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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.

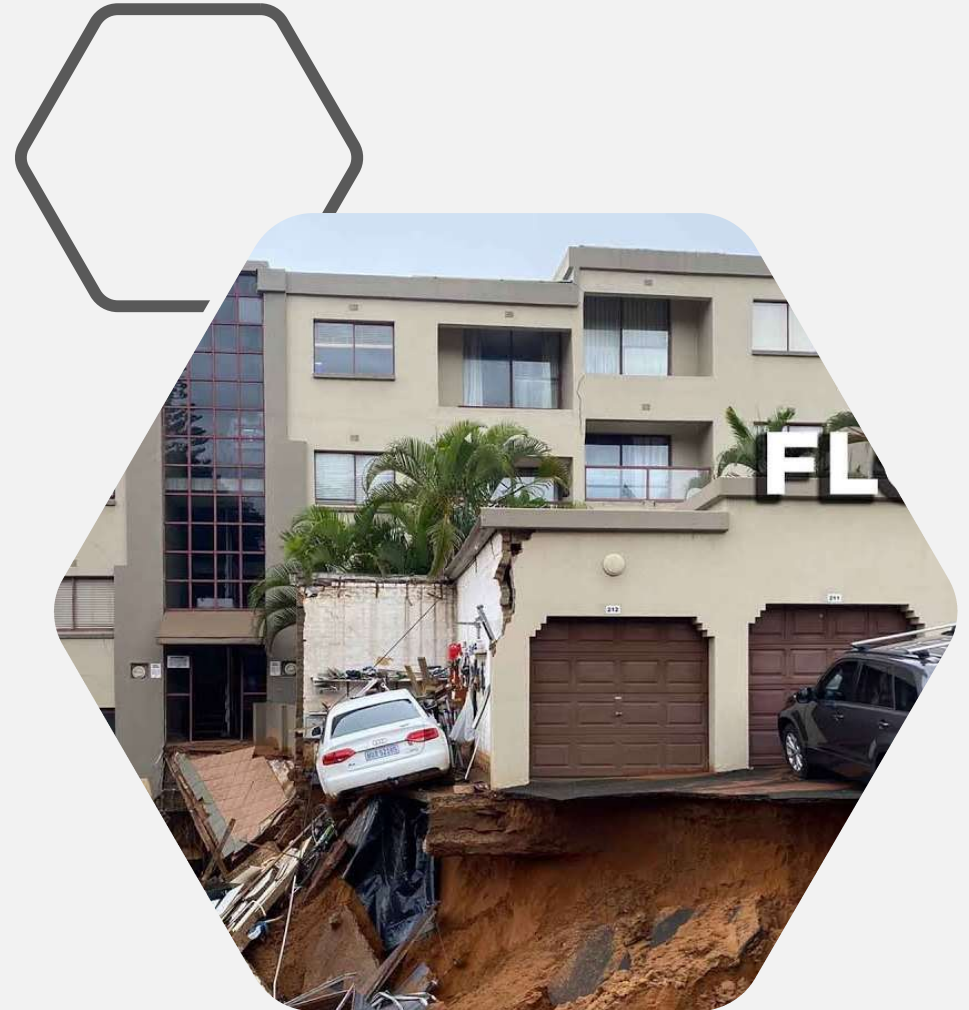
- Real-time updates and predictions for communities.

- 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.

