

Air Sense:Real-time IoT-based air quality monitoring system

A Community Service Project Internship

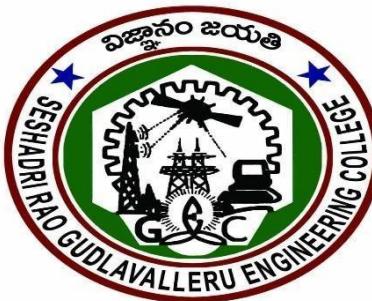
Submitted to the Faculty of Engineering of
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA,
KAKINADA**

In partial fulfillment of the requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY
In
CSE (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

By
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Under the Enviable and Esteemed Guidance of
Dr S.K.Salma Begum
Associate professor & Mentor (AS&A),Department of CSE(AI&ML)



DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)
SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
SESHADRI RAO KNOWLEDGE VILLAGE GUDLAVALLERU – 521356
ANDHRA PRADESH
2025-26

Program Book

for

Community Service Internship



Name of the College : Seshadri Rao Gudlavalleru Engineering College

Name of the Department : CSE (AI & ML)

Name of the Faculty Guide : Dr.SK. SALMA BEGUM

Duration of the CSP: **From :** 19-05-2025 **To:** 30-06-2025 &

From : 14-07-2025 **To:** 26-07-2025

Name of the Students: K.Sai Gopala Krishna,G.Ajay Kumar,G.RaviTeja,G.Balaji

Programme of Study Year of Study: B.Tech III Year

Register Numbers : 23481A4241, 23481A4229, 23481A4233, 23481A4232

Date of Submission : 13 November 2025

Student's Declaration

We K.Sai Gopala Krishna,G.Ajay Kumar,G.RaviTeja,G.Balaji Reg. No:- 23481A4241, 23481A4229,23481A4233,23481A4232 of the Department of CSE (Artificial Intelligence & Machine Learning) do here by declare that we have completed the mandatory community service from 19th May,2025 to 30th June,2025 & 14th July 2025 to 26th July 2025 in Gudlavalleru under the Faculty Guideship of Dr.SK. SALMA BEGUM in College of Seshadri Rao Gudlavalleru Engineering College.

(Signature and Date)

Endorsements

Faculty Guide :

Master of Trainer(S):

Head of the Department :

Principal :

Certificate from Official of the Community

This is to certify that K.Sai Gopala Krishna,G.Ajay Kumar,G.RaviTeja,G.Balaji Reg. No:-23481A4241,23481A4229,23481A4233,23481A4232 respectively of Seshadri Rao Gudlavalleru Engineering College underwent community service internship in Gudlavalleru from 19th May,2025 to 30th June,2025 & 14th July 2025 to 26th July 2025.

The overall performance of the Community Service Volunteer during his/her community service is found to be (Satisfactory/Good).

(Authorized Signatory with Date and Seal)

ACKNOWLEDGEMENTS

The satisfaction that accompanies the successful completion of any task would be incomplete without the mention of people who made it possible and whose constant guidance and encouragements crown all the efforts with success.

We would like to express our deep sense of gratitude and sincere thanks to

Dr SK.Salma Begum, Associate professor & Mentor (AS&A), Department of CSE(Artificial Intelligence &Machine Learning) for her constant guidance, supervision and motivation in completing the project work.

We feel elated to express our floral gratitude and sincere thanks to **Dr.Y.Adilakshmi**, Head of the Department, CSE(Artificial Intelligence &Machine Learning) for her encouragements all the way during analysis of the project. Her annotations, insinuations and criticisms are the key behind the successful completion of the project work.

We would like to take this opportunity to thank our beloved principal **Dr. B. Karuna Kumar** for providing a great support for us in completing our project and giving us the opportunity for doing project.

We thankful to the community and officials from the community for giving the necessary information and very thankful to the faculty members for their motivation and knowledge rendered though out our programme

We wish to thankful for all our friends, who have helped us in various stages and for giving valuable suggestions throughout the project. I wish to thank all the community people who helped in to do project in successful.

