



Solve for Good

Data Fest 2020

Cyclone Amphan

Analyzing Experiences of Extreme Weather
Events using Social Media Discourse

Meet our **team**



**Ancil
Crayton**

Project Manager



**Jared
Ross**

Data Scientist



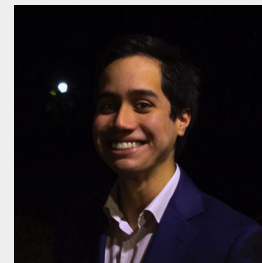
**João
Fonseca**

Data Scientist



**Kanav
Mehra**

Data Scientist



**Marcelo
Sandoval-Castañeda**

Data Scientist

Meet our **partner**

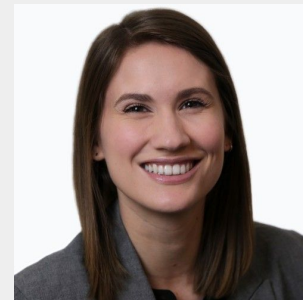


And meet our project's **champions**:



Michelle Ng

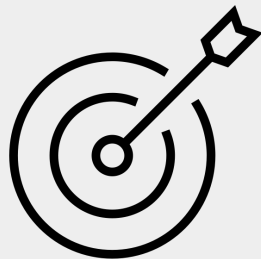
Digital Innovations Analyst



Rachel von Gnechten

Research Analyst

What are we doing?



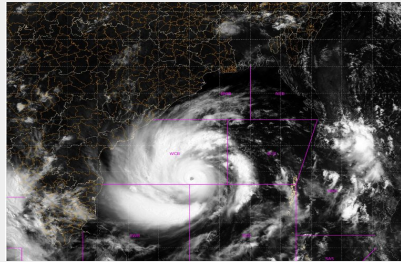
Identify and better understand the **experience**
and needs of **vulnerable communities**
affected by **natural disasters** using social
media data

Amphan **timeline**

May 18

IMD issues warning

Around 7 lakh people evacuated in Bengal and Odisha



May 20

Landfall

Moving with a speed of 220 km/h
First super cyclone since 1999



May 21

Damage / Impact

106 lives lost. \$13.2 billion in damage.
300K hectares of agricultural land impacted.



May 22

Relief Measures

41 NDRF teams deployed. Centre announces relief package worth \$200 million.



Which **questions** are we looking to **address**?

Identifying unmet needs



Finding **actionable** or **needs-based** information



Affected people
Requesting help
Offering help

Comparing narratives



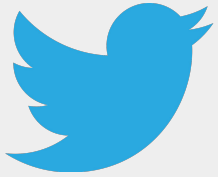
What were the different narratives?



Who shaped the **dominant** narrative?

Who was **marginalized**?

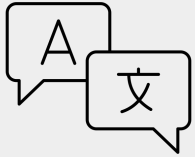
How are we doing this?



~ 470k Tweets



Get sentiment

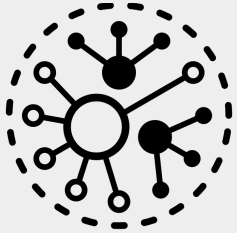


Text translation



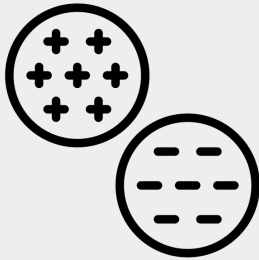
Load data

How are we analysing it?



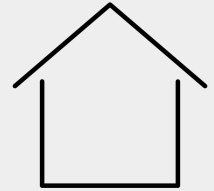
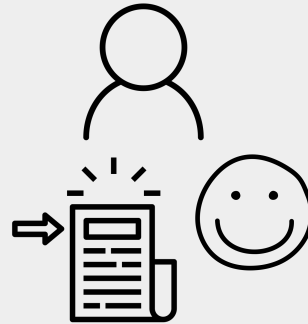
Build the
Network

Find user
communities



Extract
community
locations

Combine
analyses



Find **unmet**
needs!

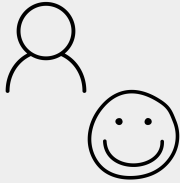
What have we **found**?



Different user **communities**



25 dominant **topics**

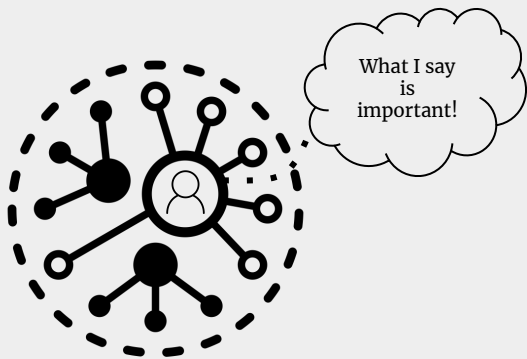


Type of **speech/sentiment/user** correlations



Unmet **needs**

What are the **impacts**?



Discourse represents user **communities**

Influential users exist in each of these communities

We can identify and **prioritize calls for help**

It is possible to **pin down exact locations** of home damage and destruction



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Thank **you!**

Narratives and Needs: Analyzing Experiences of Cyclone
Amphan Using Twitter Discourse

<https://arxiv.org/abs/2009.05560>