The Conflict in Yemen: Predicting Civilian Casualties

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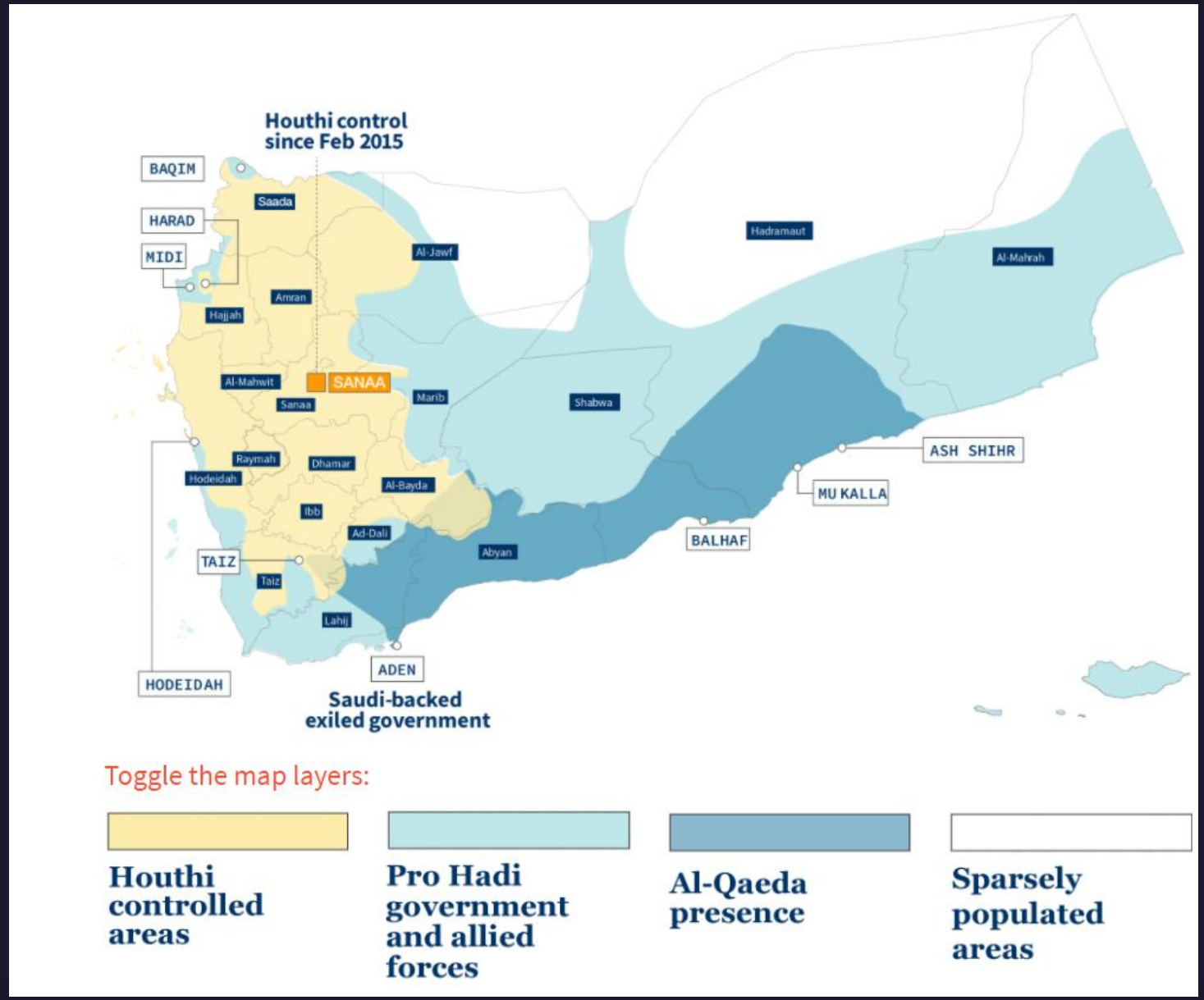
Introduction

- Yemen is currently experiencing one of the world's worst humanitarian crises. More than three and a half million people have been displaced by the ongoing conflict. Millions of people depend on humanitarian assistance for survival.

