

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama” Belagavi – 590 018



PROJECT REPORT ON “HEART DISEASE DETECTION USING ARTIFICIAL INTELLIGENCE”

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

**BACHELOR OF ENGINEERING IN
ELECTRONICS & COMMUNICATION ENGINEERING**

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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING ALVA'S
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2023-2024

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "HEART DISEASE DETECTION USING ARTIFICIAL INTELLIGENCE" is a bona fide work carried out by

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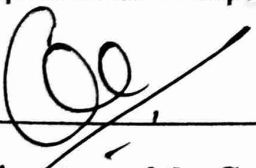
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in partial fulfillment for the award of **BACHELOR OF ENGINEERING** in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.


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ABSTRACT

Heart disease continues to be the world's top cause of death, underscoring the urgent need for precise and effective diagnostic techniques. Artificial intelligence (AI) has shown great promise in recent years for transforming cardiovascular disease diagnosis and treatment. An extensive summary of the use of AI to the diagnosis of cardiac disease is given in this abstract. The first section outlines the incidence and prevalence of heart disease worldwide and emphasizes how urgent it is to develop efficient diagnostic techniques. The abstract then delves into the foundational ideas of artificial intelligence (AI) and its many subfields, such as machine learning and deep learning, explaining how they are applied in electrocardiography (ECG). Additionally, this abstract covers certain AI algorithms and methods—like convolutional neural networks (CNNs), recurrent neural networks (RNNs), and ensemble methods—that are used in the identification of cardiac disease. It looks at how to combine genetic data, imaging results, and clinical data to improve the precision and prediction power of AI models. The abstract also discusses the difficulties and restrictions that come with using AI in clinical practice, such as data quality, interpretability, and legal issues. The article discusses many strategies to mitigate these issues, such as multidisciplinary cooperation between physicians and data scientists, data argumentation.