

Saving Souls

Team name: I'm Groot

Team member: Shiva Sundaram

TISB Grade 7



Natural Disasters



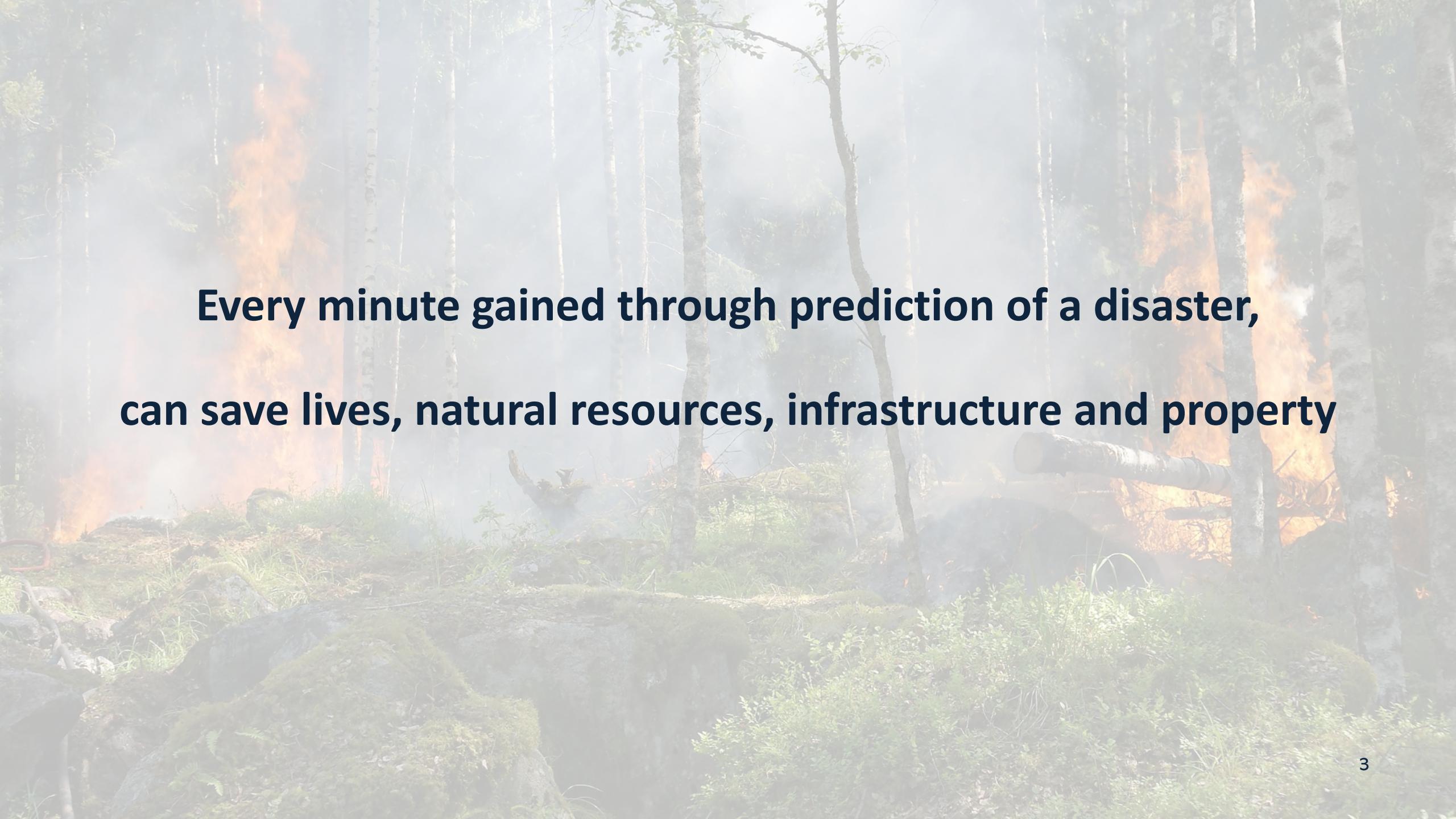
Global economic damage from Flood in 2022 alone was ~\$19B and ~7400 lives were lost



