VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA BELAGAVI

Project Report on

Heart Disease Detection Using with Data Analytics and Machine Learning

Submitted in partial fulfillment of the Requirements of the 4th Semester in

MASTER OF COMPUTER APPLICATIONS

By

GAGAN G R

1RR21MC019

Under the Guidance of
Mrs. Vaibhava Sindhu

Project Coordinator

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RAJARAJESWARI COLLEGE OF ENGINEERING

#14 Ramohalli cross, Mysore road, Kumbalgodu, Bengaluru-560074

(An ISO 9001-2008 Certified Institution)

2022-2023

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Department of Master of Computer of Application

PROJECT CERTIFICATE

This is to certify **Mr. MADHU SRINIVAS M** bearing USN**:1RR21MC030,** student of 4th semester MCA has satisfactorily complete the **Project work – 20MCA44** entitled "**An Exploration of Deep Learning Techniques for Underwater Image Classification"** in the academic year 2022-2023 as prescribed by VTU for 4th semester of master of Computer Application.

Internal Guide	**External Guide**
Mrs. Priyanka V Gudada	**Vaibhava Sindhu**
Associate professor	Project Coordinator
Department of MCA	BLITZ Technology.
RRCE, Bengaluru-560074	Bengaluru-560078

Head of the Department	**Principal**
Dr. T Subburaj	**Dr. R. Balakrishna**
Department of MCA	Principal of RRCE
RRCE, Bengaluru - 560074	Bengaluru - 560074

EXTERNAL VIVA

Name of the Examiners	**Signature with Date**
1…………………..	………………………
2…………………..	………………………

BLITZ TECHNOLOGY

Certificate

Dear sir/Madam

This is to certify that <u>Mr. Gagan G R</u> from "RajaRajeswari College of Engineering", Bangalore with (USN: 1RR21MC019) has successfully completed his project in the area of Software Development organized by Blitz Technolgoy from April 2023 to July 2023.

Project Entitle :- Heart disease prediction using Machine learning.and data analytics

During the project work , He was found to be dedicated towards the tasks assigned to him.

We wish him all the best and success in all future endeavours.

With Regards

Vaibhava Sindhu

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Certificate
OF PUBLICATION

We hereby certify that

Gagan G R (1RR21MC019)

In recognition of the Publication of the Paper Entitled

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DECLARATION

I, **GAGAN G R(1RR21MC019)** student of 4th semester, Department of master of computer application, Rajarajeswari College of Engineering, Bengaluru-560074, declare that the project entitled **"Heart Disease Detection with Data Analytics and Machine Learning"** is a record of the original work done by me under the guidance and supervision of Dr. T Subburaj, Associate professor and Head of the Department, Department of Computer Application, Rajarajeswari College of Engineering and this project work has not formed the basis of any Degree/Diploma/Fellowship or similar title to any candidate of any university.

Name:

USN: **Signature of the candidate**

ACKNOWLEDGEMENT

I am over helmed in all humbleness and gratefulness to acknowledge my depth to all those who have helped me to put these ideas, well above the level of simplicity and into something concrete.

I take this opportunity to acknowledge the help I have received from different individuals who directly or indirectly helped in completion of this **Project** Work.

I am deeply indebted to our beloved our Principal, **Dr. R. Balakrishna,** Rajarajeswari College Of Engineering for providing the necessary facilities to carry out this work.

I am extremely grateful to our beloved HOD, **Dr. T Subburaj,** Associate Professor and HOD, Department of MCA, RRCE for nurturing our technical skills and contributing to the success of this project.

I would also express my heartfelt thanks to our Internal guide **Dr. T Subburaj** Associate Professor and HOD, Department of MCA, RRCE for their continuous guidance and valuable suggestions for this Project work.

It's my pleasure to thank **BLITZ Technology.** for providing me the best platform to complete the project work and glad to thank the external guide **Mrs.Vaibhava Sindhu,** Project Coordinator, Blitz Technology. Bangalore-560078

I also express my heartfelt thanks to all the teaching and nonteaching staff members of MCA Department for their encouragement and support throughout this work.

GAGAN G R

1RR21MC019

ABSTRACT

Recent developments within machine learning played a crucial part in the healthcare industry and amongst all the significant diseases, cardiovascular illness is among the significant and most critical diseases to predict. Exists a sharp rise in the amount of cases each day Observations prove it in every minute, 4 people between the age group of 30-50 get a stroke, so We employ machine learning techniques. to mitigate this problem. Kaggle used the utilised in this project was a dataset on heart disease. This paper demonstrates the application of several machine learning categorization techniques to predict heart disease such as Naive Bayes, Random Forest, SVM etc., and compares their accuracy scores. Later on, Stacking Ensemble Learning Technique boost our classification models' performance.

The WHO health organisation. estimates that 17.7 million people worldwide die suddenly each year due to cardiovascular conditions. The ability topeople to anticipate the complexity of their health at an early stage may assist them. system for forecasting cardiac disease. A doctor's examination or a number of medical tests, such as an ECG, Stress testing, heart MRI, etc., are the traditional techniques for heart disease prediction. Exists a vast quantity of hidden information in the already-available health care data. Having access to this secret knowledge facilitates making sensible selections. For valid results, advanced computer-based data Existing systems are good at correctly forecasting the outcome, but the complexity of health markers and additional data variables lay the groundwork for future systems. evolution of novel strategies.

TABLE OF CONTENTS