PROACTIVE DISASTER DETECTION

A PROJECT REPORT

Submitted by,

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Under the guidance of,
Dr. JACOB AUGUSTINE

in partial fulfillment for the award of the degree of
BACHELOR OF TECHNOLOGY
in

INFORMATION SCIENCE AND TECHNOLOGY
SCHOOL OF COMPUTER SCIENCE

At

PRESIDENCY UNIVERSITY
BENGALURU
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PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report **"PROACTIVE DISASTER DETECTION"** being submitted by **BODDU KUSHWANTH SAI (20211ISD0006), E RAHUL (20211ISD0004), ABHI CN (20211ISD0039), VADLAMUDI NARENDRA (20211ISD0019)** in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Information Science and Technology is a Bonafide work carried out under my supervision.

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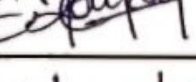
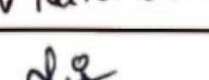
DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **PROACTIVE DISASTER DETECTION** in partial fulfilment for the award of Degree of **Bachelor of Technology in Information Science and Technology**, is a record of our own investigations carried under the guidance of **Dr. Jacob Augustine, Professor School of Computer Science Engineering & Information Science, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

Name of the Student's	Roll Number's	Signature of the Student's
BODDU KUSHWANTH SAI	20211ISD0006	
E RAHUL	20211ISD0004	
VADLAMUDI NARENDRA	20211ISD0019	
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ABSTRACT

Natural disasters such as hurricanes and earthquakes cause widespread destruction, significantly impacting lives and economies. Accurate and timely prediction of these disasters is critical for effective preparedness and mitigation efforts. This project develops a **dual-disaster prediction system** leveraging **machine learning models** to forecast hurricanes and earthquakes using historical and real-time data. A **Random Forest model** is implemented for hurricane prediction due to its robustness in handling high-dimensional meteorological data, while **Logistic Regression** is employed for earthquake prediction, excelling in binary classification tasks.

The system integrates data preprocessing, predictive modeling, and user-friendly visualization tools to provide actionable insights. Real-time monitoring capabilities enable the system to deliver early warnings via automated alerts, empowering authorities and communities to take proactive measures. The solution also includes a responsive web-based interface designed for intuitive interaction and accessible visualizations. By enhancing the accuracy and efficiency of disaster prediction, this framework aims to reduce disaster-related losses, safeguard lives, and support informed decision-making for emergency management teams and policymakers.