K.Sai Gopala Krishna(23481A4241)
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CHAPTER 1: EXECUTIVE SUMMARY

This community service project focused on designing and implementing an IoT-based air quality monitoring system for a rural village. The initiative aimed to address the challenges of traditional pollution monitoring, which are often costly and limited in coverage, by leveraging affordable sensor networks and cloud technologies. The system continuously measured key pollutants including CO, NO_x, PM, and VOCs, with data transmitted wirelessly and accessed via mobile/web applications. Through real-time insights, residents and administrators were empowered to take proactive measures for improving air and health outcomes. Complemented by educational campaigns and community engagement, the project not only enhanced environmental awareness but also fostered collaborative efforts toward sustainable, data-driven pollution control. The scalable model demonstrated effectiveness in providing actionable air quality data and supporting healthier living conditions, establishing a strong foundation for future expansion in similar communities.

Learning Objectives

- Understand the causes and health impacts of air pollution in rural or semi-urban environments.
- Learn the principles and applications of Internet of Things (IoT) technologies for environmental monitoring.
- Develop hands-on skills in designing, assembling, and programming IoT sensor networks.
- Gain experience with cloud platforms and data analytics for real-time environmental data collection.
- Foster effective community engagement and increase public awareness of pollution and prevention.

Learning Outcomes

- Identify key air pollutants and explain their effects on human health and the ecosystem.
- Demonstrate the ability to implement an IoT-based environmental monitoring solution using sensors and microcontrollers.
- Analyze and interpret real-time air quality data to identify pollution trends and incidents.
- Communicate technological information and air quality insights clearly to non-technical community members.
- Plan and evaluate awareness programs that encourage sustainable, data-driven environmental action in the community

CHAPTER 2: OVERVIEW OF THE COMMUNITY

The community of Gudlavalleru is a rural village with a primarily agricultural economy, where most residents depend on farming and traditional practices. The village faces challenges such as limited access to modern environmental management tools and low awareness about pollution and its health impacts. Reliance on biomass fuels and agricultural activities contribute to both indoor and outdoor pollution, affecting the quality of life and health of the inhabitants.

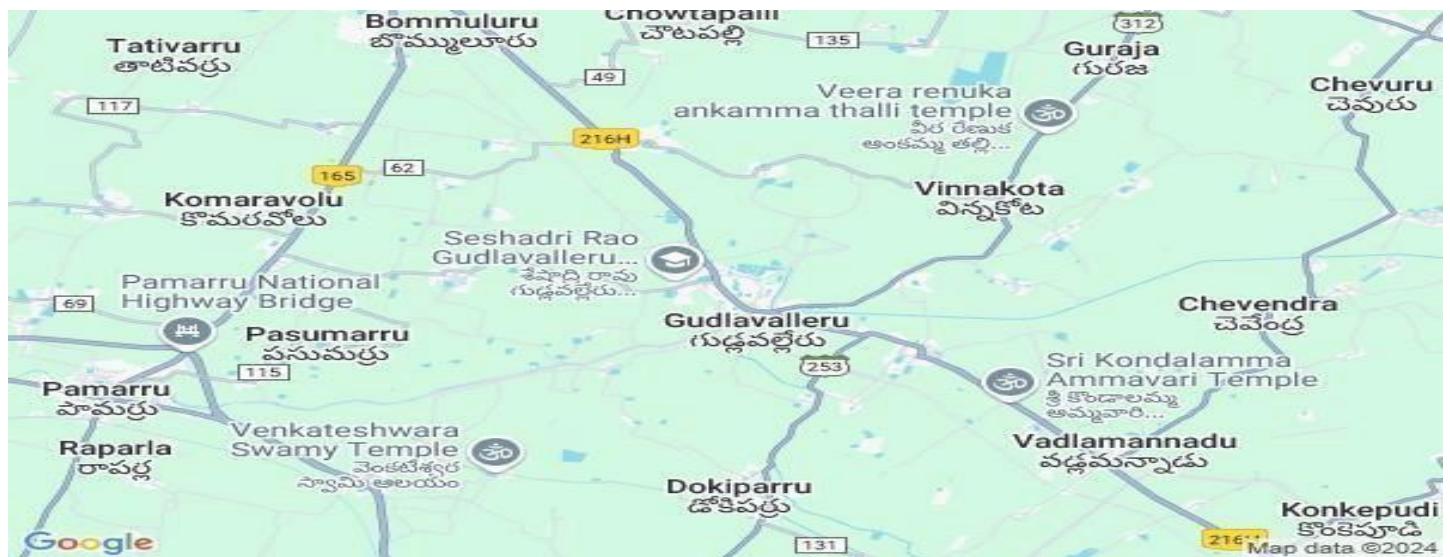


Fig 2.1: Gudlavalleru location

Geographically, the village's climate and terrain influence air quality patterns, with seasonal variations due to weather and local activities. Infrastructure to monitor and address environmental concerns is minimal, making real-time pollution data scarce. This limits proactive responses to air quality issues and heightens health risks for vulnerable populations, including the elderly and children.

