

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-560014, Karnataka



PROJECT REPORT ON

"AIR POLLUTION PREDICTION USING DEEP LEARNING"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE PROJECT

**BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE & ENGINEERING**

Submitted By

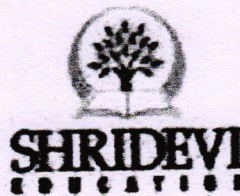
**Akhil N (1SV19CS004)
Harisha M R (1SV19CS033)
Nandini A (1SV19CS047)
Sahana S G (1SV19CS060)**

Under the guidance of

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Department of Computer Science and Engineering

SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Affiliated To Visvesvaraya Technological University)

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2022-2023



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ESTD: 2002



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that, Internship project report of entitled "AIR POLLUTION PREDICTION USING DEEP LEARNING" has been successfully carried out by Akhil N[1SV19CS004], Harisha M R[1SV19CS033], Nandini A[1SV19CS047], Sahana S G [1SV19CS060] in partial fulfillment for the project report of **Bachelor of Engineering in Computer Science & Engineering** of the **Visvesvaraya Technological University, Belagavi** during the academic year **2022-23**. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Project report has been approved as it certifies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Signature of Guide

Mr. Renukaradhya P C

Assistant. Professor
Dept. of CSE,
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Signature of H.O.D

Dr. Basavesha D BE., M.Tech., Phd

Associate Professor & HOD
Dept. of CSE,
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Signature of Principal

Dr. Narendra Viswanath M.E., Ph.D., MIE, MISTE, MIWS., FIV.,

Principal,
SIET, Tumakuru

Name of the Examiners

1. Dr. Basavesha D

2. WASIM UDDIN

Signature with date



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

We, Akhil N [1SV19CS004], Harisha M R [1SV19CS033], Nandini A [1SV19CS047], Sahana S G [1SV19CS060] student of VIII semester B.E in Computer Science & Engineering, at Shridevi Institute of Engineering & Technology, Tumakuru, hereby declare that, the Project work entitled "AIR POLLUTION PREDICTION USING DEEP LEARNING", embodies the report of our Project work carried out under the guidance of Mr. Renukaradhya P C, Assistant Professor Department of CSE, SIET, Tumakuru as partial fulfillment of requirements for the Project report in Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi, during the academic year 2022-23. The Project has been approved as it satisfies the academic requirements in respect to the Project work.

Place: Tumakuru

Student Name & Signature

Date: 25/05/23

Akhil N [1SV19CS004] Akhil N

Harisha M R [1SV19CS033] Harisha, M, R

Nandini A [1SV19CS047] Nandini A

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Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. AKHIL N bearing USN 1SV19CS004 Student of Shridevi Institute of Engineering & Technology has successfully completed his Project Work titled "Air Pollution Prediction Using Deep Learning".

We wish every success in his career.

For ShriTEK Innovations

Geeta
Authorized Signature



Naradha Kumbhar
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TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms. NANDINI A** bearing USN **1SV19CS047** Student of **Shridevi Institute of Engineering & Technology** has successfully completed her Project Work titled **“Air Pollution Prediction Using Deep Learning”**.

We wish every success in her career.

For ShriTEK Innovations

For

Geese
Authorized Signature

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ACKNOWLEDGEMENT

This Project will be incomplete without thanking the personalities responsible for this venture, which otherwise would not have become a reality.

We express our profound gratitude to **Dr. Narendra Viswanath**, Principal, S.I.E.T, for his moral support towards completing our Internship-Project work.

We would like to thank Head of Department **Dr. Basavesha D** Head, Department of CSE, SIET for providing all the support and facility.

We would like to thank my guide **Mr. Renukaradhya P C**, Assistant Professor, Department of computer Science and Engineering, SIET for his help, sharing his technical expertise and timely advice.

We would like to express our sincere gratitude to all teaching and non-teaching faculty of the department of CSE for guiding us of this project by giving valuable suggestion and encouragement.

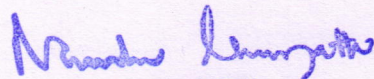
By,

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ABSTRACT

Both developed and developing countries are the major reason that affects the world environment quality. In that case, without limit or warning, this pollution may affect human health, agricultural, forest species and ecosystems. Therefore, the aim of this study was to determine the monthly and seasonal variations of Air Pollution Index (API) at all monitoring stations. In this study, time series models will be discussed to analyze future air quality and used in modeling and forecasting monthly future air quality. Time series model used in forecasting is an important tool in monitoring and controlling the air quality condition. It is useful to take quick action before the situations worsen in the long run. In that case, better model performance is crucial to achieve good air quality forecasting. Moreover, the pollutants must in consideration in analysis air pollution data.

Keyword : Air Pollution Index (API), time series modeling, ARIMA time series, air quality forecasting, pollution data

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