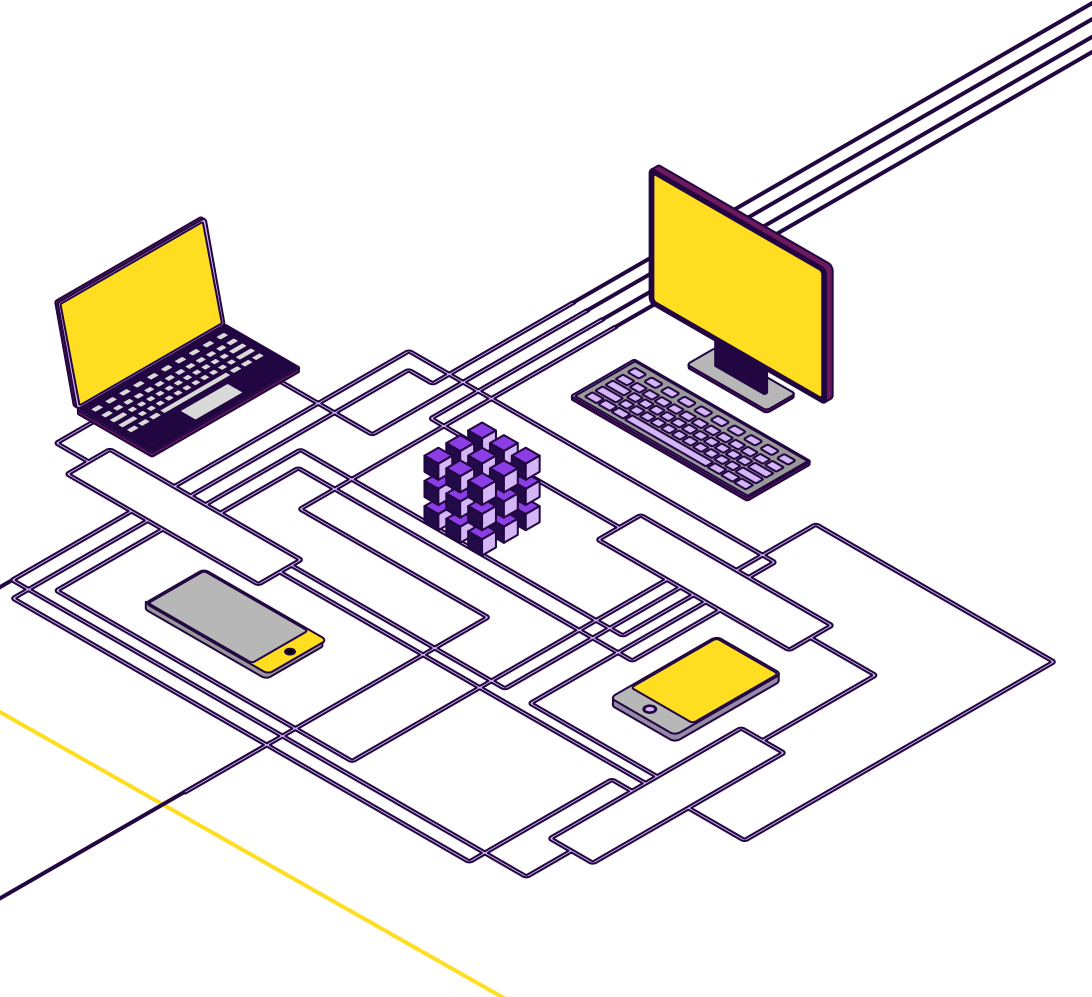


FOOD EASE

Data Science Project • April 27



ORDER OF CONTENT

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TEAM

MISSION

FoodEase connects people to critical information, food, and water in a crisis.

Making sure no one goes hungry after a disaster.



PROBLEM

Disaster victims struggle to receive and share food and water, because responders cannot interact directly with or optimize information directly from victims.