Global economic damage from Earthquake in 2022 alone was ~\$9.5B and ~1300 lives were lost

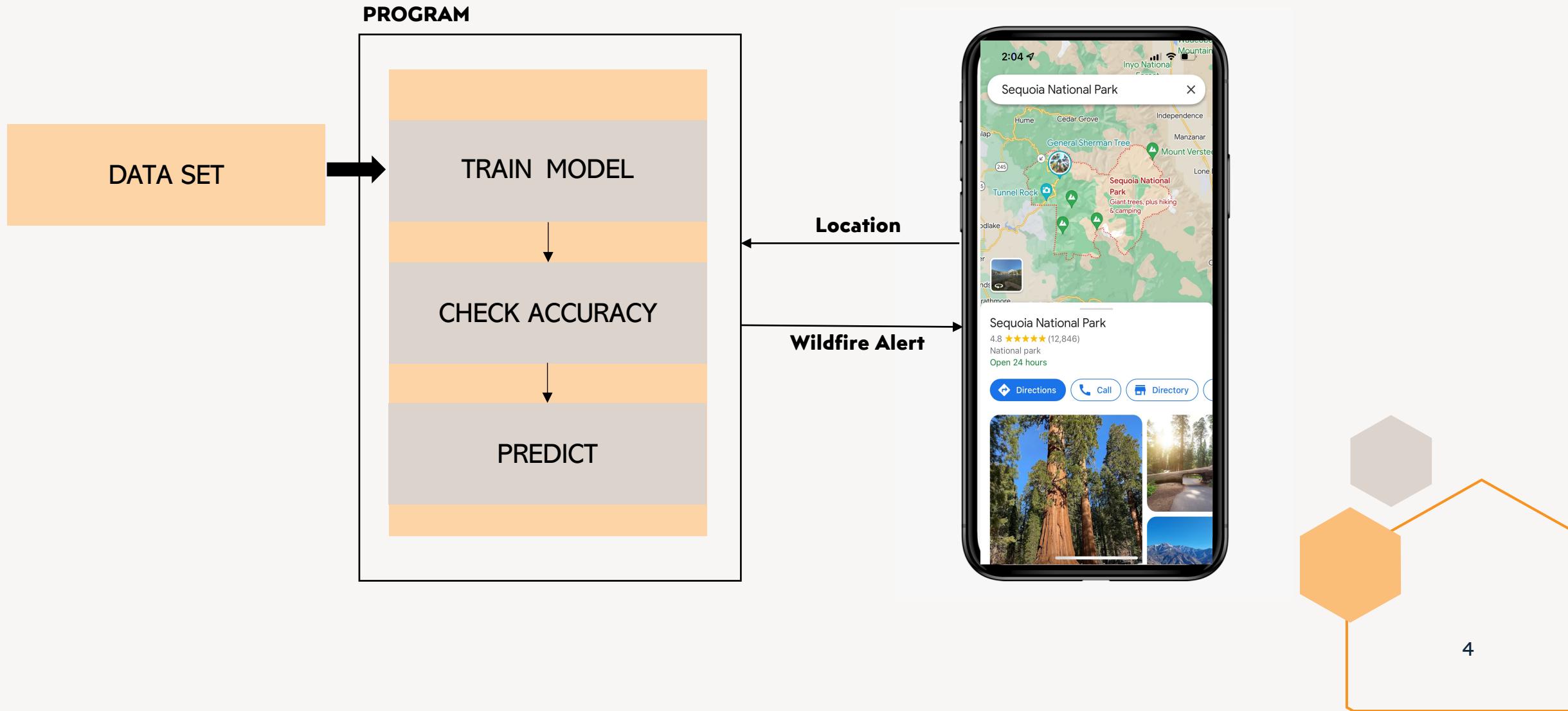


Global economic damage from Wildfire in 2022 accounted for ~\$740M (10M acres burned in US). While relatively fewer lives (~75) were lost, it has increased by 250% from a decade ago

A photograph of a forest fire. In the background, tall trees stand with orange and yellow flames visible on their trunks and branches. In the foreground, there's a mix of green mossy rocks and burnt, charred remains of vegetation. The overall atmosphere is hazy due to the smoke.