The Conflict

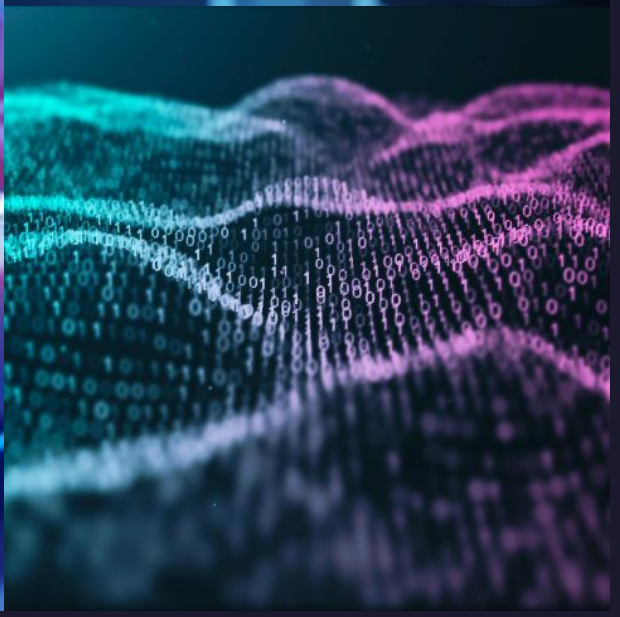
- Foreign Actors
- Doctors Without Borders



https://interactive.aljazeera.com/aje/2018/Saudi-Arabia-air-raids-on-Yemen/index.html#2019

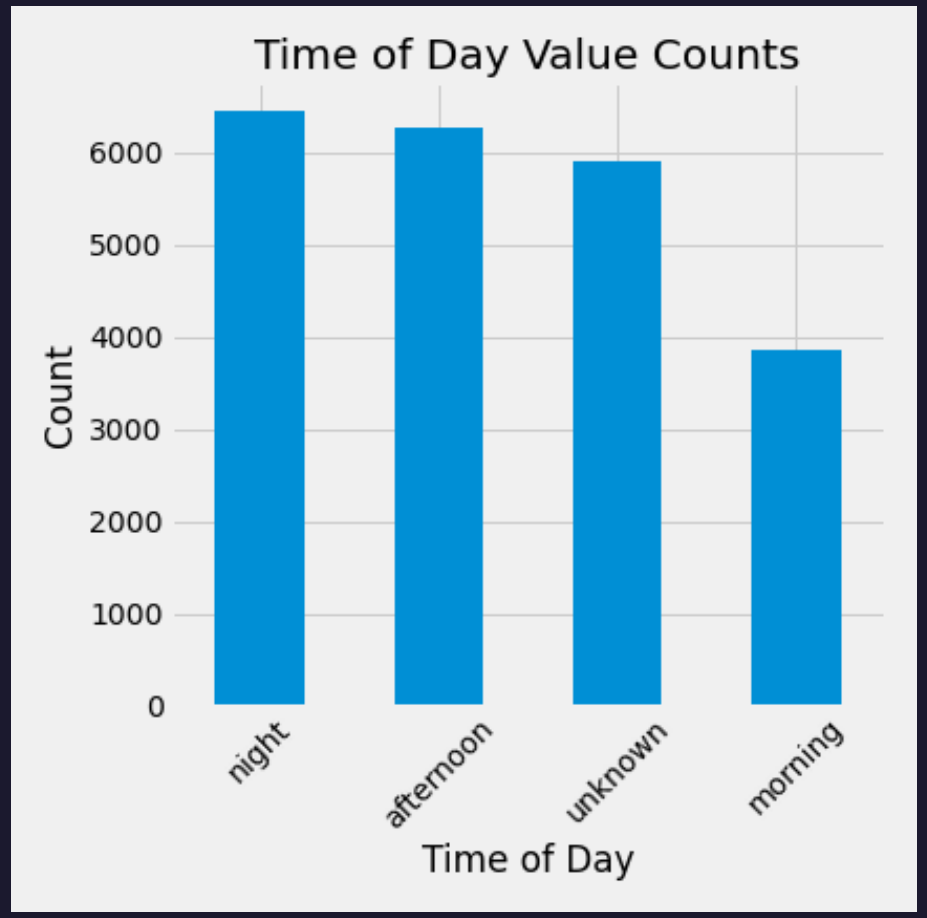
Our Mission:

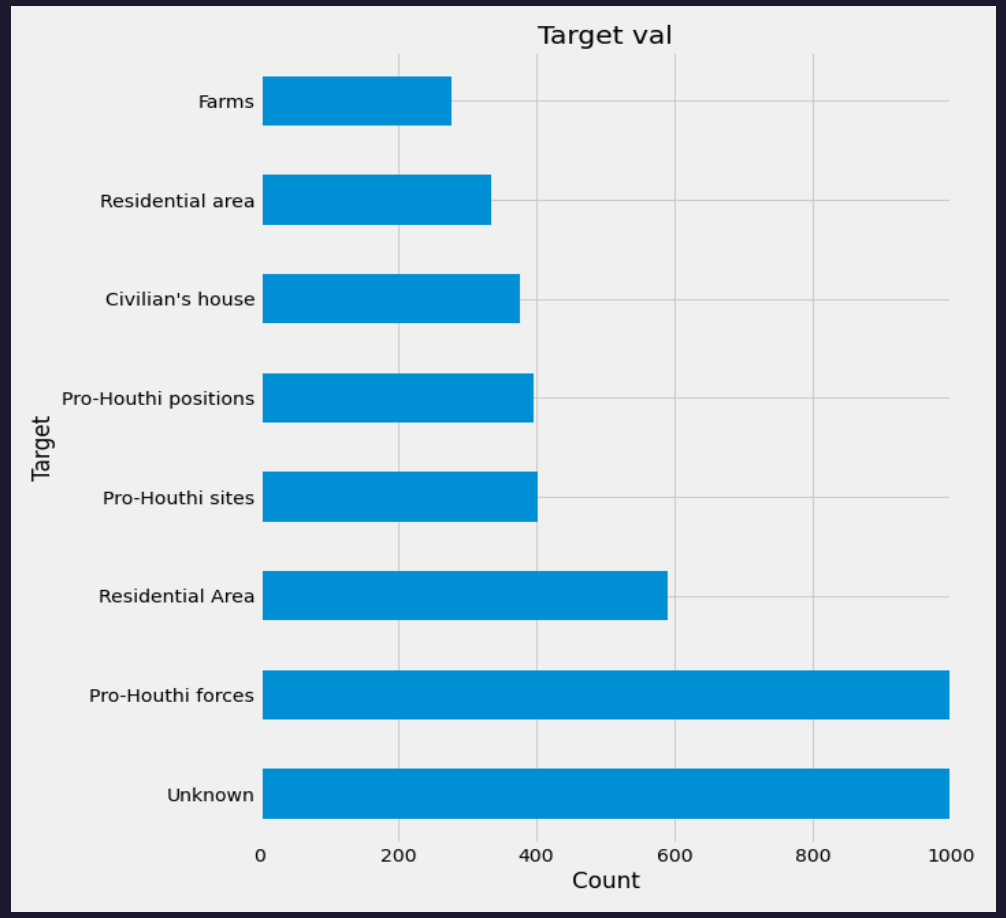
- We aim to build a model that predicts the number of civilian casualties to expect if a certain area is attacked.
- Due to the unreliability of data in a warzone, our model will need to be able to interpret unknowns in the data set, and still be able to accurately predict civilian casualties.