SOLUTION

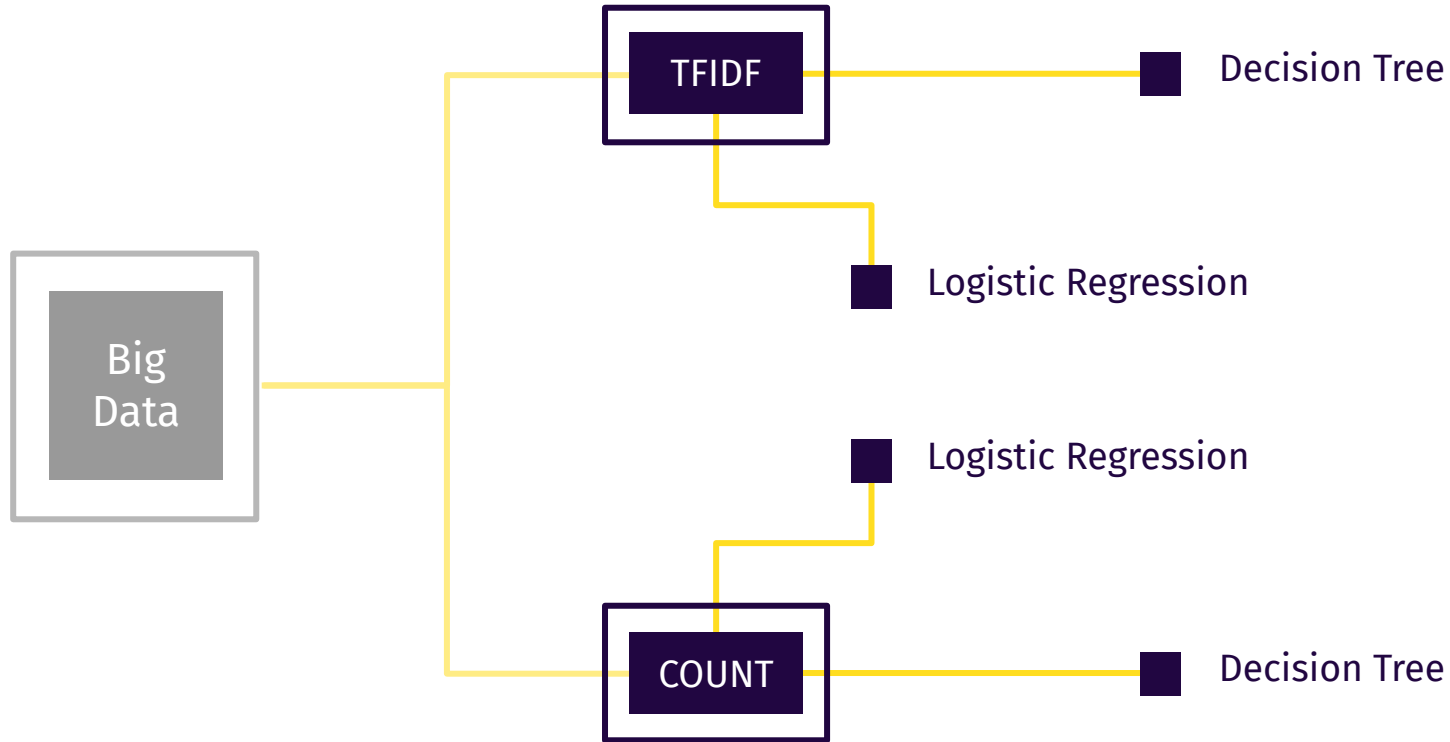
FoodEase optimizes relief distribution by analyzing social media data to identify actual disaster locations to target for supplying critical food resources.

