Re-Route Genie

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The Problem

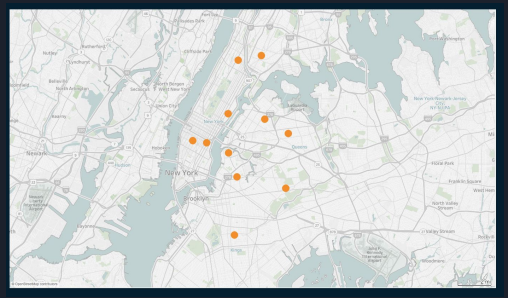
When a disaster strikes, there is an urgent need for first responders such as ambulances. During the aftermath of a disaster, this becomes tricky as many roads may be blocked due to flooding, debris, etc, leaving alone the mass panic among people leading to heavy traffic.

Our Idea and Approach

We attempted to create a system that analyzes traffic cameras and gives the best possible route for the ambulance to take in order to reach the victim as early and safely and also make it back.

We are using a Genetic Algorithm to come up with the BEST PATH that follows all our constraints. By using YOLOv3, we are able to prune out sections that are heavily in traffic.

Features



01 Gives best route that covers maximum ground.

02 The route also includes the best way back to the starting point.

03 Ignore paths that are heavily affected by traffic or inaccessible in any way.

Limitations

01 Computational complexity of Genetic Algorithms is a little on the higher side.

02 Due to a lack of resources, we have been unable to integrate all our separate working parts together.

Future Scope And Scalability

The concept works like a charm when giving us a proper root. A plausible addition to it would be making the route selection **“DYNAMIC”** i.e it would take in live data and calculate the most optimal route in real time.

Also many other factors such as accident parameters to detect likelihood of accidents or live accident reporting. We can also use Maps API’s for proper street pathing.

Thank You