

MTI Research Snaps Presents

# Best Practices in Disaster Public Communications

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# In memory of those who lost their lives in Maui



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- Maui is the example of what happens when a community has no disaster preparedness education and focuses on one hazard
- Tsunami sirens that could have awakened sleeping victims were not used for fear people would think it was a tsunami and drive the wrong way, no alternate communication plan for other disasters

# Research Question

How can public agencies communicate disaster information to the public in ways that build trust and engender



California National Guard, Task Force Rattlesnake  
Unpublished photo, Sgt. Galen Yusufzai-Boggs

# Goals of the research: How to...



- **Overcome distrust of government**

- Political environment
- COVID racial disparities
- George Floyd= decreased trust in police
- Public officials must BE TRUSTWORTHY all the time, work with community leaders, communicate with the community regularly

- **Deter Milling- Dennis Mileti**

- Official evacuation order
- People check with neighbors, traditional media - radio, TV, newspaper
- Social media now another resource that adds time to the milling process
- Self correcting? Overtime but not in the short term.
- Official versus Nextdoor, Waze; conflict – who do you believe? Your neighbor or the Fire Chief?

# Outreach

- **#1 take-away is the value of pre-event community education**
- Evacuate when advised, do not wait until you see fire
- Information gives people a basis for decisions
- Fire behavior
  - up hill fast, downhill slower,
  - fire makes its own weather.
- CERT – neighborhood coordination
- Stay and defend- what are your exit routes?
- Educate community on dangers of heat
  - Cars fail because engines stop due to heat, air filters clog, tires melt



Diskin, M. (2019, April 28). California Towns at Risk From Fires Often Have Few Ways Out. *Ventura County Star*.

# Technology

- Communication limitations
  - cell phones fail early, IPAWS/WEA over-notify
- Mountainous terrain can block signals
  - ham radio, MURS radio, where to go for a signal?
- NOAA weather radio. Add sirens?



# Findings: 25+ best practices that motivate action



- **Be Specific in Messaging**
- *Pre-event outreach and education are essential to build trust* – CERT training, community events
- Where to go?
- What to bring?
- Shelter supplies
- Critical documents
- Special needs issues; pets
- Report to work? Disaster Service Worker?
- **Basic Rules for Messaging**
- **Regular, reliable communication from public safety agencies, elected officials**
- Clear, concise, consistent
- Accurate maps
- Repetition of message
- *Community languages and cultural competency*

# Proposed Cell Phone App



- High Level Problem:

- Community members seek actionable information during disasters to inform their behavior.
- Official information comes from the government, but people only act when they have verified the government's information by observing the behavior of their acquaintances, known as milling (Wood, et al.,2012)
- Today generally by using social media posts to sites (Bean, et al.,2015) such as Twitter, Reddit and Periscope.
- Compounding this problem is a rising mistrust of government entities in twenty-first century America (Pew Research Center, 2020).

- High Level Solution:

- One solution to the milling problem would be to create a **disaster information app** for an individual's smartphone, which would allow the user to view official information and social media posts about a disaster event in progress
- That are time limited, geo fenced and relevant to the disaster selected.
- This would allow “milling” to occur within a single app to confirm disaster response actions.



# Challenges

- Lives depend on residents complying with emergency instructions, such as evacuation or shelter in place notices, without spending a lot of time on milling.
- Could be resolved by a smartphone app that provides both official government information and social media information in one place.
- Allows for easy comparisons between official instructions and community responses as posted to social media.



# Information/ Intelligence

- The purpose of sorting information is to help create intelligence.
- This requires human intelligence to verify and develop a product.



# Challenge and Solution

- Social media is filled with unsorted posts from **multiple sources** concerning a disaster including official, community-based as well as others that are **completely unreliable or unrelated**. The needed smartphone app has to be able to:
  - **sort social media messaging** to first extract the **official posts** with life safety information from fire agencies, local governments and other reliable sources.
  - sort social media posts to select just those that are **related to the current disaster** of interest to the consumer.
  - further sort for a **specific location** of interest to the consumer – home address, work address, child’s school and so forth.
  - limit the posts to a **specific time frame** that provides actionable information, such as within an hour.

