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introduction

Even though weather forecasts have improved, people in South Africa still struggle with water and sanitation during extreme weather like heavy rains and droughts. These challenges often lead to flooding, dirty water, and higher risks of diseases that spread through water.

Objectives

Develop a System using machine learning to predict severe weather.

To Analyse the impact on water and sanitation systems

Key Tools and Data Sources

Utilize IBM’s tools for machine learning.

Incorporate public data, including:

Historical weather reports.

Water quality records.

Infrastructure strength assessments.

Benefits:

Improved management of water resources.

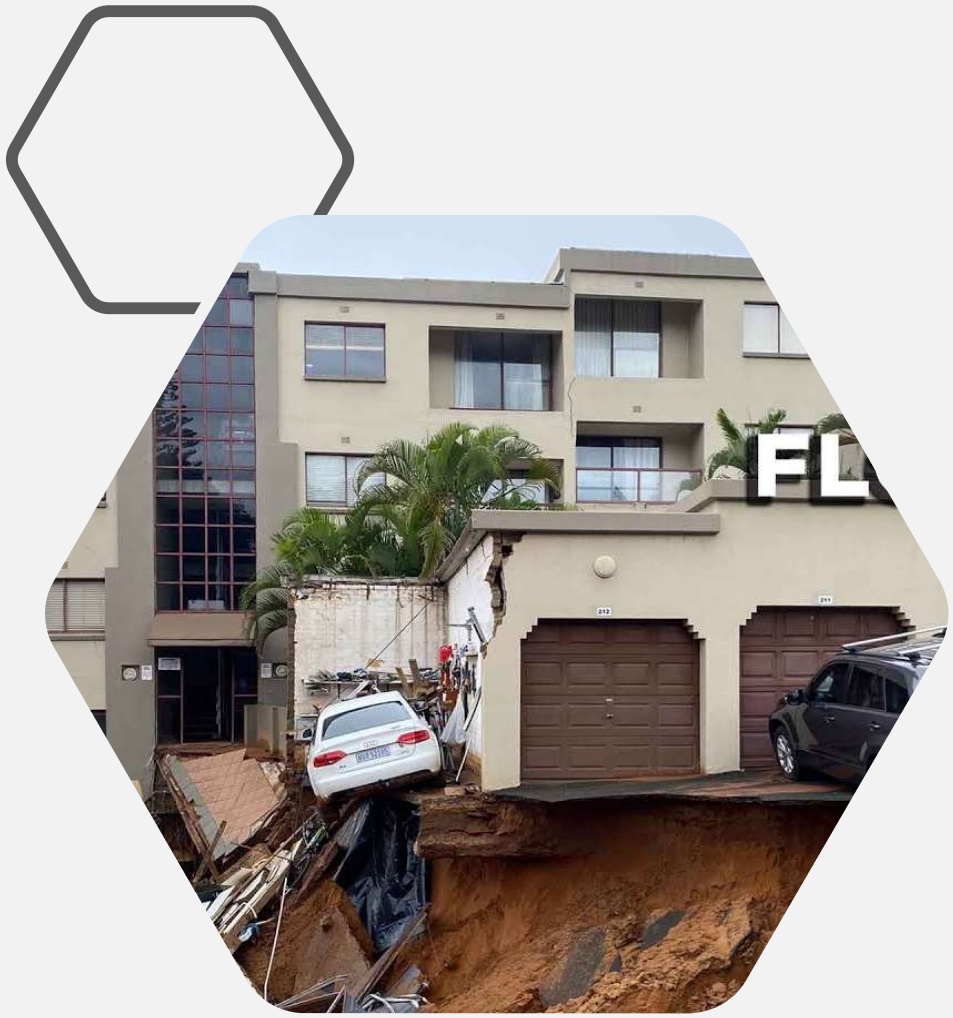
Real-time updates and predictions for communities.

Enhanced resilience of water and sanitation systems.

Community Impact:

Better preparedness for severe weather events.

Support for sustainable water management practices.



