

AI-POWERED EMERGENCY DISPATCH OPTIMIZER

TRANSFORMING SOCIAL MEDIA CHAOS INTO ACTIONABLE INTELLIGENCE

CAPSTONE PROJECT | HACKTIV8 X IBM
JUNE 22, 2025



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The Opportunity: Saving Time to Save Lives

The Situation

During disasters, emergency teams are flooded with millions of social media posts, creating critical "analysis paralysis."

Our Solution

We developed Project Sentinel, a two-phase AI engine using IBM Granite to automate the analysis of unstructured tweet data.

- Phase 1 (Classification): Instantly filters 90% of noise to isolate urgent pleas and damage reports.
- Phase 2 (Summarization): Distills critical pleas into a high-level executive briefing.

The Impact

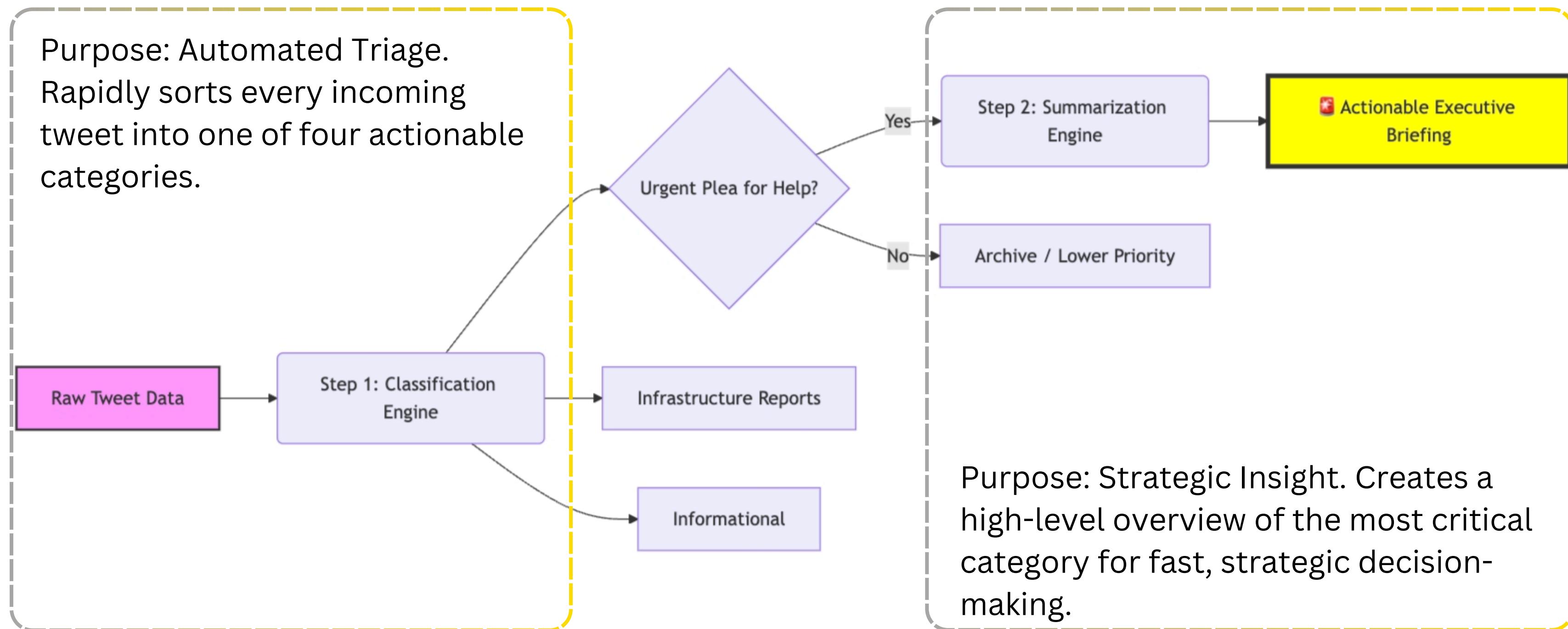
- Reduces Triage Time: From hours to seconds.
- Increases Signal Fidelity: Focuses resources on the 10% of posts that matter most.
- Delivers Actionable Intelligence: Enables faster, more informed command-level decisions.

