**DECLARATION**

We, **Anand M. Kumbar** (2BA18CS009), **Rahul H. Patil** (2BA18CS050), **Rushikesh A. Navale** (2BA19CS405) and **Yash A. Darbar** (2BA18CS084) students of 8th semester BE in Computer science and Engineering of Basaveshwar Engineering College Bagalkot, hereby declare that the project work entitled "**Road Quality Assessment And Comfortable Path Suggestion**" submitted to the Visvesvaraya Technological University during the academic year 2021-22, is a record of an original work done by us under the guidance of **Prof. Smita Gour** Assistant Professor of Department of Computer science and Engineering. Basaveshwar Engineering College, Bagalkot. This project work is submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Computer science and Engineering The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree.

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**ACKNOWLEDGEMENT**

The satisfaction and euphoria that accompany the completion of any task would be incomplete without the mention of the people who made it possible, whose consistent guidance and encouragement crowned our effort with success.

We consider it as my privilege to express the gratitude to all those who guided in the completion of my Project Report.

First and foremost, we would like to express our deep sense of gratitude and indebtedness to my Project guide **Prof: Smita Gour**, who has been our source of inspiration. She has been especially enthusiastic in giving her opinions and critical reviews and also, as Project Coordinator supported us in making this Project Report a successful one. We have learnt a lot throughout this semester with many challenges yet valuable experience in order to complete this task. We will remember their contribution forever.

We thank our beloved Principal **Dr. S. S. Injaganeri** for his constant help and support throughout. Our special thanks to our Head of the department **Dr. V. B. Pagi** who supported us in making this Project Report a successful.

We would like to thank all the teaching and non-teaching staff of department of Computer Science and Engineering for their coordination and support.

**ABSTRACT**

This proposal is to build a system mainly to help assess road quality by detecting different road anomalies such as road hump, potholes, and different quality aspects, and also provide the comfortable path. Such system can be built using machine learning models and path computing algorithms. The main challenges in this project are to collect the data of road, build a machine learning model to classify the road anomalies, compute comfortable path and plot the route and road anomalies on the map. So, this report introduces a novel deep learning approach for road anomalies detection based on MFCC spectrogram preprocessing and CNN classification model. The various work we have done are building of IOT based model to collect the data, creation of large dataset to train and test the CNN model, building and experimenting with various CNN model for better efficiency and accuracy, computation of comfortable path and plotting of the computed path with marking of the quality of the road and possible humps, potholes on map. A well-designed Web based application is designed to take user inputs by choosing their source and destination and output will be shown on the same.

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