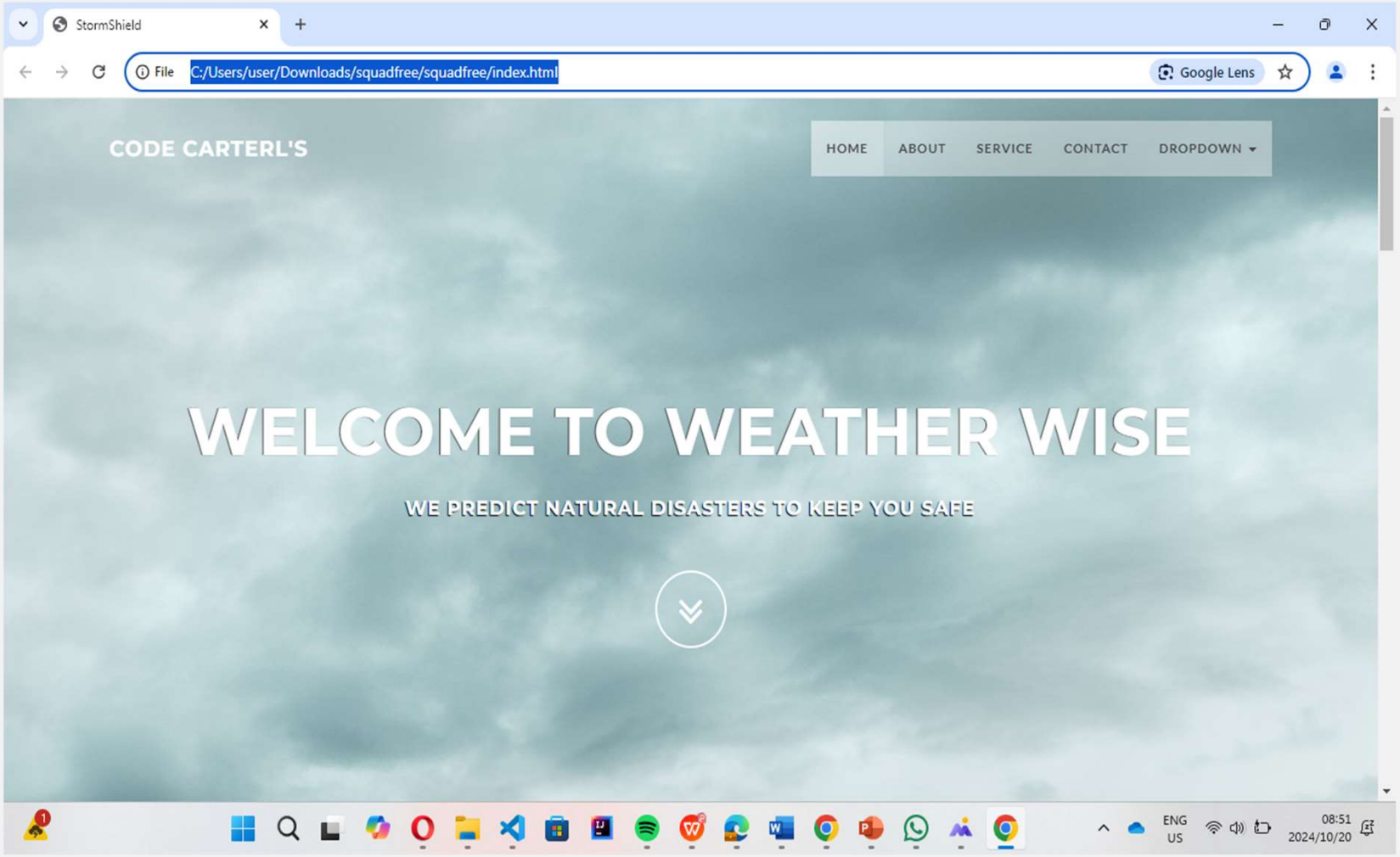
Wow Factors

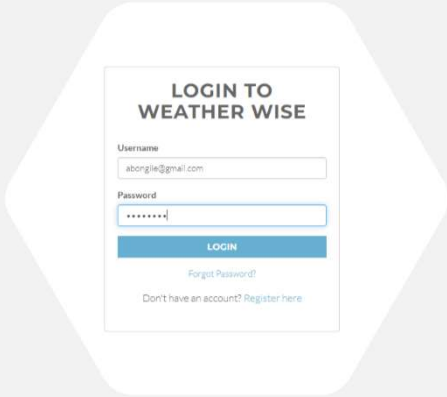
By blending machine learning, real-time data, and community involvement, the solution not only predicts and reduces the effects of extreme weather but also gives communities useful information they can act on