**Every minute gained through prediction of a disaster,
can save lives, natural resources, infrastructure and property**

Solution

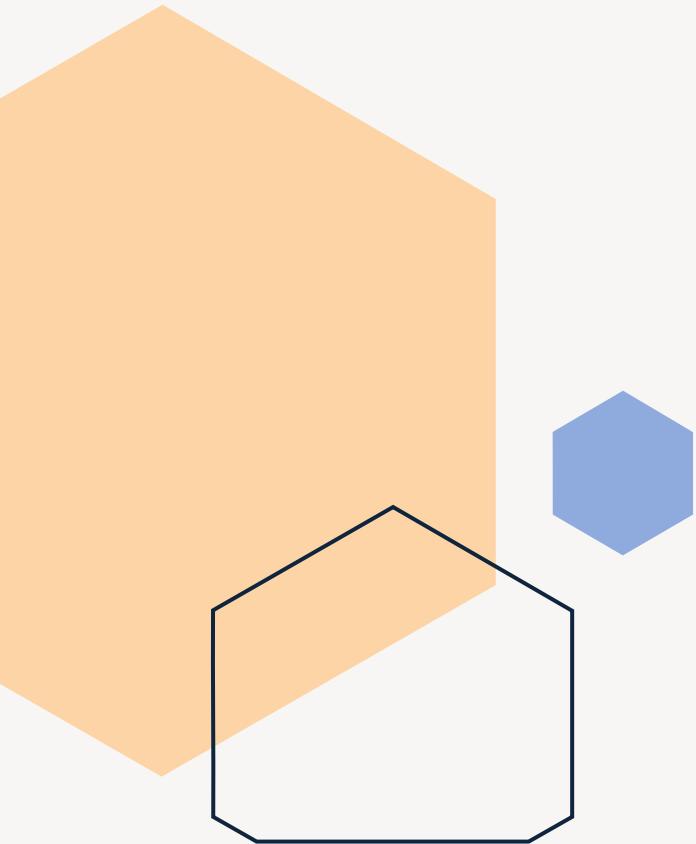


Train and Predict



Steps	Libraries Used	Source
<ol style="list-style-type: none">a) Filtered the data set for Wildfire incidents in Alameda county from California dataset.b) Trained the Deep learning model with the dataset (year 2016 – 2018)c) Checked for accuracy against year 2019d) Made prediction for 2023	<ol style="list-style-type: none">1. Used <i>pandas</i> to read the dataset from comma separate file (csv)2. Used <i>numpy</i>, <i>tensorflow</i>, <i>keras</i> for training, checking accuracy and prediction3. Used <i>Keras.SDG</i> optimizer Stochastic Gradient Descent (SGD)	<p>Source of datasets</p> <ul style="list-style-type: none">- https://www.kaggle.com/datasets/ananthu017/california-wildfire-incidents-20132020- https://www.kaggle.com/datasets/sobhanmoosavi/us-weather-events <p>Source of code</p> <ul style="list-style-type: none">- https://www.kaggle.com/code/shidharthoroy/wildfires-in-california-prediction

Next Steps



Save Nature & Wildlife

- Work with Forest Department officials to adopt the app to get warnings about potential Wildfires



Keep People Safe

- Assess options to embed the Wildfire Warning in apps/websites that people typically use such as Google Maps, Weather, Trip planning apps like BookMyTrip etc. so we can contextually warn people if they are in the vicinity or planning to visit



Prevent People & Material Loss

- Work with Fire Department officials to adopt the app to get warnings about potential Wildfires



A collage of hexagonal images on the left side of the slide. The images include: a person standing and looking at a large sheet of paper; two men working together at a desk; several wireframe designs for mobile or web applications; and a person looking at a whiteboard covered in handwritten notes.

Thank you