**Brief Description of Hack :**

The purpose of this hack is to aid in the real-time and rapid disaster identification and alleviation by promptly identifying the degree of damaged buildings and areas using remotely sensed images (satellite images) and also provides online updates of earthquakes and fires on the basis of the current scenario on the field.

**How and what we did** :

We have designed a deep learning model, for the identification of built-up areas ravaged by natural/artificial disasters such as earthquakes and fires. The utility of this hack can be extrapolated to a multitude of disasters for a highly efficient end to end application. We used the Tensorflow development platform for the design and test of the deep learning model and used a U-Net model aided with a Multi-Resolution framework for rapid extraction of accurate building footprints. For successful disaster identification a good user interface is as important as a rapid and accurate disaster identification model. Therefore, to provide an interactive interface to the end user, we have built a web application with the ability to receive online remote sensed images from drones and satellites or from the main server to identify and display damaged built-up areas and also display the severity of the damaged region. For the development of the web application we have used a combination of React and Flask.

**Why we did this :**

During a disaster, rescue authorities would like to prioritise by going to severely affected areas, and our application through deep learning and the web user interface, will provide the end user with enough details and up to date updates to prioritise the areas requiring immediate attention by acquiring images from satellite or drones which are connected to the network. And also, in disasters, people trapped under buildings have very little time to survive and it is imperative to address them as soon as possible.