The Core Challenge: Finding the Needle in a Digital Haystack

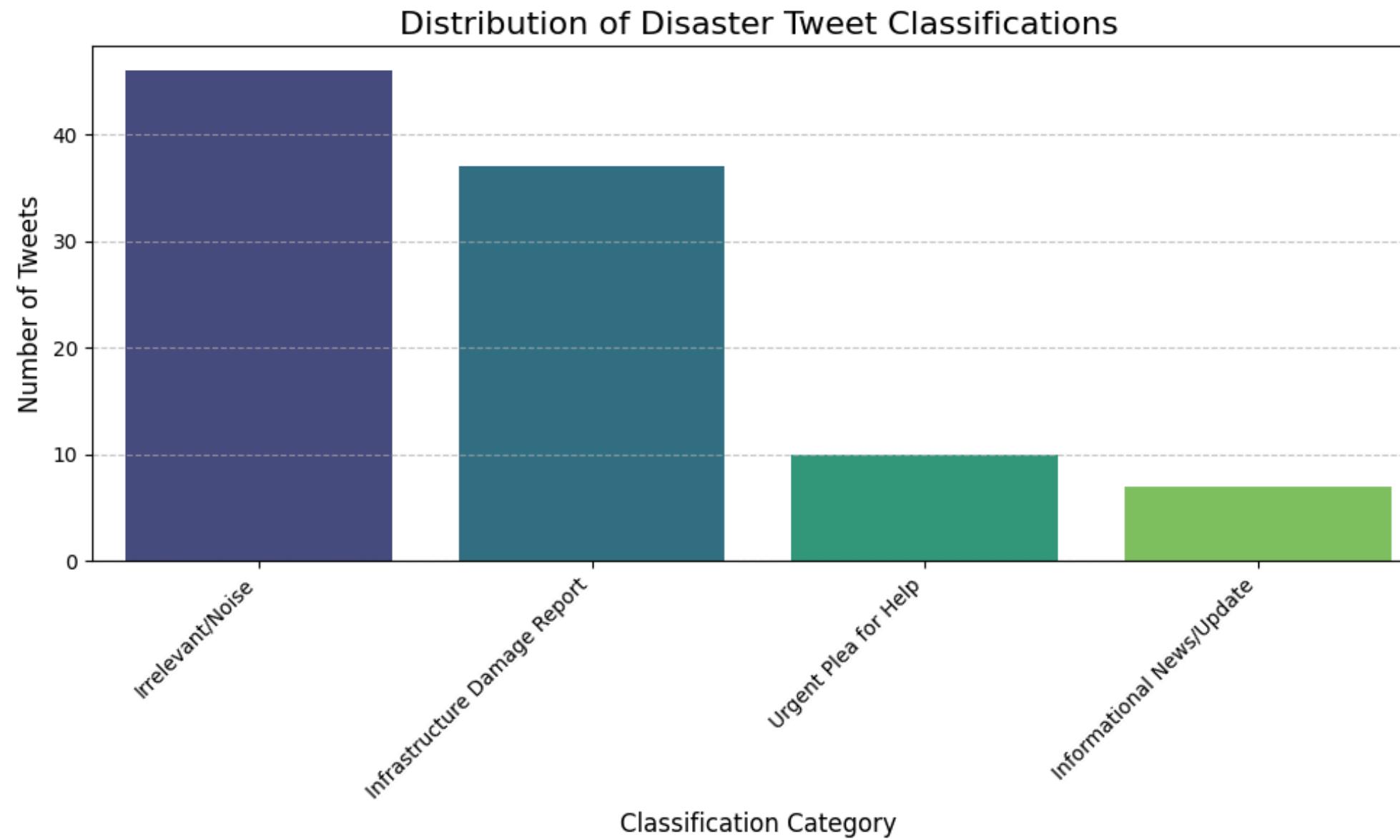
933 1234,blood,,Broke my nail(real not fake) this morning blood and all ah it hurts

- Information Overload: Human teams cannot scale to meet the data volume.
 - High Risk of Missed Signals: Critical pleas for help are buried, delaying rescue.
 - Resource Misallocation: Responders are dispatched based on incomplete or slow intelligence.

Methodology: A Dual-Phase AI Workflow

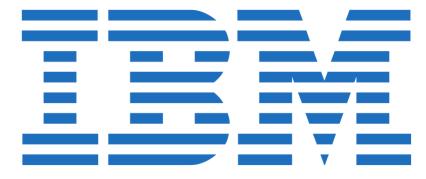


The AI Successfully Filtered 90% of Social Media Noise



So What?

This result proves that the overwhelming majority of disaster-related traffic is not directly actionable. Our AI filter allows response teams to immediately focus their limited attention and resources on the signals that matter most, fundamentally changing the efficiency of the triage process.



Summarization Results (The Actionable Output)

--- 📝 INITIATING SUMMARIZATION PHASE ---

Found 10 urgent pleas. Compiling for summary...

Sending compiled pleas to IBM Granite for summarization...

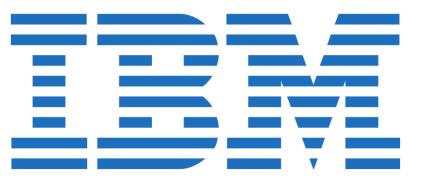
--- EXECUTIVE SUMMARY OF URGENT PLEAS ---

1. The urgent pleas indicate a multi-faceted disaster scenario, potentially involving an earthquake, wildfire, severe weather (tornado), and flooding, primarily affecting South Tampa.
2. There are reports of immediate evacuations due to structural damage or fire, with specific mention of a building across the street.
3. Multiple instances of fires, including a wildfire and a potential structure fire, are reported, with one person expressing a fear of being "set ablaze."
4. Several accounts of recent accidents (car and potentially other unmentioned types) are shared, highlighting the need for potential rescue and medical assistance.
5. The disaster's impact is causing distress and raising concerns about personal safety, property damage, and long-term financial and medical support for those affected.

A command center leader doesn't need to read 10 (or 10,000) individual tweets. They need to understand the pattern. This summary, generated in seconds, provides immediate situational awareness—identifying trends like 'flooding' and 'building damage' that are crucial for deploying the right kind of resources.

Recommendation: A Phased Integration for Emergency Services (BNPB)

Pilot Program (Q3 2025)	Live Integration (Q4 2025)	National Scale-Out (2026)
<p>Integrate Project Sentinel with historical data from past Indonesian disasters (e.g., Palu Tsunami, Jakarta Floods) to validate model performance.</p>	<p>Deploy the model in a live, real-time monitoring dashboard for the BNPB command center, running in parallel with existing systems.</p>	<p>Expand the system to include other data sources (e.g., Facebook, news reports) and add features like GPS location extraction.</p>



THANK YOU

OPEN FOR QUESTIONS

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