MINOR PROJECT REPORT

ON

IMPLEMETATION OF CLOUD BURST PREDICTION SYSTEM

Submitted in partial fulfillment of the requirements
For the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

Submitted By

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November- 2024

CERTIFICATE

I/We hereby certify that the work that is being presented in the project report entitled **Implementation of Cloud Burst Prediction System using Advanced Deep Learning** to the partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Electronics & Communication Engineering from Dr **Akhilesh Das Gupta Institute of Professional Studies**, New Delhi. This is an authentic record of our own work carried out during a period from Aug, 2024 to Nov, 2024 under the guidance of **Dr. Surender Dhiman, H.O.D of ECE department.**

The matter presented in this project has not been submitted by us for the award of any other degree elsewhere.

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This is to certify that the above statement made by the candidates is correct to the best of our knowledge.

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ACKNOWLEDGEMENT

We would like to acknowledge the contributions of the following persons, without whose help and guidance this report would not have been completed.

We acknowledge the counsel and support of our project guide **Mr. Devraj Gautam, Assistant Professor, ECE department,** with respect and gratitude, whose expertise, guidance, support, encouragement, and enthusiasm has made this report possible. Their feedback vastly improved the quality of this report and provided an enthralling experience. We are indeed proud and fortunate to be supervised by him.

We are thankful to **Prof. (Dr.) Surender Dhiman**, **H.O.D. ECE department, Dr. Akhilesh Das Gupta Institute of Professional Studies, New Delhi** for his constant encouragement, valuable suggestions and moral support and blessings.

We are immensely thankful to our esteemed, **Prof. (Dr.) Niranjan Bhattacharya, Director, Dr. Akhilesh Das Gupta Institute of Professional Studies, New Delhi** for his never-ending motivation and support.

We shall always remain indebted to Mr. Devraj Gautam, the project in charge of the ECE department, and faculty and staff members of **Dr Akhilesh Das Gupta Institute of Professional Studies, New Delhi.**

Finally, yet importantly, we would like to express our heartfelt thanks to God, our beloved parents for their blessings, our friends/classmates for their help and wishes for the successful completion of this project.

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Dr. Akhilesh Das Gupta Institute of Professional Studies

Electronics and Communication Engineering

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ABSTRACT

The Cloud Burst Prediction system utilizes real-time meteorological data combined with advanced machine learning techniques to accurately forecast sudden, intense rainfall events that could lead to flash floods and severe damage. The system continuously collects and monitors real-time atmospheric parameters, including humidity, temperature, pressure, and rain intensity, through hardware sensors linked to a database. This data is then analyzed by a predictive model trained on extensive historical weather data, enabling it to detect conditions conducive to cloud bursts with high precision.

Incorporating real-time data acquisition and predictive analytics, this system delivers proactive alerts and early warnings, allowing authorities and communities in vulnerable areas to take timely preventive actions. Its primary objectives include improving disaster readiness, minimizing risk to life and infrastructure, and enhancing resilience against extreme weather events in regions prone to sudden, intense rainfall. By bridging data science and meteorology, this project aims to provide a scalable, efficient solution for cloud burst prediction, aiding in the mitigation of weather-related disasters.

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