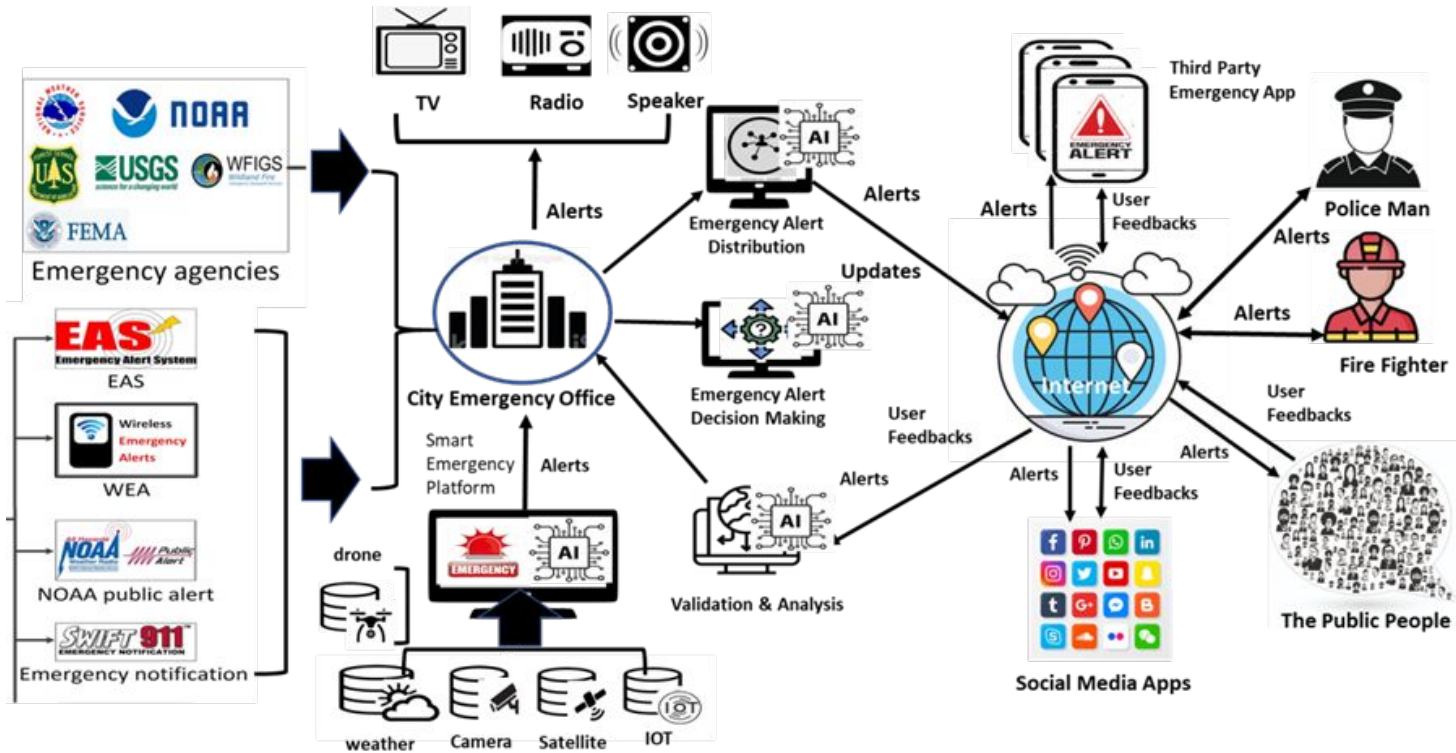


# Proposed Solution: Cell Phone App

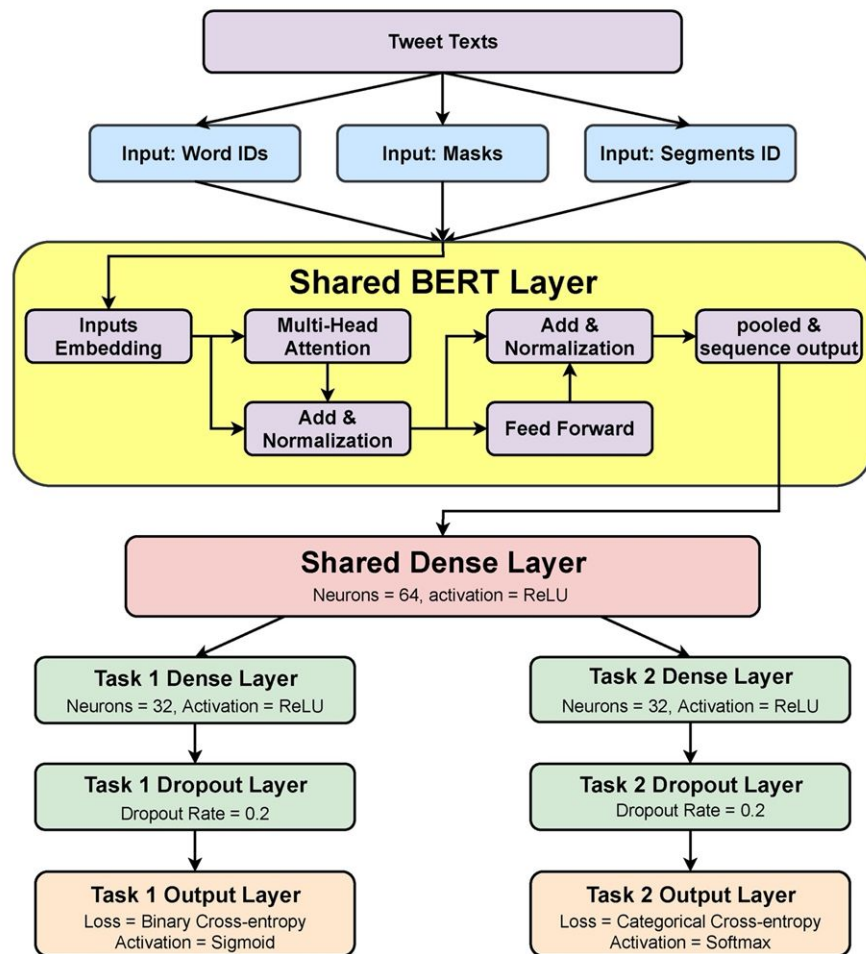
- **Single source** for collected information, limits milling
- Official announcements, social media data scraping sorted by using **Big Data and AI functions**
- **Geo fenced and time limited** (current) data collection to ensure relevance to emergency response decision making



# Notional Technical Solution: Jerry Gao, PhD



# App Architecture: Kaikai Liu, PhD



# Questions from Audience



- How to build communication and trust before so people act on messaging
  - Truth-worthy government, pre-disaster education, CERT community leadership
- CERT role – pre-disaster education, disaster community leadership – emphasize following evacuation/shelter-in-place, reinforce safe behavior
- Evacuation routes- learn and follow community plan; use Zonehaven not Wayz or social media comments – drove people into the fire lines
- All stakeholders need simultaneous information, train people to use radio EBS- car radio; role of NGOs in caring for special needs of/communication with their clients when possible
- Role of transit agencies/others in disaster communication
  - Transit-specific/route/disruption; JIC and PIO roles includes social media monitoring; every EOC's PIOs should include social media monitoring

# Questions from Audience



- How was the concept for the app developed?
- Can app have multiple languages?





Thank you

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