Improved water resource management.
Real-time updates and predictions.
Increased resilience of water and sanitation systems

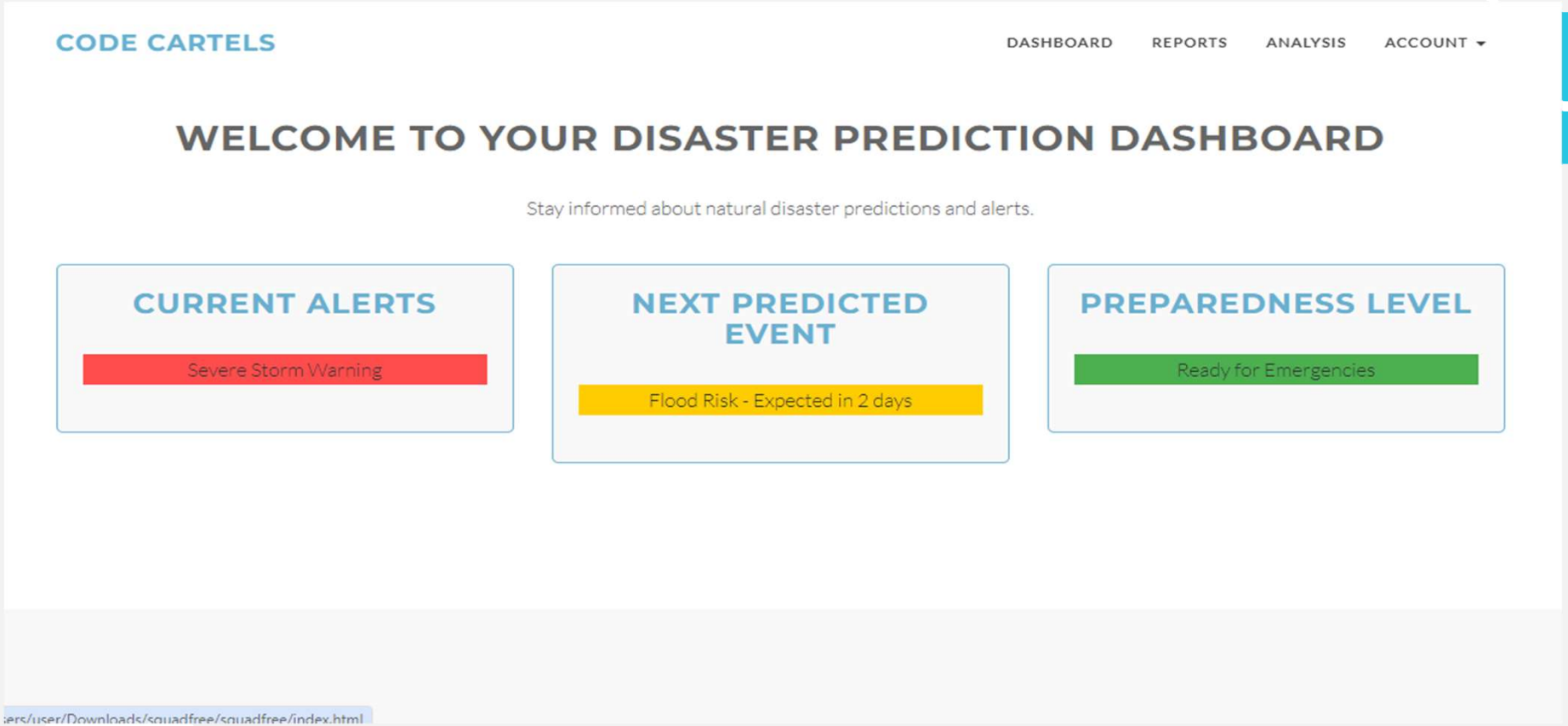
This forward-thinking approach can greatly improve public health and make infrastructure stronger and more reliable.

