California Wildfires

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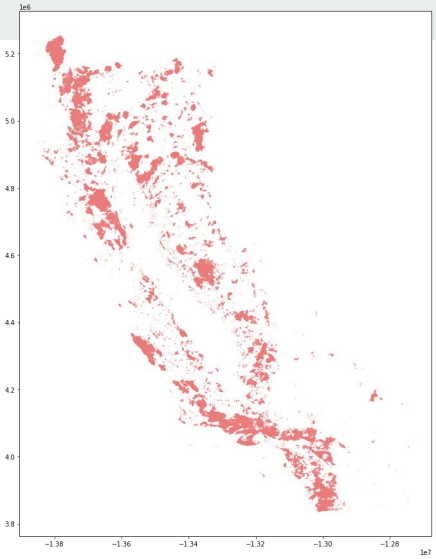
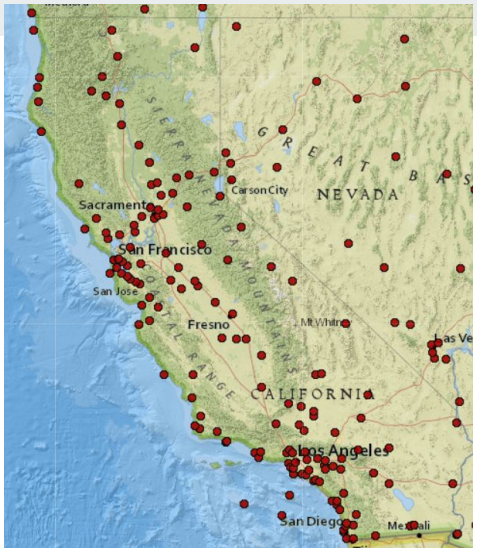
Objective: Predict the size of wildfires in California based on monthly average weather parameters

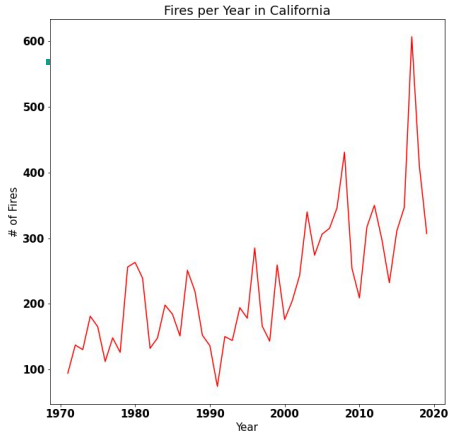
Fires Recorded in California

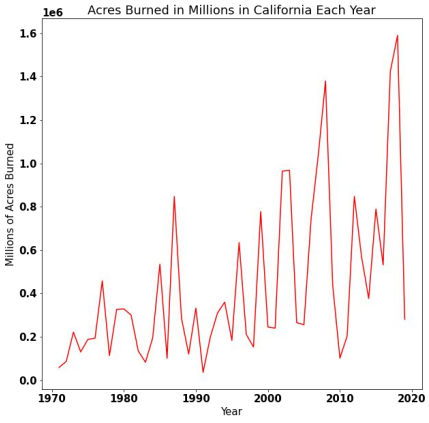


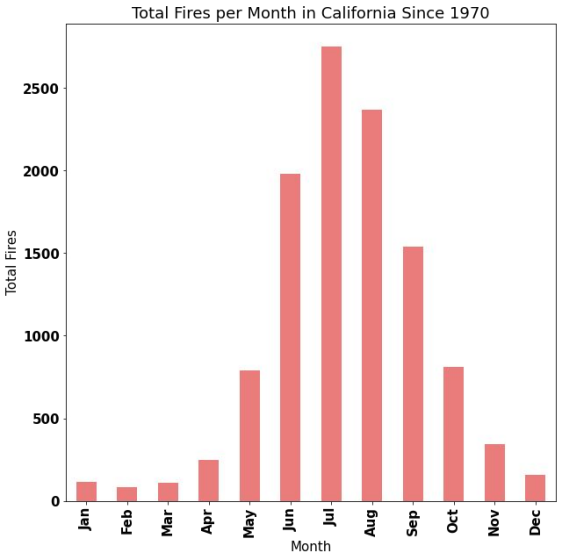
Weather Stations



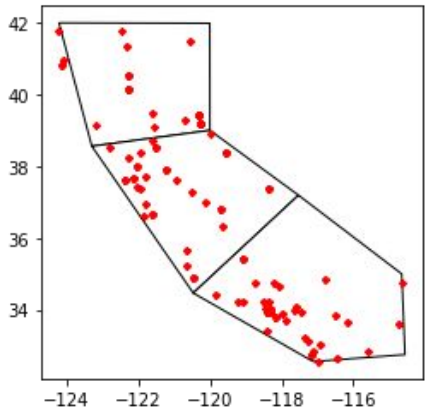
Dataset Exploration





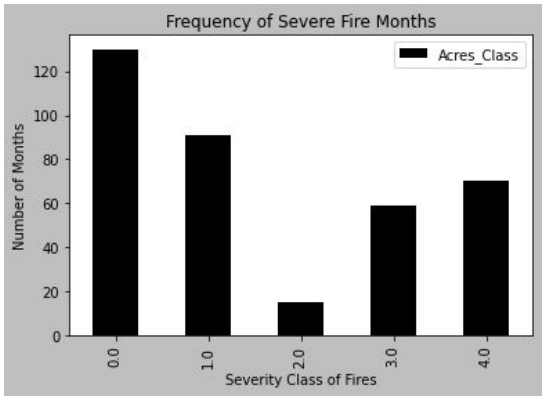


Data Processing



We split California into 3 sections to make the location an easier input parameter

We aggregated weather data over the last 3 months per region



We classified each fire on a scale from 0 to 4 to simplify prediction

Machine Learning

Linear Regression Model Basis 3

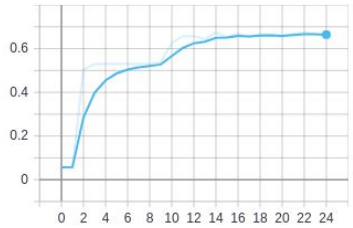
1. Predict the number of acres burned per month
   Standard Error = 1.000

2. Predict the number of fires started per month
   Standard Error = 15.562

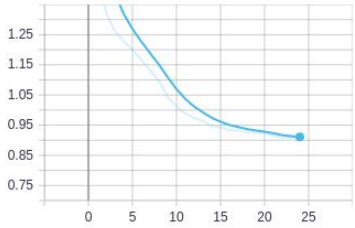
Neural Network

57% - 63% Accuracy on testing data

Network Accuracy



Network Loss



Major Obstacles

- Google Colab file system
- Working with shape files
- Preprocessing drastically reduced number of data points

What We Learned

- Trends in CA wildfires
- Importance of setting up the problem before data processing
- Improved technical skills