

# Mapping Road Closures with Real-time Traffic Data

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# Problem Statement

- During a natural disaster every moment is vital
- In an evacuation, roads could be blocked, completely closed and mapping services could be down
- Some services do not provide live info which could lead to inaccurate results
- With this project we intend to use live Twitter Data as well as Here.com to identify road closures that may affect evacuation routes

# Flask

- With this project we used a Python framework called Flask to build a web application
- This application's intention was for the user to enter in a location which feeds latitude and longitude to Tweepy and Here.com to show live tweets and road closures for the location in a specified radius

# Tweepy

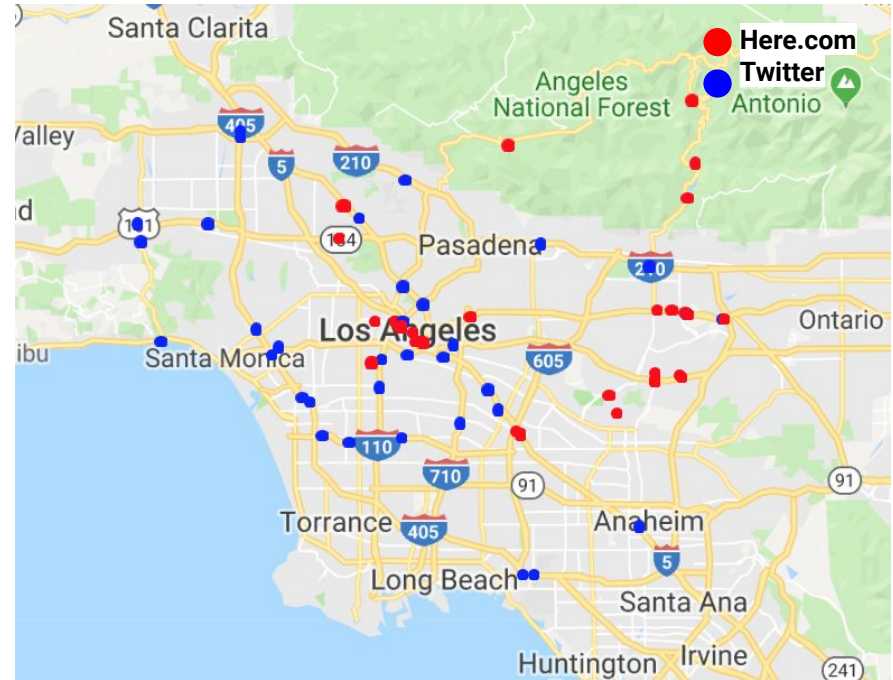
- Python library that interacts with Twitter's API
- Used to pull the most recent 100 tweets from TotalTrafficLA and then return the ones within our location radius
- Parsed out tweets to obtain the road that was closed, start and end points of the closure, and the coordinates of the closure

# Here.com

- Offers mapping and location services to companies such as Grab, Samsung, Bing Maps and AWS.
- Scraped lived information about road closures and incidents with a 40 mile proximity of city coordinates
- Converted dictionary to DataFrame to pull out road name, closure type and location latitude & longitude

# Gmaps

- Google Maps APIs: Geocoding and Maps Javascript
- Plotted road closures using latitude and longitude from data scraped from twitter & HERE



# Demo



## Issue 1:

# Twitter accounts and classification

- Initial approach:
  - Collected 200+ Twitter traffic, weather & news accounts
  - Tried various search queries
- During the EDA process, identified one account that was most relevant
  - Equivalent accounts in other cities
- Classification Model turned to Data Collection & API exercise



## Issue 2 :

# Getoldtweets3 and highways

- Initially wanted data relating to the Woosley Fire
- Twitter API limits historic searches so we used getoldtweets3
- Those tweets have no geo-location, only text data
- Mapping APIs aren't able to geo-locate when highway intersections are involved
- End result was switching to real time traffic info

# Future Dev:

## Enhanced Flask App

- We would have liked to run all our code through the Flask app and return the results through it as well.
- Unfortunately, we ran out of time so this is something we'll explore in future iterations

# Future Dev:

## Labels in the Google Map

- Another area of future development would be to add the closure text to the map as a label
- Ideally, you'd be able to hover over a map point and get the full tweet text or [here.com](#) closure info displayed

# Conclusion:

- Successful in finding and mapping road closures for a specific city
- However, we think we really just scratched the surface of possibilities here so we do not believe our project is ready to launch.

Questions?