# A PROJECT REPORT

ON

“AIR QUALITY INDEX MONITORING AND ADVISORY SYSTEM USING MACHINE LEARNING”

Submitted In Partial Fulfillment of the Requirement for the Award of

Post Graduate Diploma in Artificial Intelligence (PG-DAI)

Under the Guidance of

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# INDEX

|  |  |
| --- | --- |
| Certificate | 2 |
| Acknowledgement | 3 |
| Abstract | 4 |
| Introduction to the problem statement and the possible solution | 5 |
| Data Preprocessing | 6 |
| Coding | 7-17 |
| Results | 18 |
| Conclusion & Future Scope | 19-20 |
| Reference & Bibliography | 21 |
|  |  |

# CERTIFICATE

This is to certify that Report entitled “Air Quality Index Monitoring and Advisory System Using Machine Learning” submitted in partial fulfillment of the requirement for the award of Post Graduate Diploma in Artificial Intelligence (PG-DAI) to CDAC, Noida is a record of the candidate’s own work carried out under my supervision.  
  
The documentation embodies results of original work, and studies carried out by the student themselves and the contents of the report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.  
  
  
MS. SARUTI GUPTA  
(Project Guide)

# ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Ms. Saruti Gupta (Project Guide), CDAC Noida, for her invaluable guidance, support, and constant encouragement throughout the duration of this project. Her insights and suggestions helped in shaping this project successfully.  
  
Special thanks to Ms. Ravi Payal (Program Coordinator) for facilitating all resources needed to execute this project.

# ABSTRACT

Air pollution poses significant risks to human health and the environment. Monitoring and analyzing Air Quality Index (AQI) helps determine the pollution level in different regions and take timely actions. This project utilizes machine learning models to classify and forecast AQI levels using data sourced from data.gov.in. The system categorizes air quality into levels such as Good, Satisfactory, Moderate, Poor, Very Poor, and Severe.  
  
Preprocessing includes handling missing values, label encoding, normalization, and feature selection. The model is deployed using Streamlit, providing a simple web interface where users can check AQI predictions based on inputs or uploaded datasets. Evaluation metrics such as accuracy, confusion matrix, and classification report assess the model performance. This real-time AQI monitoring system assists individuals and authorities in making informed decisions about outdoor exposure and environmental policies.