The project tailored its IoT-based air quality monitoring system specifically for Gudlavalleru, focusing on affordability, ease of use, and community involvement. By deploying sensor networks and cloud-based platforms, the initiative empowers residents and local governance to monitor pollution levels continuously. Alongside technical solutions, concerted efforts in education and community engagement foster sustainable practices and collective action toward healthier living environments.

CHAPTER 3: COMMUNITY SERVICE PART

Explanation:

The project was implemented over a period of eight weeks, with each week focusing on specific goals to ensure the effective execution of the community service activities. Below is a week-by-week breakdown of the tasks and outcomes.

Week 1: Project Introduction and Community Engagement

- Objective: Introduce the concept of IoT-based air quality monitoring and involve the community.
- Activity: Conduct awareness sessions and meetings explaining project goals and benefits.
- Goal: Build interest and foster community support.

Week 2: Installation of IoT Sensors and Baseline Data Collection

- Objective: Deploy air quality monitoring devices in strategic village locations.
- Activity: Install sensors, test functionality, and start collecting initial air quality data.
- Goal: Establish baseline pollution levels.

Week 3: Volunteer Training and Data Interpretation

- Objective: Train community volunteers and residents on device operation and data usage.
- Activity: Hands-on workshops, demonstrations of sensor operation and data dashboard usage.
- Goal: Empower the community to monitor air quality actively.

Week 4: Continuous Monitoring and Data Analysis

- Objective: Collect continuous air quality data for identifying trends and hotspots.
- Activity: Monitor sensor data, generate reports, and analyze pollution patterns.
- Goal: Understand pollution dynamics and sources.

Week 5: Awareness Campaigns and Health Education

Objective: Educate the community about air pollution risks and health impacts

- Activity: Conduct public workshops, distribute flyers, and use social media for outreach.

- Goal: Increase public awareness and promote preventive actions.

Week 6: Promotion of Sustainable Practices

- Objective: Encourage adoption of pollution reduction practices informed by data insights.
- Activity: Demonstrate pollution control methods and environmentally friendly behaviors.
- Goal: Reduce pollution generation and exposure.

Week 7: Feedback and System Enhancement

- Objective: Gather community feedback and address technical challenges.
- Activity: Conduct feedback sessions and troubleshoot system issues.
- Goal: Improve system usability and effectiveness.

Week 8: Final Reporting and Future Sustainability Planning

- Objective: Summarize project achievements and plan for long-term sustainability.
- Activity: Prepare comprehensive reports and discuss scaling strategies.
- Goal: Ensure ongoing community-led air quality monitoring and impact.

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT WEEK – 1 (From : 19-05-2025 To 24-05-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE SECOND WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 2 (From:26-05-2025 To 31-05-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE THIRD WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 3 (From : 02-06-2025 To 07-06-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE FOURTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 4 (From : 09-06-2025 To 13-06-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE FIFTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 5 (From :16-06-2025 To 21-06-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE SIXTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 6 (From 23-06-2025 To 30-06-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE SEVENTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 7 (From :14-07-2025 To 19-07-2025)

Objective of the Activity Done:

Detailed Report:

ACTIVITY LOG FOR THE EIGHTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SIGNATURE

WEEKLY REPORT

WEEK – 8 (From 21-07-2025 To 26-07-2025)

Objective of the Activity Done:

Detailed Report:

CHAPTER 5: OUTCOMES DESCRIPTION

Details of the Socio-Economic Survey of the Village/Habitation.

Attach the questionnaire prepared for the survey

An exhaustive questionnaire has been prepared as follows.