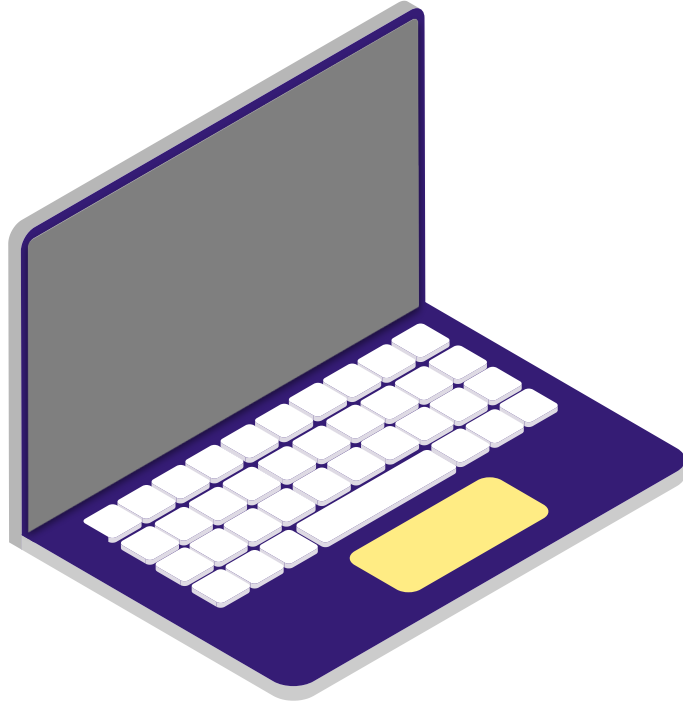
METHODOLOGY



- **DATA CLEANING**
- **VECTORIZER**
- **CLASSIFIER**
- **VISUALIZATION**

MODELING

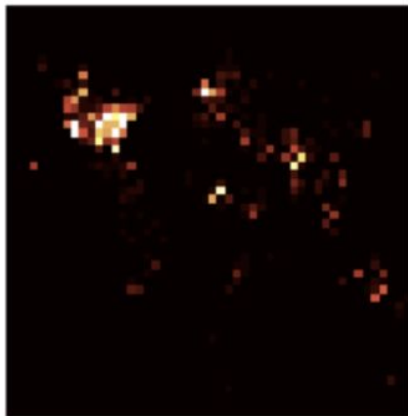




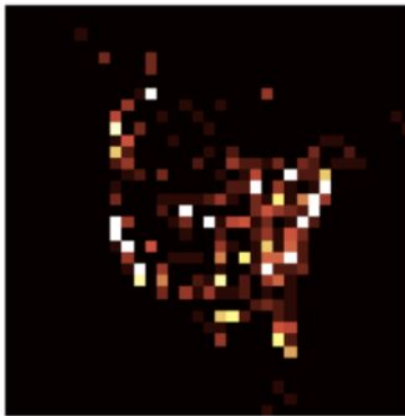
VISUALIZATION

How to communicate analysis
of tweets for actual disaster
and for predicted disasters?

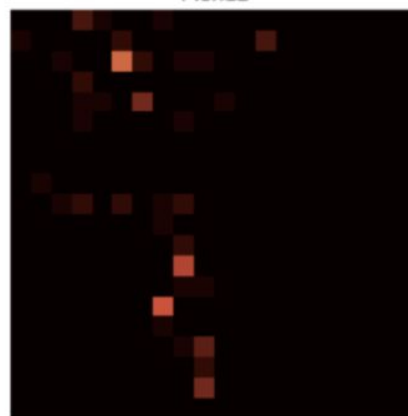
Actual Disaster Tweet heatmap
Whole World



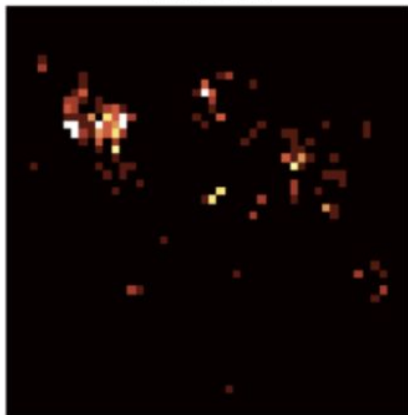
Real Disaster Tweet heatmap
United States



