



FINAL YEAR PROJECT REPORT

HEALTHCARE PREDICTION SYSTEM WITH WEATHER FORECASTING

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

By

**IQRA AMIR
MUSTAFA KAMAL
MUHAMMAD ALI SHAN**

**70169 (BSCS)
70143 (BSCS)
70114 (BSCS)**

SUPERVISED

BY

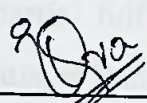
DR. GHULAM MUHAMMAD

BAHRIA UNIVERSITY (KARACHI CAMPUS)

SPRING-2024

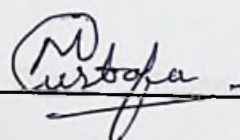
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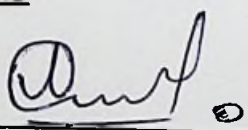
Name : Iqra Amir

Reg No. : 70169

Signature : 

Name : Mustafa Kamal

Reg No. : 70143

Signature : 

Name : Muhammad Ali Shan.

Reg No. : 70114

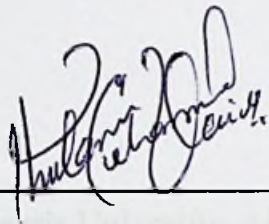
Date : 14/06/2024

APPROVAL FOR SUBMISSION

We certify that this project report entitled **“HEALTHCARE PREDICTION SYSTEM WITH WEATHER FORECASTING”** was prepared by **Iqra Amir, Mustafa Kamal & Muhammad Ali Shan** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of **Computer Science** at Bahria University.

Approved by,

Signature :



Supervisor : Dr Ghulam Muhammad

Date

: 14/06/2024

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In addition, we would also like to thank my parents for their love, support and advice who had helped and given me courage to finish this study.

Specially dedicated to

My beloved grandmother, mother and father

Iqra Amir

My beloved grandmother, mother and father

Mustafa Kamal

My beloved grandmother, mother and father

Muhammad Ali Shan

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We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Dr Ghulam Muhammad for his invaluable advice, guidance and his enormous patience throughout the development of the research.

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HEALTHCARE PREDICTION SYSTEM WITH WEATHER FORECASTING

ABSTRACT

Our project introduces a new type of healthcare prediction that combines a React-based front-end interface with a powerful MongoDB backend infrastructure, using the Random Forest algorithm to transform health prediction. Its main objective is to increase the precision of medical predictions by fusing weather information with an individual's medical history and symptoms. The project aims to uncover the relationship between climate and health by combining historical medical data, including disease outbreaks, patient demographics, and clinical outcomes, with seasonal climate changes such as temperature, humidity, air quality, and precipitation. The system creates complex prediction models using random forest algorithms and advanced statistical techniques. This model represents a significant advance in medical planning strategies by predicting the likelihood of a particular disease or health condition based on weather conditions. Seamlessly integrating weather facts into medical systems will provide the user with instant forecasts and tailored recommendations. This approach ensures that people are immediately warned of potential health risks associated with certain weather conditions, allowing them to seek preventive strategies. Finally, the program aims to improve healthcare planning and resource allocation by integrating forest-based climate data into health forecasting and management, promising better prevention, quality control and improved public health outcomes. The React front provides a responsive, user-friendly experience, while the MongoDB backend provides a powerful and reliable framework that supports evidence-based decision-making in healthcare, empowering the vulnerable, doctors, and policymakers.

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