- 1.How aware are you about the harmful effects of air pollution on health?
- 2.What sources of pollution are most common in your locality?
- 3.Are you aware of any government schemes or initiatives to improve air quality?
- 4.How often do you experience respiratory issues or allergies related to air pollution?
- 5.What kind of fuel do you use for cooking, and does it affect indoor air quality?
- 6.How important do you think monitoring air quality is for community health?
- 7.Would you be willing to use a device that monitors air quality in your home or school?
- 8.Have you noticed any changes in air pollution levels in recent years?
- 9.What actions do you or your family take to reduce exposure to polluted air?
- 10.Are you interested in participating in community awareness programs about air pollution?
- 11.How do you dispose of plastic and other waste materials to reduce pollution?
- 12.Do you think technology like IoT can help in solving environmental problems?
- 13.What challenges do you face in adopting environmentally friendly practices?
- 14.How does air pollution impact the daily activities and productivity of your family?
- 15.What improvements would you suggest for monitoring and managing air quality locally?

Describe the problems you have identified in the community The problems identified in the community are given below:

1.Lack of Real-Time Air Quality Data:

Continuous and real-time data on air pollution is essential for timely awareness and intervention. Currently, the community lacks such systems, resulting in delayed responses to pollution spikes. This absence limits the ability to promptly address hazardous air quality situations, exposing residents to health risks unknowingly.

2.Low Community Awareness:

Many residents are unaware of the health impacts of poor air quality, such as respiratory illnesses and allergies. There is also limited understanding of the necessity for regular air quality monitoring. This lack of awareness reduces community participation in pollution control efforts and preventive measures.

3.Inadequate Pollution Detection Infrastructure:

The community does not have access to affordable, scalable, and accurate pollution monitoring devices. Existing systems are too expensive or complex, making it difficult to deploy them widely. This infrastructure gap hinders effective tracking and evaluation of pollution levels.

4.Health Issues Related to Poor Air Quality:

Vulnerable groups such as children, the elderly, and those with pre-existing health conditions suffer disproportionately due to poor air quality. High rates of respiratory diseases and other pollution-related ailments have been observed, indicating an urgent need for effective monitoring and mitigation.

5.Insufficient Government or Local Support:

There is limited availability of government initiatives and technological support focused on environmental monitoring in the community. This impedes implementation of advanced solutions like IoT monitoring systems and limits resource allocation for pollution control.

6.Lack of Data Accessibility:

Even where some data exists, it is often not easily accessible or comprehensible by the general public. This lack of accessible information reduces the community's ability to stay informed, engage in preventive actions, or advocate for better environmental policies.

Short-term and long term action plan for possible solutions for the problems identified and that could be recommended to the concerned authorities for implementation.

Short-term action plans:

- Deploy affordable IoT air quality monitoring sensors at critical community locations for real-time data collection.
- Conduct community awareness programs on the health hazards of air pollution and the importance of monitoring.
- Train local residents and farmers on sustainable agricultural practices and proper use of fertilizers.
- Facilitate access to organic fertilizers through local partnerships and subsidies.
- Develop accessible digital platforms (mobile or web) for community members to view air quality data and receive timely alerts.
- Collaborate with local healthcare providers to monitor pollution-related health cases and educate patients.
- Initiate pilot studies for data-driven pollution control interventions based on early monitoring results.

Long-term action plans:

- Expand the IoT sensor network to cover wider geographic areas, integrating multiple data sources for comprehensive air quality maps.
- Implement machine learning models and AI-driven analytics for forecasting pollution trends and risk assessment.
- Develop regulatory frameworks and policies to enforce pollution control measures based on monitoring data.
- Establish permanent community engagement programs focused on environmental education and sustainable practices.
- Foster collaborations with governmental agencies, research institutions, and NGOs for funding, innovation, and capacity building.
- Promote adoption of green technologies and renewable energy sources to reduce pollution sources long-term.
- Encourage farmer transition to organic and precision agriculture, supported by technology and subsidies.

Description of the Community awareness programme/s conducted w.r.t the problems and their outcomes.