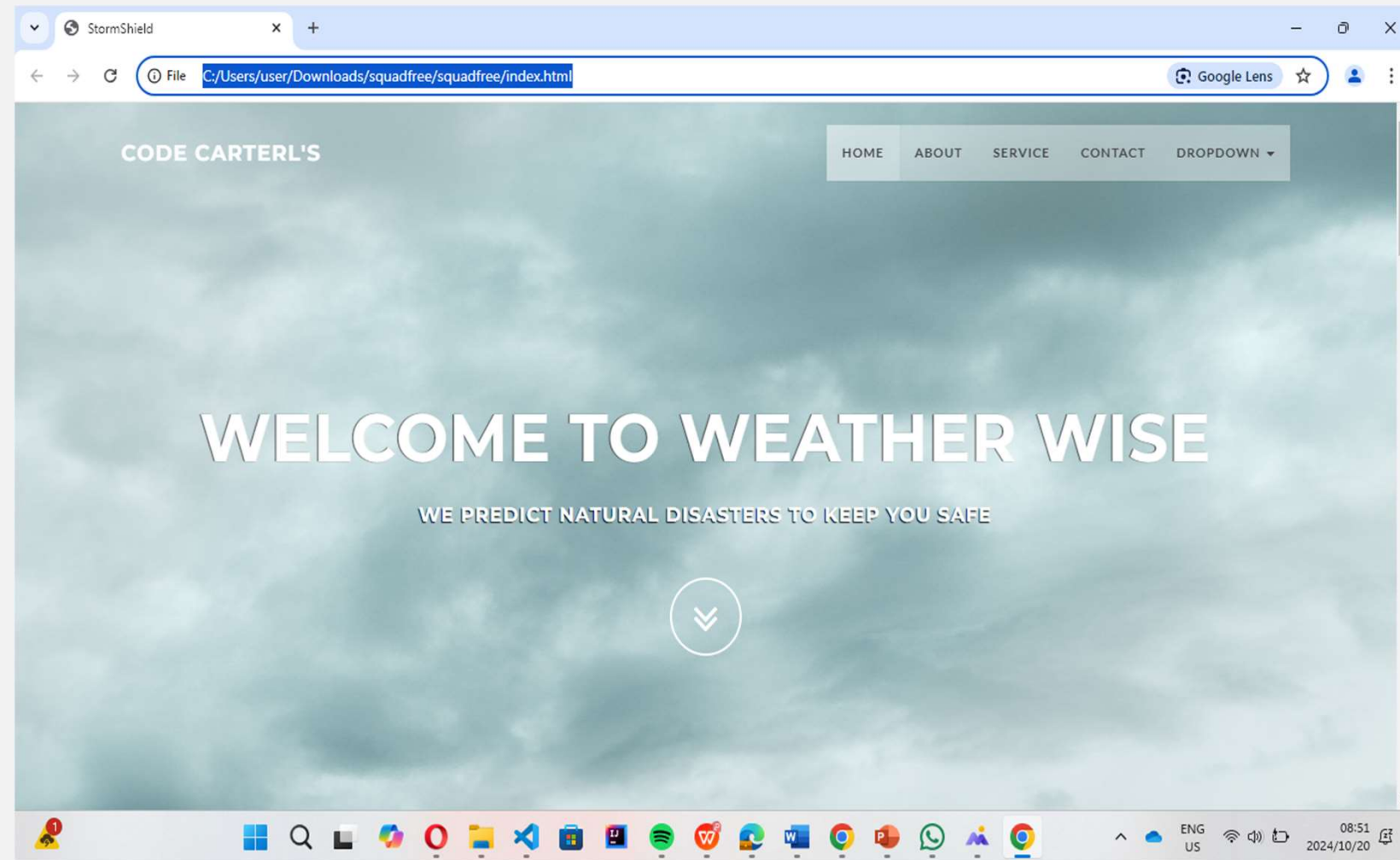
Real-time updates and predictions.

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

CODE CARTELS

DASHBOARD REPORTS ANALYSIS ACCOUNT ▾

WELCOME TO YOUR DISASTER PREDICTION DASHBOARD

Stay informed about natural disaster predictions and alerts.

CURRENT ALERTS

Severe Storm Warning


NEXT PREDICTED EVENT

Flood Risk - Expected in 2 days


PREPAREDNESS LEVEL

Ready for Emergencies

Services offered

CODE CARTERL'S[HOME](#)[ABOUT](#)[SERVICE](#)[CONTACT](#)[DROPDOWN](#) 

OUR SERVICES



EARLY DETECTION WEATHER MODEL

Utilizing advanced technologies to predict real-time weather conditions and assess impacts on water resources and sanitation systems.

IMPACT ON WATER AND SANITATION SYSTEMS

Insights into how extreme weather affects clean water availability and sanitation system performance.

GLOBAL COLLABORATION AND

REAL-TIME WEATHER PREDICTION

Continuously monitor and predict weather conditions using advanced algorithms for real-time forecasting.

WATER ALLOCATION OPTIMIZATION

Optimize water distribution during droughts, ensuring equitable allocation and minimizing waste.