Prototype of System

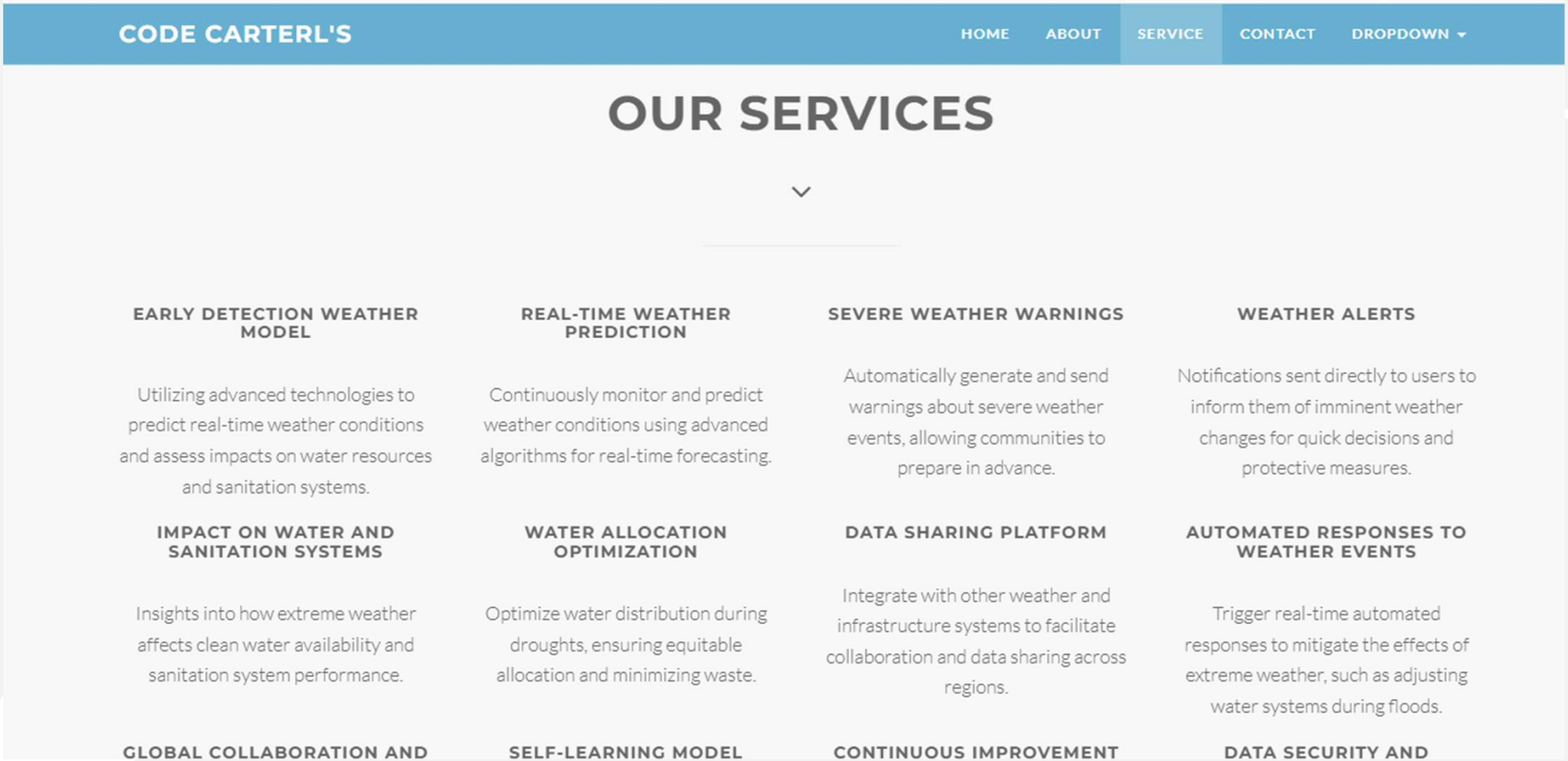




System Dashboard for Upcoming Predictions

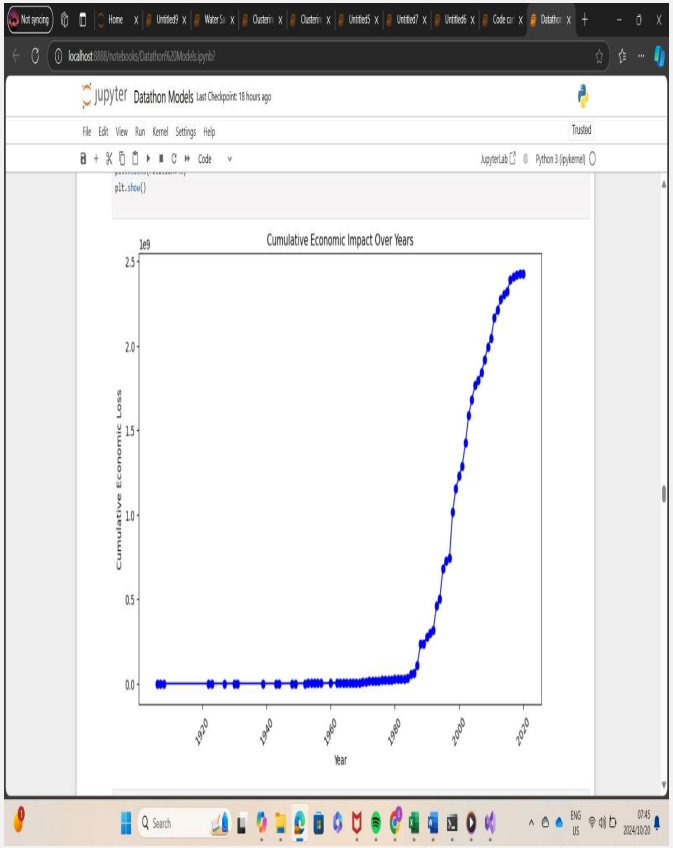


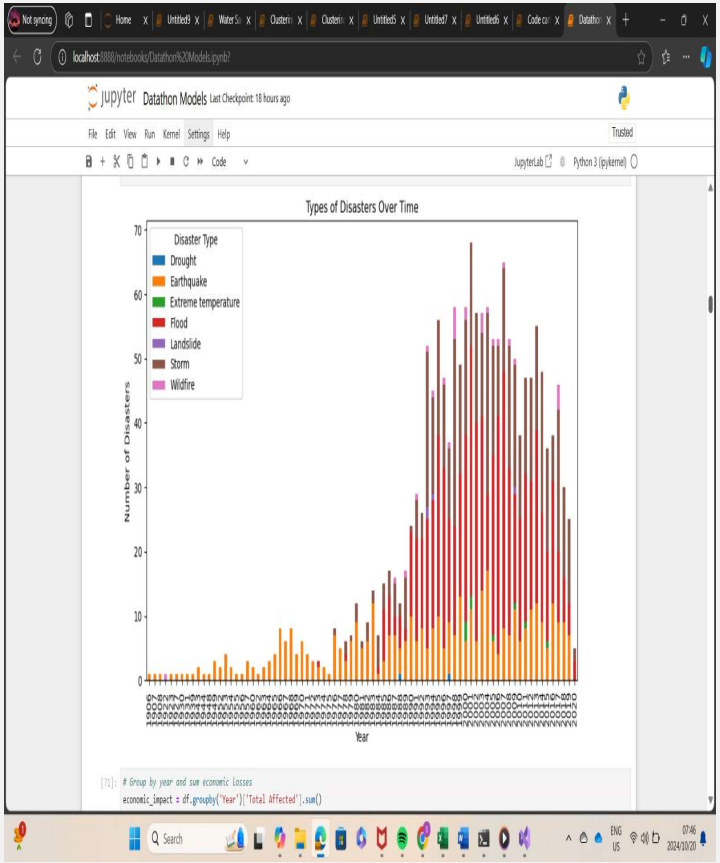
Services offered

