JPMorgan Chase Best Hack for Disaster Relief and Recovery

Overview Summary: Overseer is a software application designed to be run on a fleet of drones scouting disaster areas. Our application marks obstructions it detects by taking snapshots of the area and comparing it to a regular snapshot of the area and filtering it to find the biggest pixel differences. It will run live with virtually no downtime using DFS, broadcasting which roads are blocked off in the disaster area.

Themes of Relief and Recovery

- How can we better prepare communities and communicate with them when there is an impending natural disaster?
    - Our software will allow people to see the best routes available for evacuating their danger area. This will streamline the process of evacuation as people will be less likely to spend time encountering obstructions and navigating their way around them.
- How can we streamline access to resources (like food or fuel), especially when resources are difficult to obtain before or during a natural disaster?
    - Since we detect which roads should be used, we enhance the ability of resources to be delivered efficiently via the ground during a disaster/before a disaster(which is the way the most resources can be delivered).
- How do we ensure people can communicate their safety and provide updates to others when there are power outages or downed cell towers?
    - Eventually, you could integrate this with machine learning to detect if people are still in the area. They can put a flag/marker on their rooftop/area and if that is detected, we can communicate that there might be people at said area. This will allow helicopters to find people expediently and conduct rescue operations/communicate between these people and their loved ones if they cannot be rescued.
- How do we update impacted communities about the status of roadways and areas near their homes so they know if it is safe to return post-evacuation?
    - This is literally our app.
- How do we ensure disaster relief and recovery continues, especially after first-responders have left the devastated areas?
    - After first responders have left, we continue to update the disaster area road map with our drones in order to have disaster relief and recovery continue with as little impediment as possible.

Future Features

- Optimize/update directions given the blocked off roads
- Update Google Maps and other such mapping websites to disperse info
- Add ML for better obstruction detection

- Have the updates sent to you in Messenger (developing countries where Facebook = Internet)
- Threading implementation to lower runtime
- Identify kind of obstructions/feature recognition
- If solvable obstruction, call right authorities