SELF-LEARNING MODEL

SEVERE WEATHER WARNINGS

Automatically generate and send warnings about severe weather events, allowing communities to prepare in advance.

DATA SHARING PLATFORM

Integrate with other weather and infrastructure systems to facilitate collaboration and data sharing across regions.

CONTINUOUS IMPROVEMENT

WEATHER ALERTS

Notifications sent directly to users to inform them of imminent weather changes for quick decisions and protective measures.

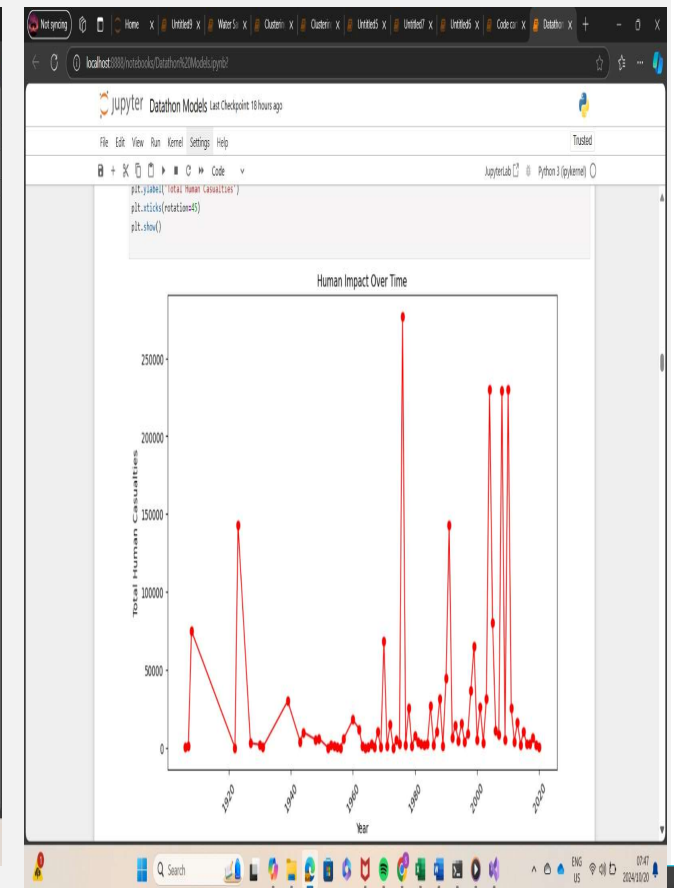
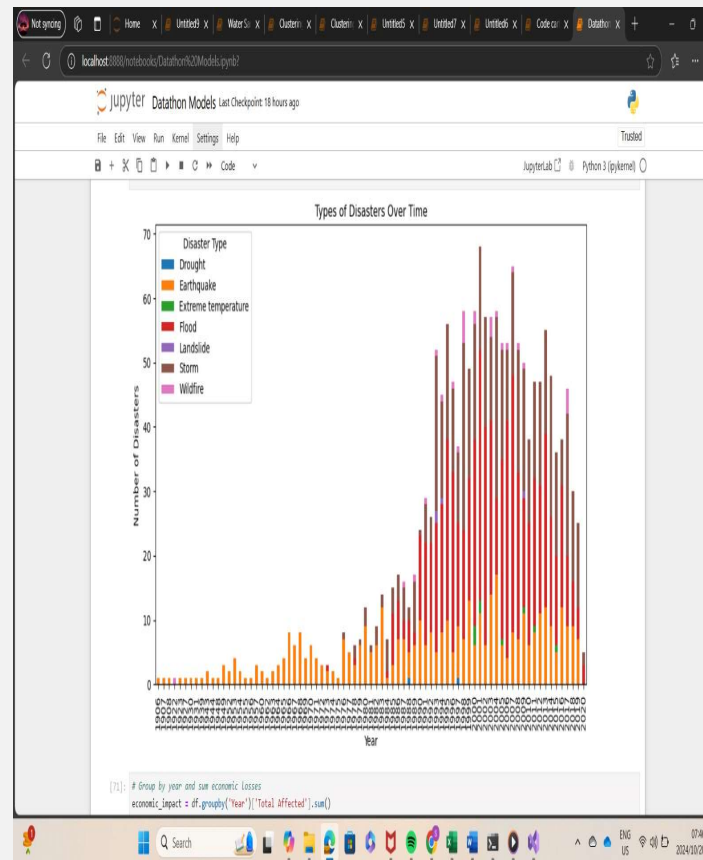
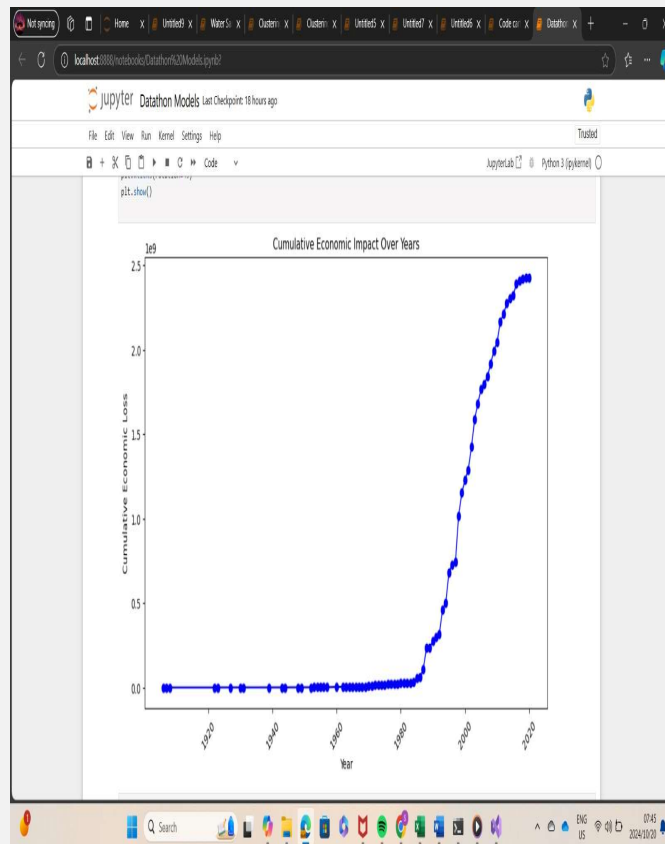
AUTOMATED RESPONSES TO WEATHER EVENTS

