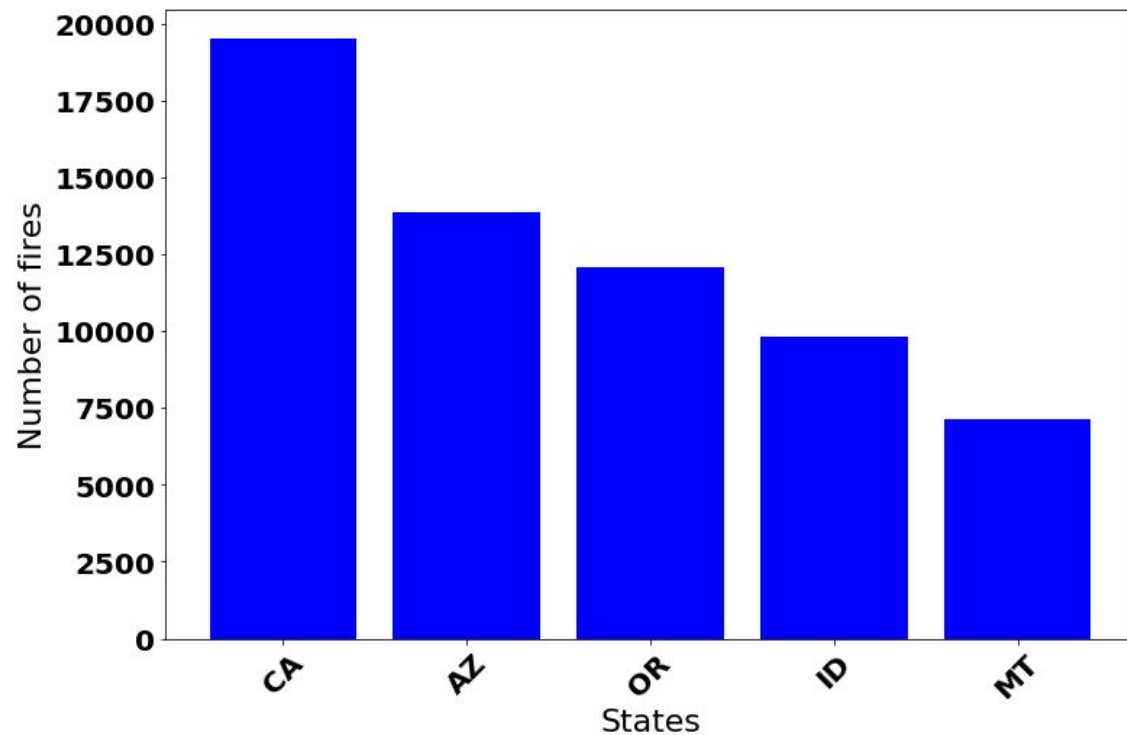
Collected: 1992-2015

Tools

Libraries: pandas, sklearn,
numpy, matplotlib
Python



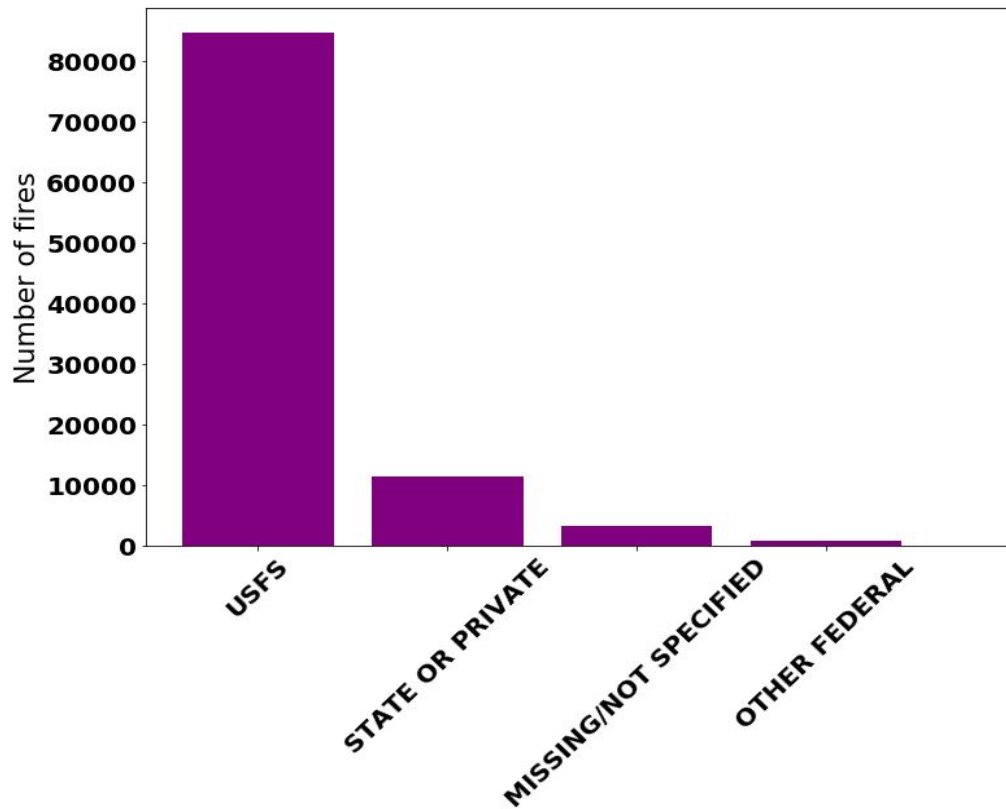
States count of wildfires



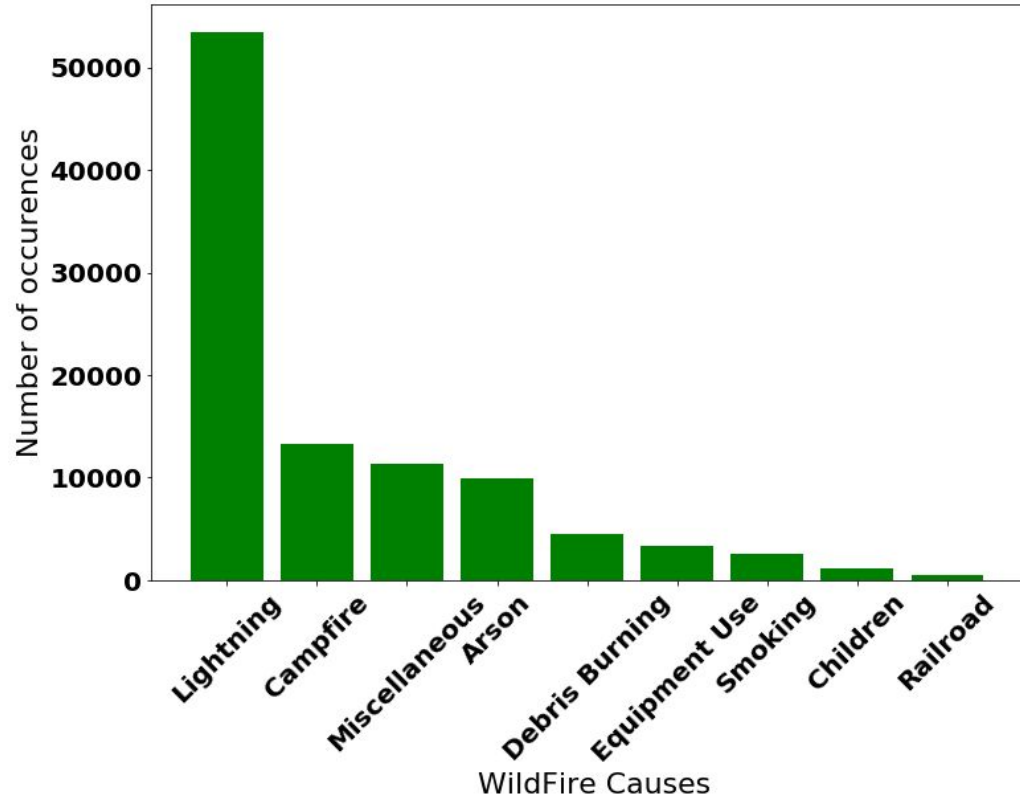


Owner of the land

USFS: United States Forest Service



Causes of WildFire





A bar chart showing the correlation of various features with the target variable. The y-axis represents the correlation coefficient, ranging from 0.00 to 0.16. The x-axis lists the features, with labels rotated 45 degrees for readability. The features are ordered by their correlation values, from lowest to highest. The highest correlations are observed for the discovery-related features: DISCOVERY_DAY (approx. 