Social Sensing of Floods

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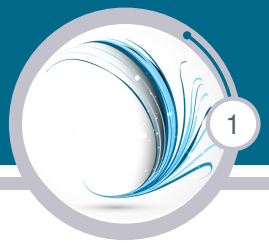

Introduction

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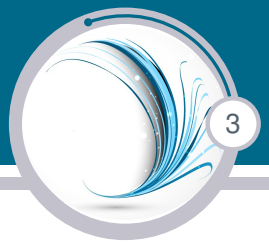
Introduction

- Social sensing is a form of crowd sourcing.
- Aim of Social Sensing of Floods is to predict flood events using Twitter.
- Based on the paper Social Sensing of Floods in the UK Published in the journal PLOS ONE.
- Here flood prediction takes place depending on its impact of human life.
- Current systems are based on satellites and radio waves.
- Sometimes existing system fails to predict floods early.
- Existing system can’t predict small floods.
- Social sensing of floods is trying to overcome these disadvantages.

Social Sensing of Floods
Methods and Results



There are 4 methods used here:

- Data collection
- Filters
- Location inference
- Flood event detection

Results:

- Data preparation
- Real time flood maps
- Validation and tuning

Methods

Data Collection:

- Twitter data set
- Validation Data set

Filters:

- Timezone Filter
- Bot Filter
- Re tweet Filter
- Relevance filter

Methods

Location Inference:

- Location Field
- Message Text
- Overall Inference

Flood Event Detection:

- Combine the tweets into a map of flood events
- Compare with validation data set
- Select tweets in every 24 hours

Results

Data Preparation:
To make our data more directly comparable, we create a count for each day by summing the populations of the flooded areas multiplied by the severity of the flood in the area .

- minor flood->1
- significant flood->2
- severe flood->3

Real Time Flood Maps:

- Creating the flood maps

Validation and Tuning:

- Grid creation

Reference

- Harvesting social media for generation of near real-time flood maps by Dirk Eilander and et al.
- A novel approach to evaluate and rank candidates in a recruitment process by estimating their emotional intelligence through social media data Rahulnath H A and Vishnu M Menon, Computer Science and Engineering Department TKM College of Engineering Kollam

Conclusion

- This project can help to predict floods early as possible
- Disadvantage of this system are the internet availability and popularity of Twitter in India.
- But India's technologies are growing fast.
- So this system will be an asset for us.

Thank you