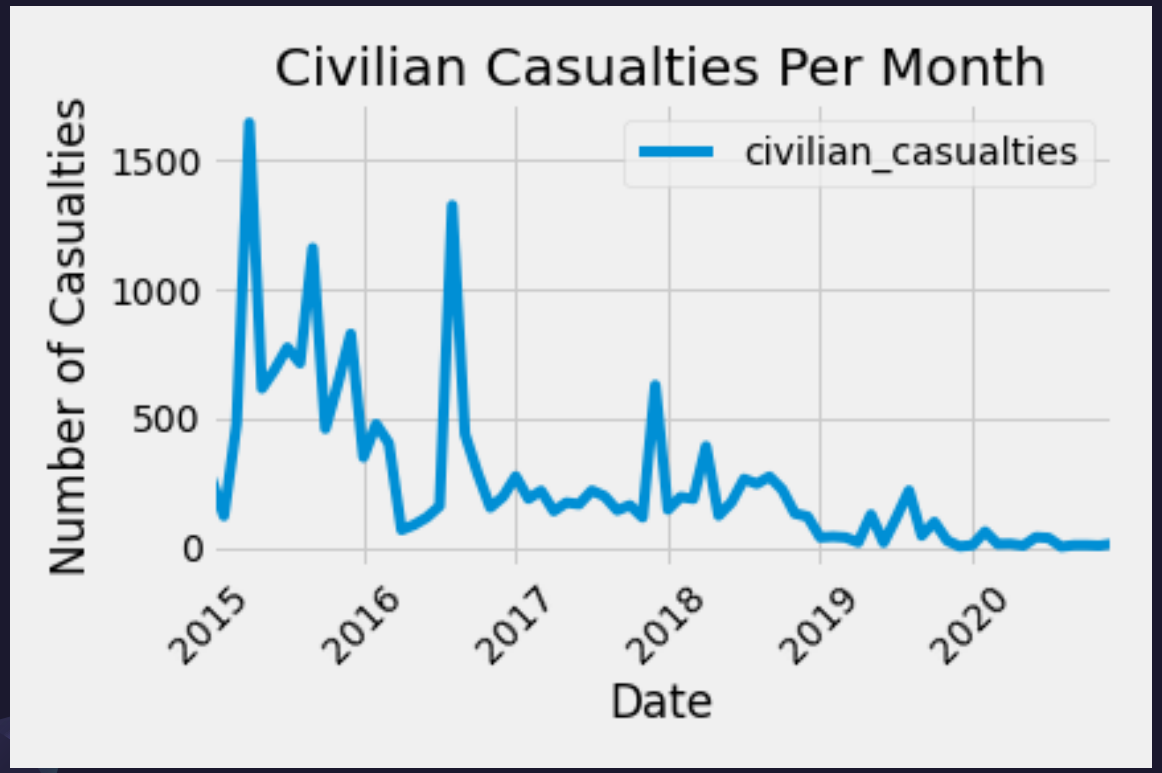
The Data:

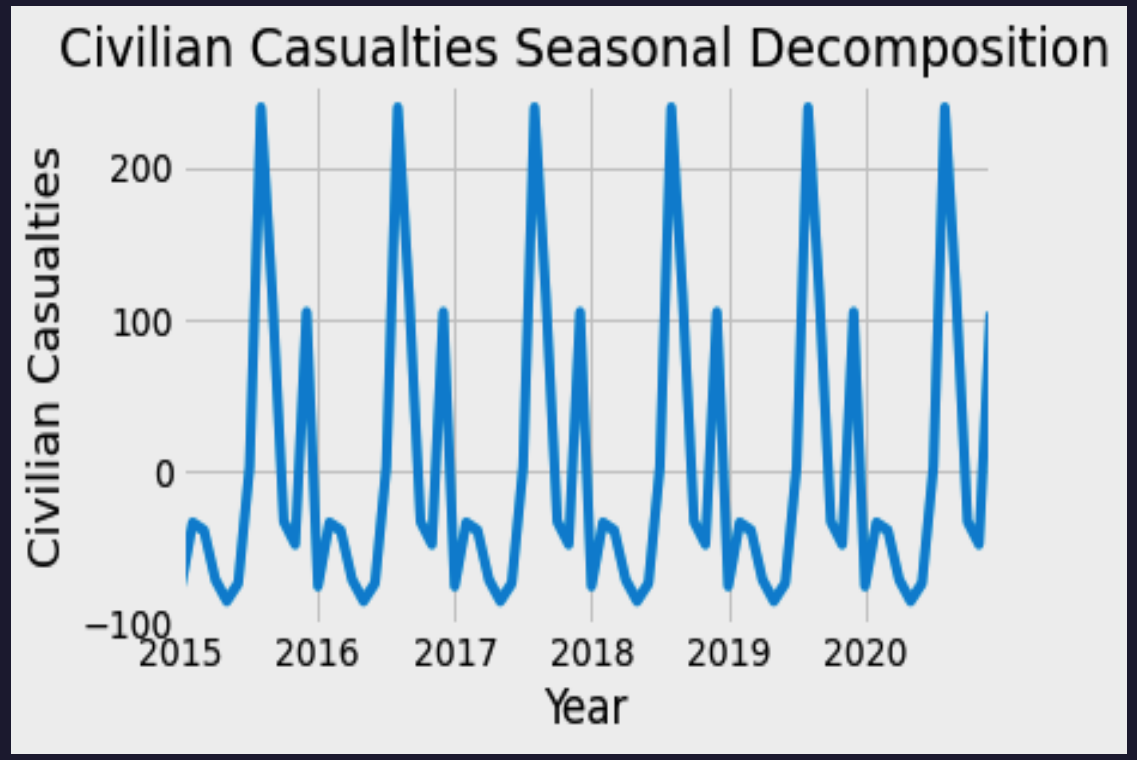
- Data was gathered from the Yemen Data Project (yemendataproject.org).
- This data contains a lot of unknowns. This speaks to difficulty in collecting data in a warzone.