0.16), DISCOVERY_WEEK (approx. 0.12), DISCOVERY_MONTH (approx. 0.11), and DISCOVERY_YEAR (approx. 0.10). Other features like DISCOUNT_WEEK and DISCOUNT_MONTH show moderate correlations (approx. 0.06 and 0.05 respectively), while most other features have correlations below 0.02.

Feature	Correlation
STATE_ME	0.000
STATE_NY	0.000
STATE_VT	0.000
STATE_NH	0.000
STATE_NJ	0.000
STATE_IN	0.000
STATE_WV	0.000
STATE_ND	0.000
STATE_IL	0.000
FIRE_SIZE_CLASS	0.001
STATE_OR	0.001
STATE_GA	0.001
STATE_IN	0.001
STATE_OK	0.001
STATE_HI	0.001
STATE_SD	0.001
STATE_NV	0.001
STATE_NC	0.001
STATE_LA	0.001
STATE_MI	0.001
STATE_MA	0.001
STATE_WA	0.001
STATE_TX	0.001
STATE_UT	0.001
STATE_MS	0.001
STATE_AR	0.001
STATE_WA	0.001
STATE_CO	0.001
STATE_KY	0.002
STATE_MT	0.002
STATE_MO	0.002
STATE_NM	0.002
STATE_OR	0.002
STATE_AZ	0.003
STATE_ID	0.003
STATE_CA	0.004
OWNERS_CODE	0.038
FIRE_YEAR	0.044
DISCOUNT_WEEK	0.056
DISCOUNT_MONTH	0.100
DISCOUNT_YEAR	0.101
DISCOUNT_WEEK	0.107
DISCOUNT_MONTH	0.117
DISCOUNT_YEAR	0.122
DISCOVERY_DAY	0.160

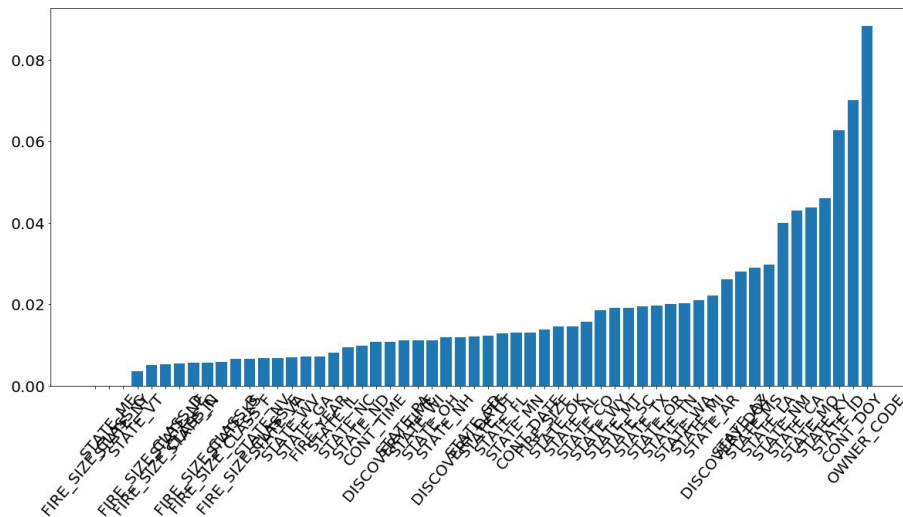


F1: .33~

Recall: .32~

Precision: .45~

Accuracy: .68~



Next Steps

- Run a Neural Network model to see if it can do a better job classifying
- Improve scores
- Do some feature engineering.
- Do Pca to reduce dimensionality



Thank You!

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