Title : Disaster Management - Flood Remission System

Team Bits n' Bytes

Abstract

Different climate changes at different horizons of the world lead to hazards like floods, droughts, heatwaves, storms, and many more calamities, that too often on active areas of human livelihood. Due to a lack of accurate forecasts, many lives on Earth have been at risk and will continue to be so. Not many people in remote areas are able to take proper precautionary measures on time due to a lack of knowledge and help.

Keywords

Flood; Floods; Flood management; Disaster; Environment.

Introduction (Project or Innovation)

Floods are one of the most catastrophic natural events, affecting large numbers of people around the world each year. Flood frequency and intensity have increased in recent years as a result of changing climate, urban development, and other factors. As a result, there is an increasing demand for creative and efficient flood prevention and control systems that can mitigate the effects of flooding.

This extended abstract describes a Flood Remission System that is intended to reduce the impact of flooding in urban areas. To offer a complete and seamless approach to flood prevention and management, the system uses an array of measures, such as warning systems for flooding, compile data on affected areas, and other technologies. The system is designed to be adaptable to various contexts and regions, making it useful to a diverse range of communities and stakeholders.

The abstract describes the Flood Remission System's novelty, creativity, innovativeness, and applicability, demonstrating how it is a big change over existing flood prevention systems. The system's distinct characteristics, such as the use of advanced machine learning algorithms demonstrate its impact and innovation potential.

Ultimately, this extended abstract offers an in-depth overview of the Flood Remission System and its potential for tackling flood prevention and management challenges in several areas. The findings and recommendations in

the abstract can help to inform policy and decision-making processes, resulting in more resilient and sustainable communities in the face of rising flood risks.

Content (Project or Innovation)

One of the most devastating natural disasters, floods annually have a significant impact on a big number of people worldwide. Due to the changing climate, urbanization, and other causes, floods have become more frequent and intense recently. As a result, innovative and effective flood prevention and control devices that can lessen the effects of flooding are becoming more and more in demand.

Floods negatively affect people and communities in terms of social, economic, and ecological factors, according to our problem statement. The outcomes of floods, both beneficial and harmful, vary greatly depending on the position and severity of the flood as well as the vulnerability and value of the natural and man-made settings they affect.The challenges that arise in nature during the emergency phase and the post-disaster recovery phase are: The way waterways that have been contaminated with sewage or other potentially harmful chemicals, wells, and septic tanks, Arsenic handling that involves getting rid of excess water, disaster debris, and porous items that have been polluted with water and mold, obstruction of roadways, supply-chain problems, such as sluggish deliveries.

Main research questions of our project include, How do households assess their past and present flood security statuses? What kind of self-protective activity are they prone to? What effects of human society influence flooding? What have residents of the community thought about prior floods? How do individuals value the potential for future flooding and the resulting harm? How prepared are the families for a flood disaster? And many more..

Solutions are very complicated yet simple if it is pondered upon. Simply by tracking all the rivers and possible flood erosion across the specific area and collecting real-time data about the water level, providing people, local administration, and rescue organizations with the most recent and accurate data. With the help of this automated data collecting process, everyone can take preparation in advance. Taking real-time data on all the possible CO2 emitters (such as how many people are living in an area and emitting CO2, how many mills are in that area, etc.) and calculate the CO2 level in the air. Calculating all the previous incidents of floods and comparing them with recent

data to get an estimated number of people that could be affected by the flood. An option to directly get the emergency contact number of local and government rescue teams. Location tracker feature to help the rescue and medical team to reach the flood-affected people.

The impact of this innovation is to develop an application that is simple to use and an inexpensive image processing system that is effective enough to locate flooded areas early on. The app will be user-friendly. So, anyone can use it. All the users can get the latest updates on the environment. The admin will get the data on how many people could be affected by the flood so that actions can be taken beforehand to prevent floods. Many lives can be saved. This system will be created to offer an efficient processing service and a fun user experience across a variety of operating system platforms. It can make a huge impact on society to reduce the damage from natural disasters.

The Flood Remission System is a technology-driven solution aimed at reducing the impact of flooding in metropolitan areas. It provides fast and accurate flood alerts, collects data on affected regions, and employs advanced machine learning algorithms to implement effective flood control measures. This system promotes resilient and sustainable communities while minimizing the negative effects of flooding.

Overall, The Disaster Safety App is a valuable tool for disaster management, offering reliable and efficient prediction, monitoring, and response capabilities. It is accessible to a wide range of users, with a user-friendly interface and clear instructions, and has secure access and communication features.

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