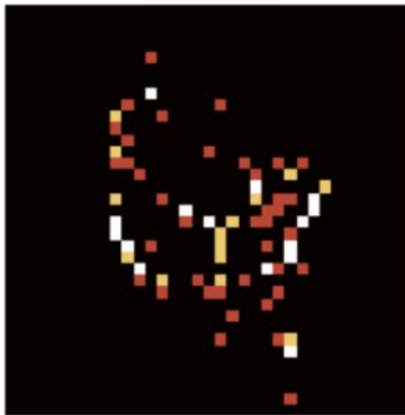
Disaster Tweet heatmap
Florida



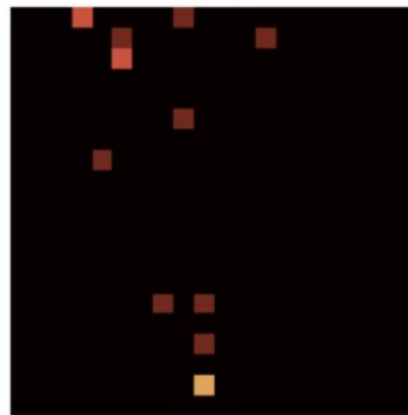
Pred Disaster Tweet heatmap
Whole World



Pred Disaster Tweet heatmap
United States



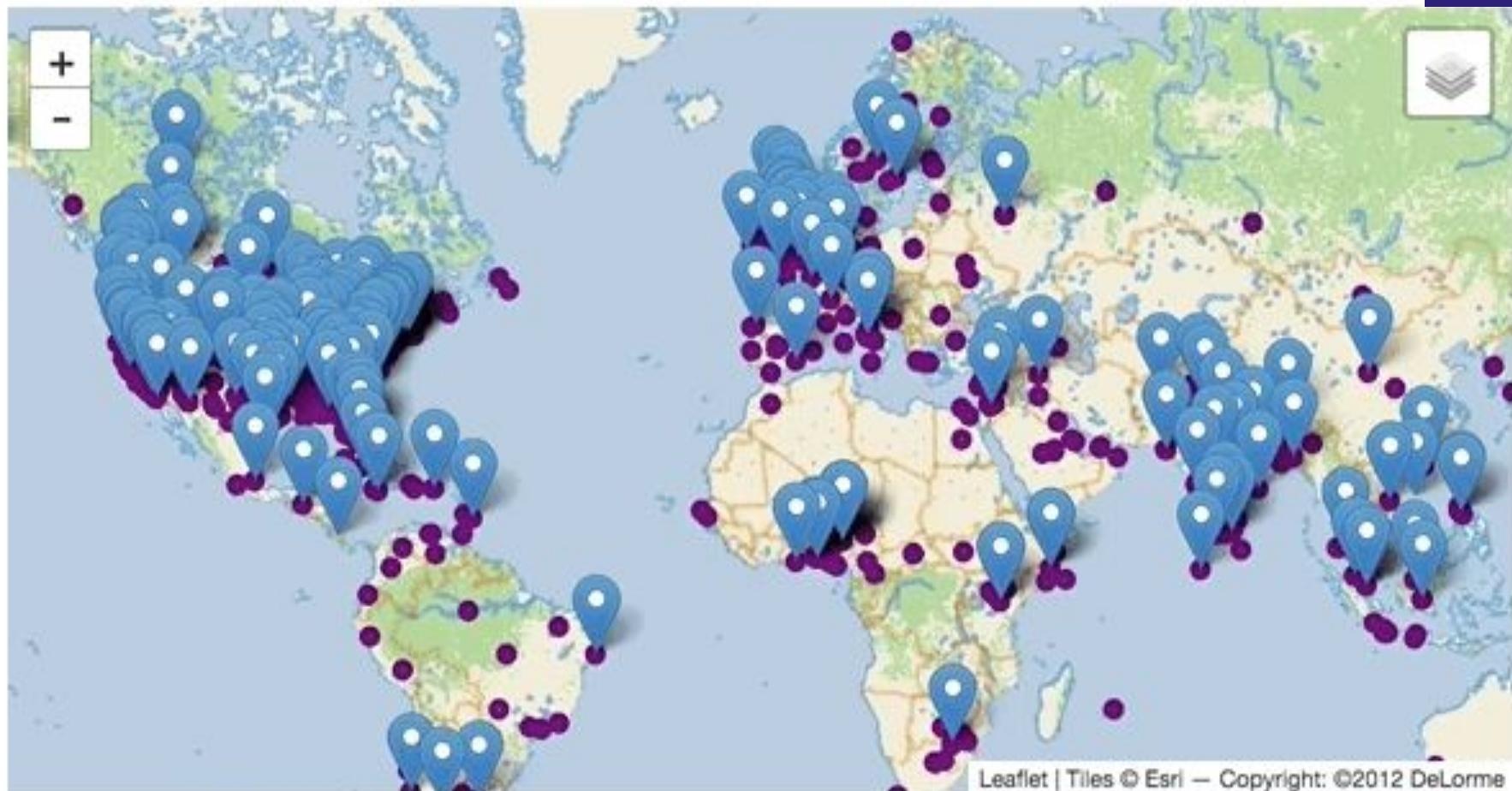
Pred Disaster Tweet heatmap
Florida



PREDICTED DISASTERS BASED ON TWEETS:

Note: click on markers to read corresponding tweet.

02



1]:



RESULTS



Logistic Regression

Predict the accuracy of a crisis mentioned on social media, even if weakly structured.



TfIdf Vectorizer

Validate news of a crisis and can identify which locations are most at risk (if tied with more data).



Cluster Estimates

Visualize the size and of a crisis through clustering by geographic zone (if tied to more time values).

NEXT STEPS



RESEARCH

Improve and add risk datasets (socioeconomics) .



COVID-19

Apply model to data tracing for current efforts.

GEOCODING



Test optimizing routes between marker addresses.

PILOT TEST



Live program in Puerto Rico (Hurricanes).

REFERENCES



- Data World (Crowdfunder) — Disasters on Social Media
- Kaggle — Real or Not? NLP with Disaster Tweets
- Kaggle — Disaster Tweets Geodata
- Libraries — numpy, pandas, matplotlib, scipy, sklearn, ipyleaflet, geopy, geopandas



OUR TEAM



Christina Holman

Design + Strategy

Economics with
Engineering Design

Human-Centered Design
+ Intl. Development



Earn Khunpinit

Finance + Fundraising

Operation Management

Wastewater Treatment +
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Neuroscience with
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Market Intelligence

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Humanitarian Aid
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