Trigger real-time automated responses to mitigate the effects of extreme weather, such as adjusting water systems during floods.

DATA SECURITY AND

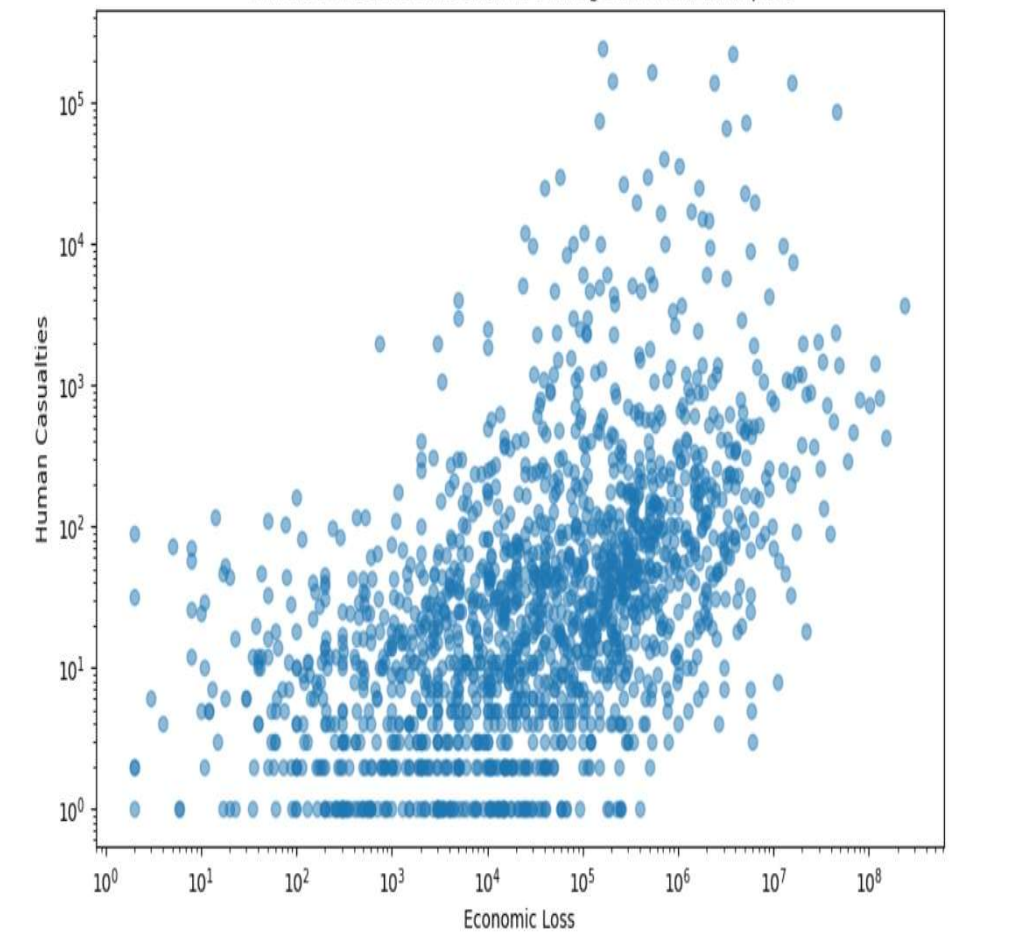
Visualizations

Natural disaster analysis

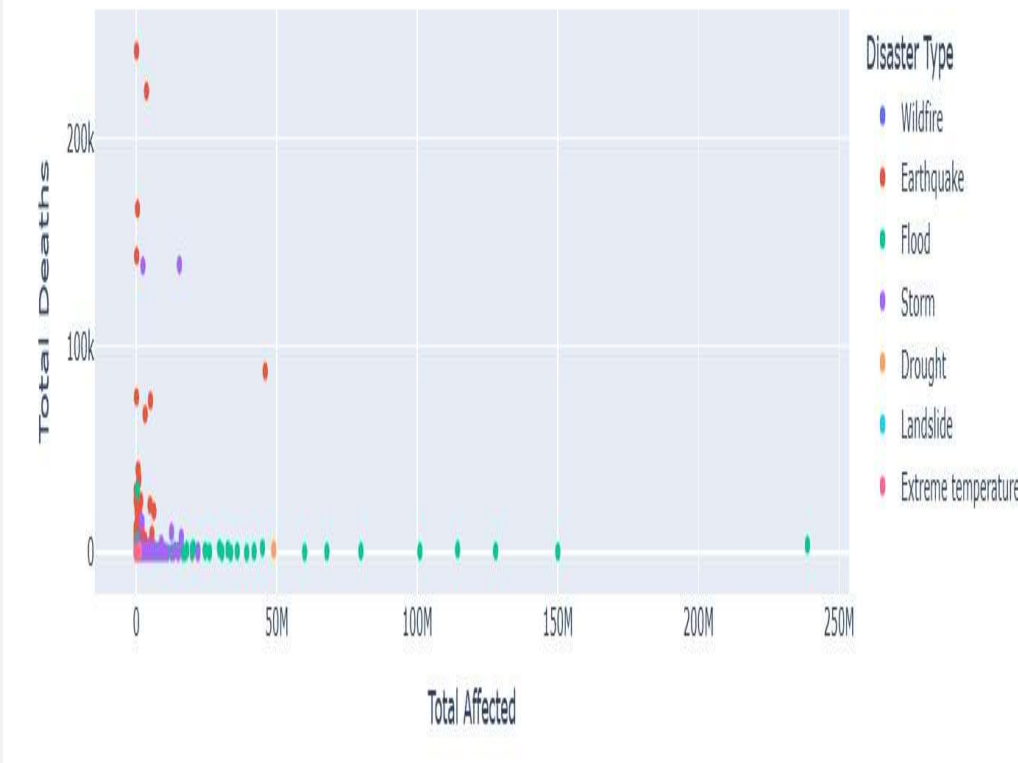


Table

Correlation Between Economic Damage and Human Impact



Interactive Scatter Plot of Economic Loss vs Human Casualties





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