Department of Electrical and Computer Engineering

North South University

Senior Design Project Report

CSE/EEE/ETE 499

Air Quality Prediction using machine learning Methods

Submitted By

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Supervisor

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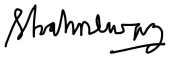
Approval

*The senior Design Project entitled "**Air Quality Prediction using machine learning Methods**" has fulfilled all the criteria required for the completion of the Bachelors of Science in Computer Science and Engineering (CSE) program at the Department of Electrical & Computer Engineering, North South University in May 2021.*

Approved By:

Supervisor's Signature

 *18/6/21 (E-Signature)*

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Dr. Shahnewaz Siddique
Assistant Professor
Department of Electrical and Computer Engineering, North South University Dhaka, Bangladesh.

Department Chair's Signature

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Dr. Mohammad Rezaul Bari
Associate Professor
Department of Electrical and Computer Engineering, North South University Dhaka, Bangladesh.

DECLARATION

This is to declare that this report is a software-based implementation and is self-contained for submission as a part of the Senior Design course in Spring 2021 at North South University and has not been used elsewhere for any other reason. The materials obtained from other sources are duly acknowledged in this project. Any similarities, in wording, if found to other papers, which has not been cited, is a subject of pure coincidence.

Declared By:

Hossain Amrin

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Acknowledgment

First of all, we wish to express our gratitude to the Almighty for giving us the strength to perform our responsibilities and complete the project entitled "Air Quality Prediction using machine learning Methods" during this difficult time of the pandemic.

The Capstone project program is incredibly beneficial for bridging the gap between academic and real-life knowledge. This report was developed using theoretical knowledge as practical experience. We would like to thank the Department of Electrical and Computer Engineering of North South University for giving us the opportunity to showcase our skills like problem-solving, analyzing, and implementation of solutions.

We sincerely thank Dr. Shahnewaz Siddique, our project supervisor, for all his continuous support and motivation for the entire project term we will remain indebted to forever. Without his support and supervision, the completion of this project would not have been possible. His guidance has helped us with all kinds of research, writings, and project completion.

Finally, we would like to express our gratitude to our families and everyone who supported us and provided guidance for the completion of this project.

Abstract

Air pollution is one of the modern world's biggest issues. In Dhaka, Bangladesh, air quality has become a topic of concern that is growing day by day. Especially, PM2.5 and PM 10 levels are troubling because of their connection to health threats. The purpose of this study is to predict Air quality. Our main goal of this project is to assist Bangladeshi citizens to realize the risks and steps they need to take to mitigate air pollution. So, in this paper, we are presenting some forecasting models that will help to predict air quality.