DESCRIPTION:
Awareness Workshops and Demonstrations:
<ul style="list-style-type: none">Conducted workshops to explain air pollution sources, health effects, and preventive measuresDemonstrated use of IoT air quality monitoring devices for real-time data collection.
Targeted Outreach in Schools and Community Centers:
<ul style="list-style-type: none">Educated students and local residents on pollution impacts and monitoring importance.Distributed educational materials including posters, pamphlets, and digital media.
Social Media and Digital Campaigns:
<ul style="list-style-type: none">Leveraged platforms like WhatsApp, Facebook, and Instagram to spread awareness widely.Created unifying hashtags and shared pollution data visuals to engage the community.
Collaboration with Local Authorities:
<ul style="list-style-type: none">Engaged local government and environmental officials to support pollution control efforts.Secured permissions and endorsements which strengthened program credibility.
OUTCOMES:
<ul style="list-style-type: none">Increased community knowledge about air quality and proactive health measures.Behavioral changes observed such as reduced burning of waste and plastic, improved waste disposal.Higher community participation in pollution monitoring using IoT devices.Strengthened community-government coordination towards sustainable environmental management.

Report of the mini-project work done in the related subject w.r.t the habitation/village.

1.Project Title : IoT Based Air Quality Monitoring

Initiative: Gudlavalleru Village, Krishna District.

2.Introduction:

This project IoT-based air quality monitoring system uses a network of sensors to detect pollutants and environmental factors in real-time. These sensors transmit data wirelessly to a cloud platform for storage, processing, and analysis. Users can access air quality information via web or mobile applications, enabling timely awareness, decision-making, and pollution control. This system offers a cost-effective and scalable alternative to traditional monitoring, helping communities track pollution trends and protect public health efficiently.

3.Problem Statement:

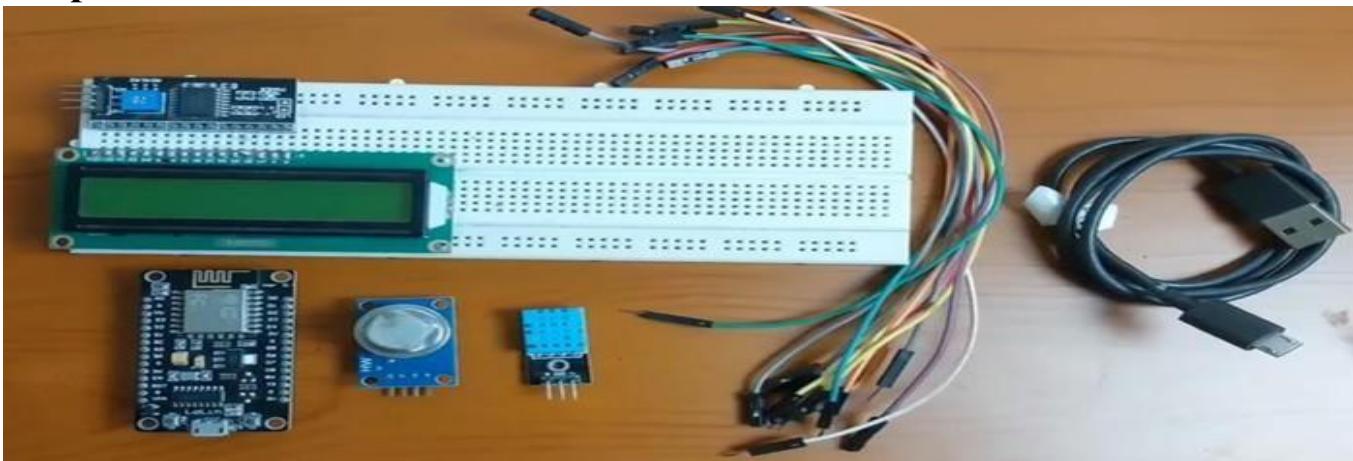
Rural air quality monitoring faces challenges including limited infrastructure, high costs, and low public awareness. Many areas lack the equipment and connectivity needed for continuous, accurate data collection. These issues hinder effective pollution management and health protection in rural communities.

4.Proposed Solution:

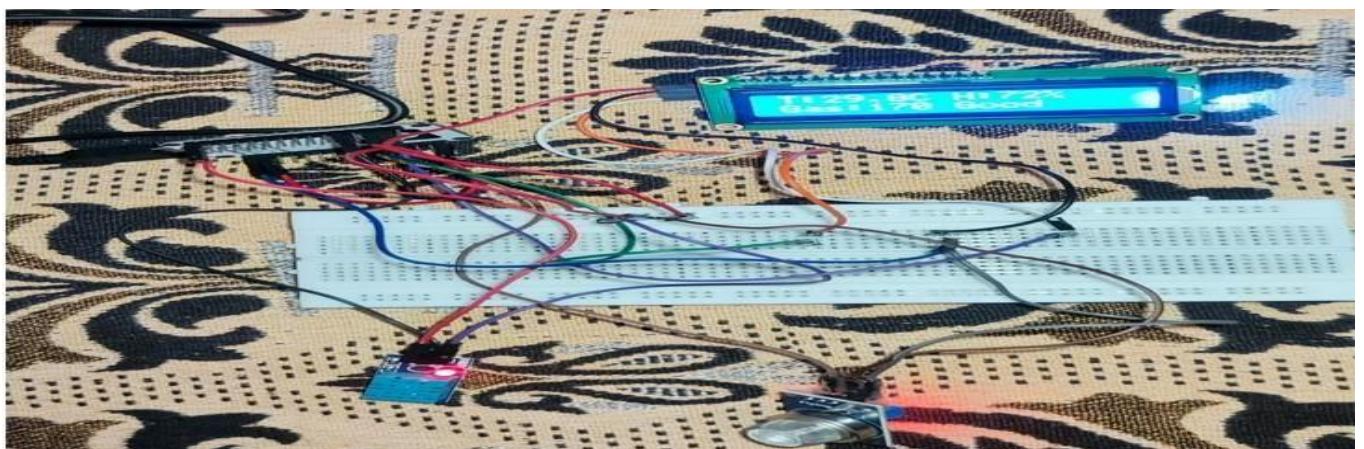
The proposed solution is to implement a low-cost, IoT-based air quality monitoring system in the village, using multiple sensors to continuously measure pollutants and environmental parameters. The sensor data will be transmitted wirelessly to a cloud platform for real-time processing and visualization. This system enables accessible, timely air quality information for residents and authorities, supporting informed decisions to reduce pollution exposure. It overcomes traditional monitoring limitations by being scalable, affordable, and easy to deploy in rural settings.

5.Images related to the project :

