- Project title

Saving California / Predicting Future Wildfire Locations in California

- Team Members: Gordon Duncan, Shubham Kumar, Stephen Kim
- Dataset
  - California Wildfire Dataset : [Link]
  - Weather API : [Link]
- Project idea.

In 2020 in California there were 9,917 fires that burned 4,397,809 acres costing over 12 billion dollars. In this same year, five of the twenty largest fires in California's history took place, including the largest, the August Complex fire which burned over a million acres. The fires have gotten to the point where California is associated with being on fire.

Being able to predict where the fires happen and how many resources to allocate will help the state forecast how much money to spend. This should also help warn homeowners about high-risk areas. Our main project idea is to predict which areas are most likely to have fires. Our reach goal is to predict the number of resources (men, trucks, planes) to allocate to a fire. Our end product should allow state officials and homeowners to see what causes a fire, and where and what size the fire would be.

2020 National Large Incident Year-to-Date Report (PDF). *Geographic Area Coordination Center* (Report). National Interagency Fire Center. December 21, 2020

- Methods to use :
  - Regression
  - Neural Network
  - Decision Trees (Binary Trees)
- Papers to read :

  http://noiselab.ucsd.edu/ECE228-2020/projects/Report/75Report.pdf

  https://cdnsciencepub.com/doi/full/10.1139/er-2020-0019

  https://www.mdpi.com/2076-3263/10/3/105

- Milestone Goal :
  - Combining weather API data with the dataset.
  - Generate a heat map of all fires in California.
  - Get the regression model to predict wildfires in an area and areas affected by it using historical weather and fire data.