VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT WORK PHASE-I REPORT ON

DIGITALIZATION OF ECG SIGNALS FROM CELLPHONE IMAGES

Submitted in partial fulfillment for the award of Degree of,

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE &ENGINEERING

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CERTIFICATE

This is to certify that the Project entitled "DIGITALIZATION OF ECG SIGNALS FROM CELLPHONE IMAGES" has been successfully completed by

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The bonafide students of **Department of Computer Science & Engineering, Alva's Institute of Engineering and Technology** in partial fulfillment of 8th semester, BACHELOR OF ENGINEERING in **DEPARTMENT OF COMPUTER SCIENCE & 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.

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ABSTRACT

The digitization of Electrocardiogram (ECG) signals from cell phone images presents a promising avenue for enhancing healthcare delivery in rural areas. In this project, we aim to develop a system leveraging OpenCV for image processing to extract ECG data from images captured by Anganwadi workers using their cell phones. The project is guided by Dr. G. Srinivasan. Our objectives include the creation of a user-friendly mobile application for ECG image capture, employing OpenCV for image processing and signal extraction, and securely storing digitized ECG data. Future extensions involve the development of an intelligent ECG analysis system for early detection of cardiovascular diseases. The methodology encompasses mobile application development, image processing using OpenCV, secure data storage, and laying the groundwork for machine learning algorithms. Hardware requirements include cell phones with sufficient resolution and a secure cloud storage infrastructure. Software requirements entail mobile app development platforms, the OpenCV library, database management systems, and machine learning frameworks for future extensions. Data security and privacy are paramount, requiring compliance with regulations such as HIPAA and GDPR, and encryption of data during transmission and storage. Collaboration with medical experts like Dr. Padmanabha Kamath ensures the project's medical relevance and future development. Training and ongoing support for Anganwadi workers are integral to the project's success. In conclusion, this project aims to bridge the healthcare gap in rural areas by digitizing ECG signals, with the potential to revolutionize early detection of cardiovascular diseases and improve healthcare outcomes in underserved communities.