Circuit Components



Circuit after connections



Readings on LCD Display



Readings on Mobile



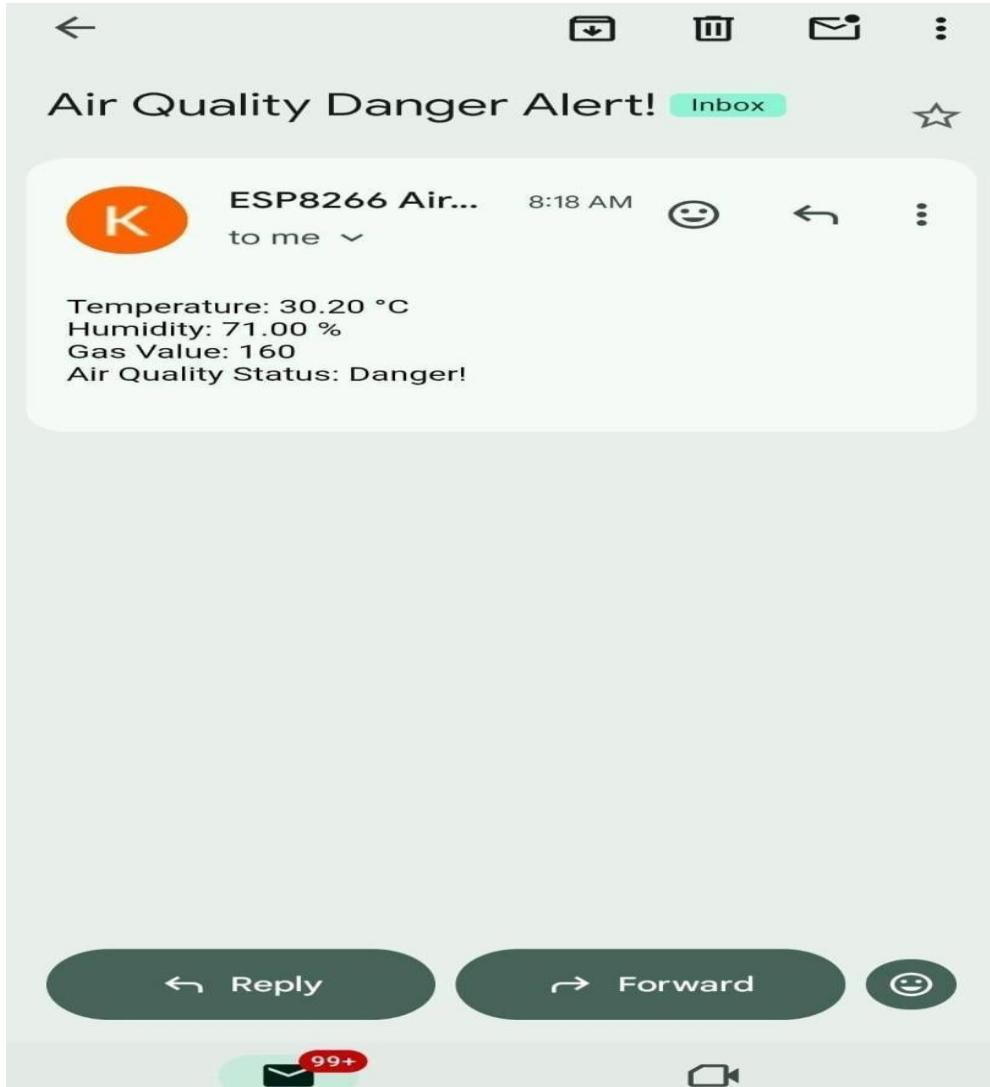
Readings on Laptop

```
Output Serial Monitor X
Message (Enter to send message to 'NodeMCU 1.0 (ESP-12E Module)' on 'COM5')
Temp: 30.2°C | Humi: 67.0% | Gas: 229 | Moderate
WiFi Connected!
(9020)
/ \ ) / / / / \ / / /
/ - / / / / - \ / \ /
/ / / \ - / / / \ / \ /
/ \ / \ v1.3.2 on ESP8266

#standWithUkraine https://bit.ly/swua

[9102] Connecting to blynk.cloud:80
[9304] Ready (ping: 58ms).
Temp: 30.8C, Humi: 67.0%, Gas: 228, Quality: Moderate
SMTP Connect Failed!
Temp: 30.8C, Humi: 67.0%, Gas: 228, Quality: Moderate
SMTP Connect Failed!
Temp: 30.2C, Humi: 67.0%, Gas: 229, Quality: Moderate
SMTP Connect Failed!
Temp: 30.2C, Humi: 67.0%, Gas: 230, Quality: Moderate
SMTP Connect Failed!
Temp: 30.2C, Humi: 67.0%, Gas: 229, Quality: Moderate
SMTP Connect Failed!
Temp: 30.2C, Humi: 67.0%, Gas: 229, Quality: Moderate
SMTP Connect Failed!
Temp: 30.5C, Humi: 67.0%, Gas: 223, Quality: Moderate
SMTP Connect Failed!
Temp: 30.8C, Humi: 67.0%, Gas: 224, Quality: Moderate
```

Alert Message in Email



6. Technologies used:

The project uses Arduino as the microcontroller platform, integrated with multiple sensors such as MQ-135 for air pollutants, DHT11 for temperature and humidity, and particulate matter sensors for PM2.5 and PM10 detection. Wireless communication modules like ESP8266 are employed to transmit data to cloud servers for real-time monitoring. Data visualization and analysis are done on web or mobile platforms, enabling accessible and timely air quality information. The system leverages IoT technologies for cost-effective, scalable, and community-driven environmental monitoring.

CHAPTER 6: RECOMMENDATIONS AND CONCLUSIONS OF THE COMMUNITY SERVICE PROJECT

Recommendations

1. Expand IoT Air Quality Monitoring Network:

Scale up deployment of sensors to cover more locations across the community for comprehensive pollution mapping.

2. Enhance Community Engagement:

Continue and expand awareness programs to educate residents on pollution sources, health effects, and personal preventive measures.

3. Promote Sustainable Agricultural Practices:

Encourage farmers to adopt organic and balanced fertilizer use, backed by training and subsidies to improve soil health.

4. Improve Government and Stakeholder Collaboration:

Strengthen partnerships among local authorities, NGOs, health agencies, and academic institutions for data sharing and coordinated action.

5. Develop Accessible Data Platforms:

Provide user-friendly apps and websites for residents and decision-makers to access realtime air quality data and alerts.

6. Integrate Predictive Analytics:

Utilize AI and machine learning for forecasting pollution trends to enable proactive interventions.