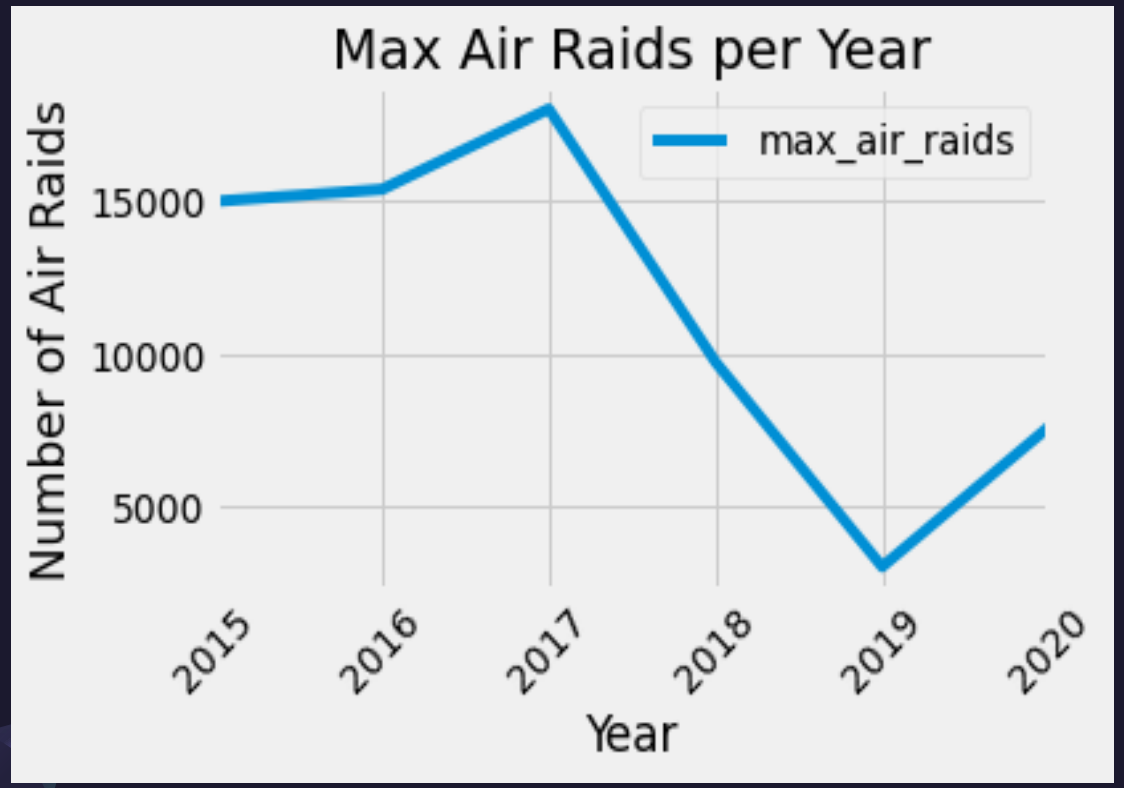


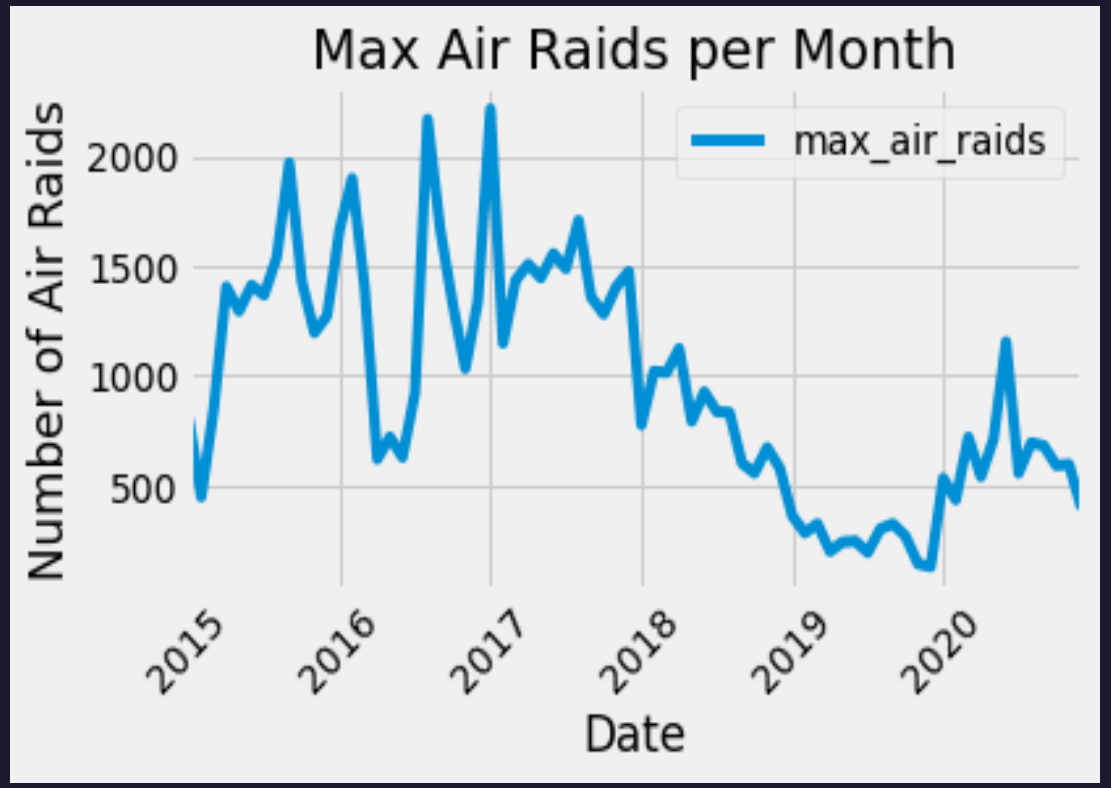