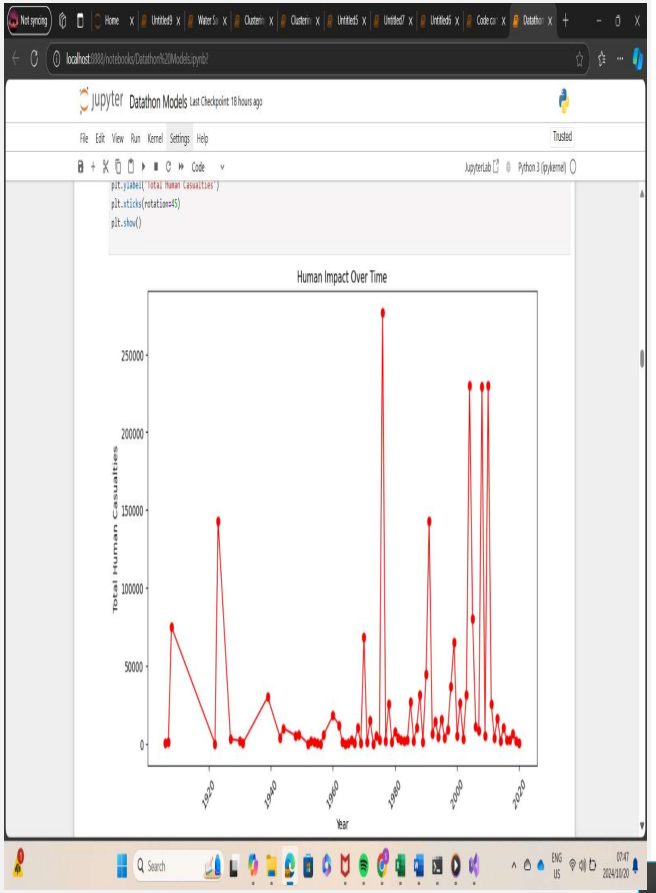


Visualizations

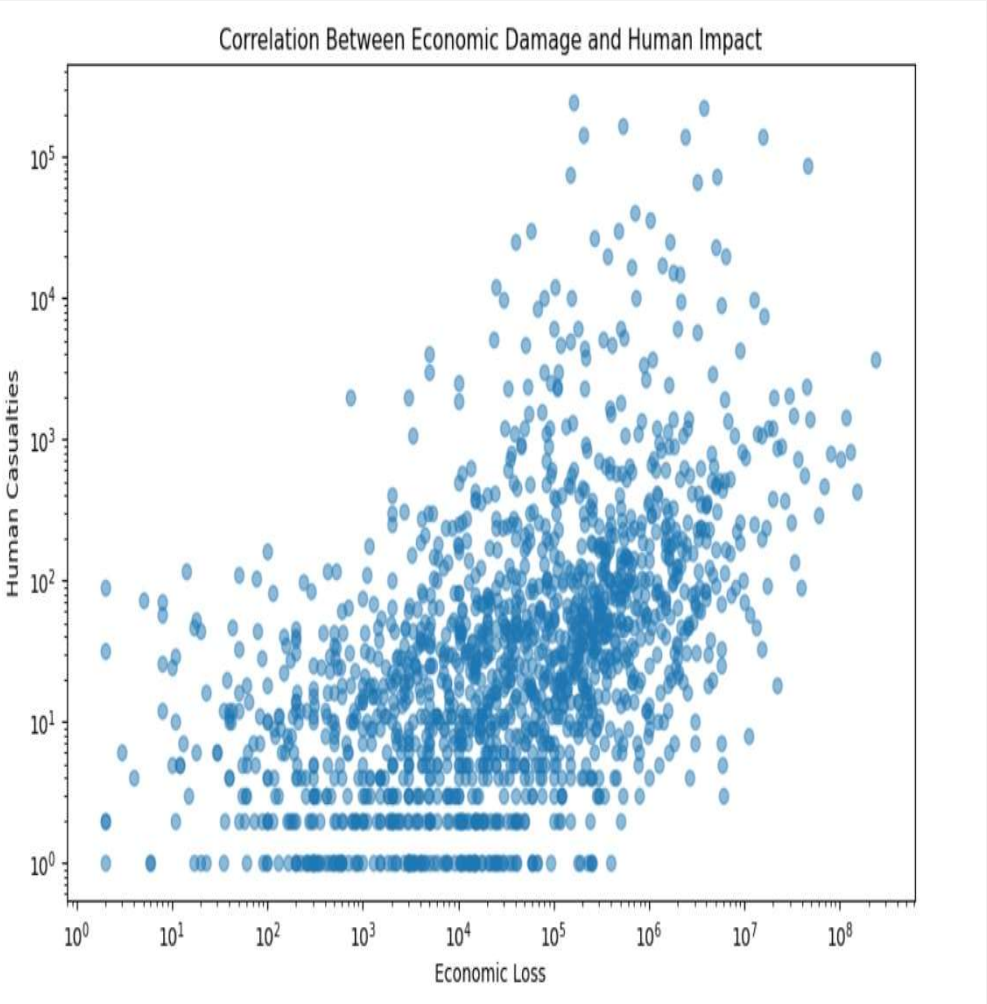
Natural disaster analysis

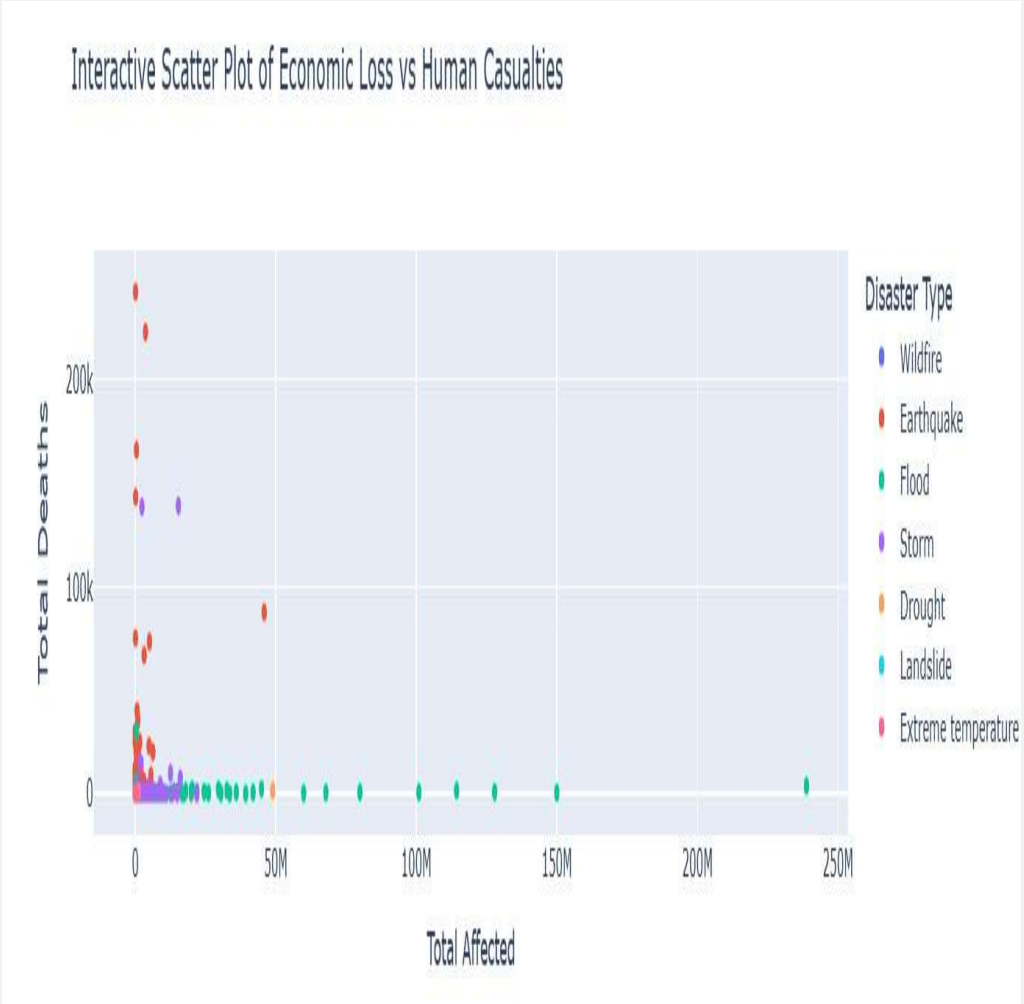






Table


Correlation Between Economic Damage and Human Impact
Human Casualties
Economic Loss
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
10^8


Interactive Scatter Plot of Economic Loss vs Human Casualties
Total Deaths
Total Affected
0
100k
200k
0
50M
100M
150M
200M
250M
Disaster Type
Wildfire
Earthquake
Flood
Storm
Drought
Landslide
Extreme temperature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GUINNESS

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