7. Regular Maintenance and Calibration:

Establish protocols for sensor upkeep to ensure accuracy and reliability of monitoring data.

Conclusions

The project effectively demonstrated the feasibility and benefits of IoT-based air quality monitoring in a rural community setting. It provided vital real-time data, increased environmental awareness, and encouraged community participation in pollution control. Through a combination of technology deployment, education, and policy recommendations, this initiative lays a strong foundation for sustainable air quality management and improved public health. Continued efforts and scaling will further enhance the environmental and social well-being of the community.

Student Self-Evaluation for the Community Service Project

Student Name: K.Sai Gopala Krishna

Registration No: 23481A4241

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,

Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: 1 is lowest and 5 is highest rank

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Student

Student Self-Evaluation for the Community Service Project

Student Name: G.Ajay Kumar

Registration No: 23481A4229

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,
Andhra Pradesh

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Date: 15-11-25

Signature of the Student

Student Self-Evaluation for the Community Service Project

Student Name: G.RaviTeja

Registration No: 23481A4233

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,
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14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Student

Student Self-Evaluation for the Community Service Project

Student Name: G.Balaji

Registration No: 23481A4232

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,

Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: 1 is lowest and 5 is highest rank

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11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Student

Evaluation by the Person in-charge in the Community/Habitation

Student Name: K.Sai Gopala Krishna

Registration No: 23481A4241

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,
Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: 1 is lowest and 5 is highest rank

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Supervisor

Evaluation by the Person in-charge in the Community/Habitation

Student Name: G.Ajay Kumar

Registration No: 23481A4229

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,
Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: 1 is lowest and 5 is highest rank

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Supervisor

Evaluation by the Person in-charge in the Community/Habitation

Student Name: G.RaviTeja

Registration No: 23481A4233

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College,Gudlavalleru- 521356,
Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Supervisor

Evaluation by the Person in-charge in the Community/Habitation

Student Name: G.Balaji

Registration No: 23481A4232

Period of CSP: From: 19-05-2025 To:30-06-2025 & From:14-07-2025 To:26-07-2025

Date of Evaluation: 15-11-25

Name of the Person in-charge: SK. SALMA BEGUM

Address with mobile number: Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru- 521356,
Andhra Pradesh

Please rate the student's performance in the following areas:

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 15-11-25

Signature of the Supervisor

PHOTOS





Photo link:

<https://www.facebook.com/share/p/1A56W1W1wM/>

Video link:

<https://drive.google.com/file/d/1DoRt6hfcLjv0w7undEtR3R7jWL7ih0F/view?usp=drivesdk>

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru

Department of CSE (Artificial Intelligence and Machine Learning)

Program Outcomes (POs)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
 2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
 3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
 4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions, component, or software to meet the desired needs.
 5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
 6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
 7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
 8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
 9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
 10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
 11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and inmultidisciplinary environments.
 12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
- Program Specific Outcomes (PSOs)**

PSO1 : Design, develop, test and maintain reliable software systems and intelligent systems

PSO2 : Design and develop web sites, web apps and mobile apps.

PROJECT PROFORMA

Classification of Project	Application	Product	Research	Review
		yes		

Note: Put YES based on Project

Project Outcomes

Course Outcome (CO1)	Identify community needs/problems
Course Outcome (CO2)	Investigate different possible solutions to solve the problem
Course Outcome (CO3)	Make use of community involvement in solving the problem.
Course Outcome (CO4)	Prepare a report on the problem and its solution

Mapping Table

Each CO is mapped with the POs and PSOs in three levels, '3' indicates high, '2' indicates moderate and '1' indicates low level

AM3503 : COMMUNITY SERVICE INTERNSHIP

Course outcomes	Program Outcomes and Program Specific Outcome												
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS 01	PS 02
CO1:Identify societal needs / problems	1	3					2	1	2	2	2	1	2
CO2:Investigate Possible solutions to solve the problem		2	3	2		3	2	3	3	2	2	2	2
CO3: Use community involvement & AI Techniques to address the problem			2	2	2	1	2	2	2			1	1
CO4: Prepare a report on the problem and its solution	2	1	2		2			2	2		2	2	2
COMMUNITY SERVICE PROJECT	1	2	2		1	2	1	3	3	2	2	2	2