Seasonality:





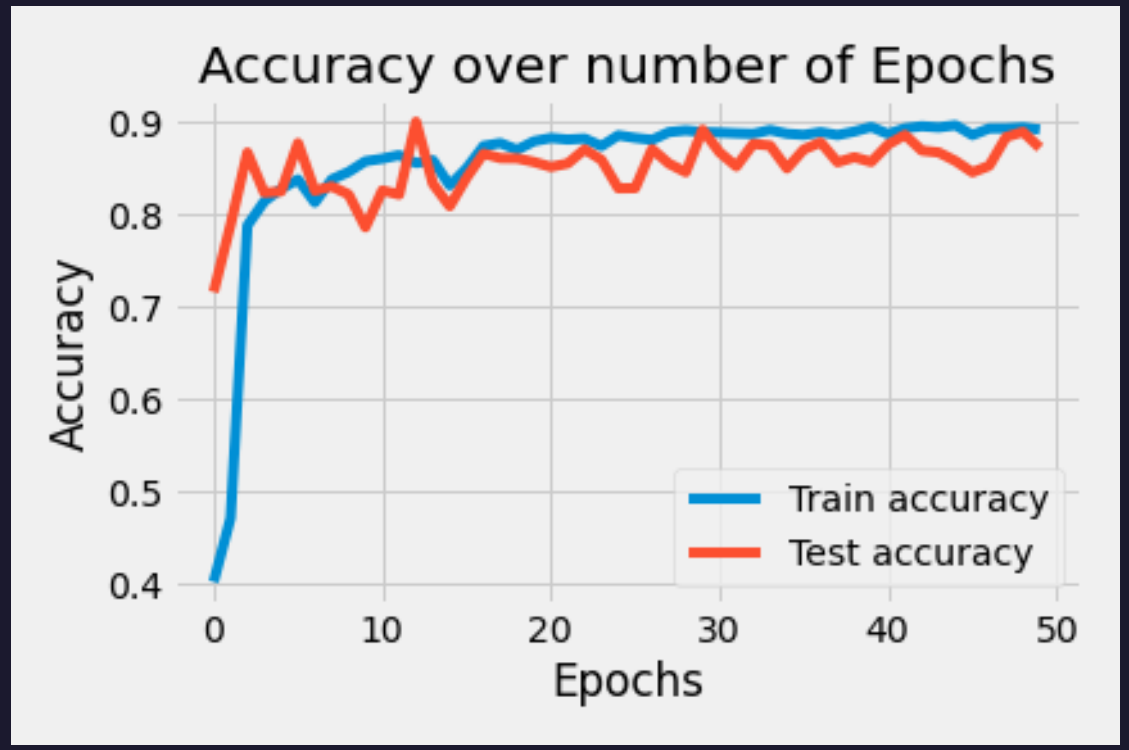
Seasonality:



