A REPORT

ON

CLOUDBURST PREDICTION SYSTEM

Submitted by,

RAJESHWARI C RAIKAR	-	20211CDV0033
NISHA L	-	20211CDV0034
KATTA VINOD KUMAR	-	20211CDV0041
AMRUTH RAJ P	-	20211CDV0055
K VISHNU VARDHAN	-	20211CDV0056

Under the guidance of,

Mr. RAJAN THANGAMANI

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND TECHNOLOGY(DEVOPS)

At

PRESIDENCY UNIVERSITY

BENGALURU

MAY 2025

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REACH GREATER HEIGHTS

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CERTIFICATE

This is to certify that the Project report **"CLOUD BURST PREDICTION SYSTEM"** being submitted by "RAJESHWARI C RAIKAR, NISHA L, KATTA VINOD KUMAR, AMRUTH RAJ P, and K VISHNU VARDHAN" bearing roll number(s) "20211CDV0033, 20211CDV0034, 20211CDV0041, 20211CDV0055 and 20211CDV0056" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Technology is a bonafide work carried out under my supervision.

Mr. RAJAN THANGAMANI
Assistant Professor
PSCS
Presidency University

Dr. S. PRAVINTH RAJA
Professor & HoD
PSCS
Presidency University

Dr. MYDHILI NAIR
Associate Dean
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Dr. SAMEERUDDIN KHAN
Pro-Vice Chancellor - Engineering
Dean –PSCS / PSIS
Presidency University

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

We hereby, declare that the work, which is being presented in the project report entitled **CLOUD BURST PREDICTION SYSTEM** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Technology**, is a record of our own investigations carried under the guidance of **Mr. RAJAN THANGAMANI, ASSISTANT PROFESSOR, Presidency School of Computer Science and Engineering, Presidency University, Bengaluru.**

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

NAME	ROLL NUMBER	SIGNATURE
RAJESHWARI C RAIKAR	20211CDV0033	
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ABSTRACT

A cloudburst refers to a brief but intense rainstorm that leads to flooding and landslides and major destruction. The short duration and unpredictable nature of cloudbursts makes forecasting challenging for authorities to prepare adequate responses. The Cloudburst Prediction System tackles this problem through the combination of machine learning and big data analytics and real-time weather monitoring to detect and forecast cloudbursts. AI algorithms analyze historical weather data and satellite images and radar information to detect irregularities which enable them to issue timely alerts for prompt action.

The system uses GIS to evaluate risk areas while providing essential information to disaster response agencies which improves preparedness and reduces casualties and economic damage. The integration of AI with sensor technology and satellite systems and improved data availability continues to enhance prediction accuracy while being implemented into meteorological frameworks despite existing challenges.

ACKNOWLEDGEMENTS

First of all, we are indebted to the **GOD ALMIGHTY** for allowing me to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, Pro-VC - Engineering and Dean, Presidency School of Computer Science and Engineering & Presidency School of Information Science, Presidency University for getting us permission to undergo the project.

We express our heartfelt gratitude to our beloved Associate Dean **Dr. Mydhili K Nair,** Presidency School of Computer Science and Engineering, Presidency University, and **Dr. PRAVINTH RAJA**, Head of the Department, Presidency School of Computer Science and Engineering, Presidency University, for rendering timely help in completing this project successfully.

We are greatly indebted to our guide **Mr. Rajan Thangamani, Assistant Professor** and Reviewer **Ms. Meena Kumari K, Assistant Professor**, Presidency School of Computer Science and Engineering, Presidency University for their inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

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We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

Rajeshwari C Raikar
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Amruth Raj P
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