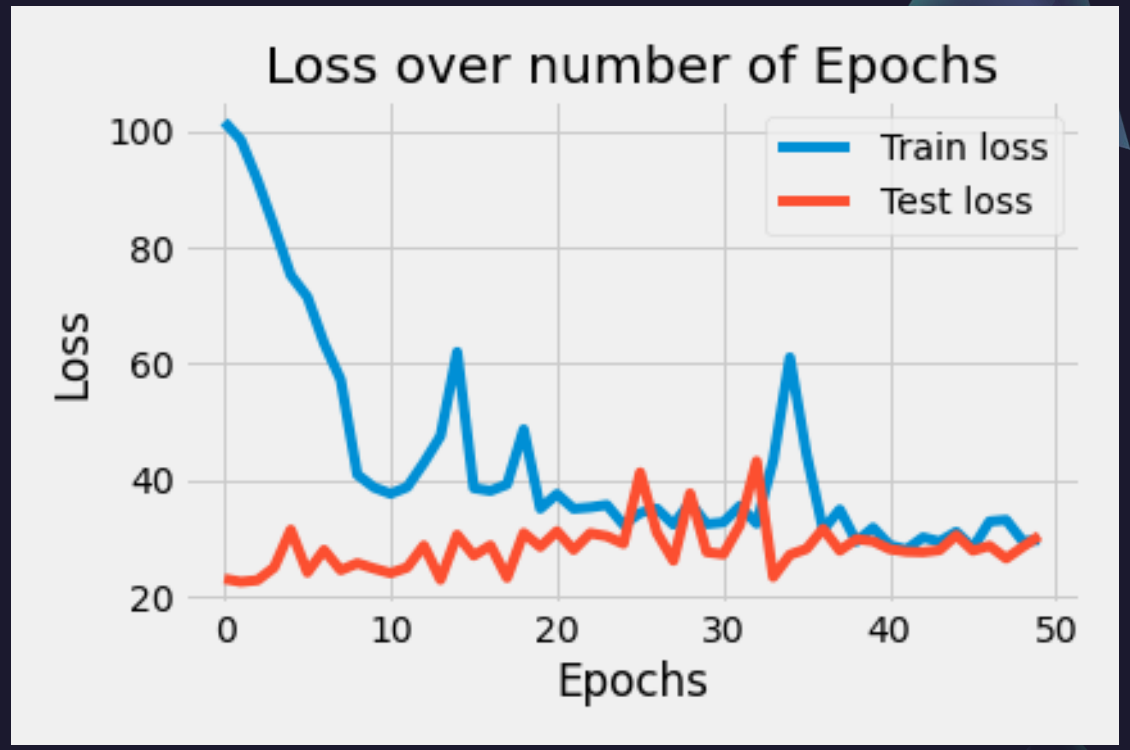


The Model: Regressive Neural Network

ACCURACY



LOSS



Conclusions & Recommendations:

- We used a neural network model to predict the number of casualties in order to appropriately allocate aid as real time information on the ground may not be that accurate in the midst of a crisis.
- Based on the data provided we are able to predict the number of casualties based on location hit with approximately 90% accuracy.
- We would recommend further research to look at the impact of landmines and IEDs on the number of casualties in order to improve accuracy in predicting aid allocation.

Thank You

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