**GreenSort**

Submitted in partial fulfillment of the requirements

of the Mini-Project 1- B for Second Year of

**Bachelors of Engineering**

By

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**Department of Computer Engineering**

**Rizvi College of Engineering**



**University of Mumbai**

**2024 - 2025**

***Certificate***

This is to certify that the mini-project entitled **“GreenSort”** is a bonafide work of

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submitted to the University of Mumbai in partial fulfillment of the requirement for the Mini-Project 1-B for Second Year of the Bachelor of Engineeringin **“Computer Engineering”**.

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**Declaration**

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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(Signature)

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(Name of student and Roll No.)

Date:

**ABSTRACT**

An \*IoT-based Wet and Dry Waste Segregation Device\* is an intelligent system designed to automate the classification of waste into wet (organic) and dry (inorganic) categories using advanced sensor technology and machine learning. The device employs moisture sensors, infrared sensors, gas sensors, and image recognition to accurately identify waste types and direct them into the appropriate bins using motorized flaps. Integrated with microcontrollers such as Arduino, the system processes real-time data and transmits waste analytics to a loud-based platform for monitoring and optimization. Wireless connectivity via Wi-Fi allows remote tracking of waste levels and timely collection alerts through a mobile or web-based interface. By enhancing waste segregation efficiency, reducing human effort, and promoting recycling, this IoT solution contributes to sustainable waste management in smart cities, households, industries, and public spaces.

**Keywords**: Waste Segregation, Sensor Technology

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**Chapter 1**

**Introduction**

It shall justify and highlight the problem posed, define the topic and explain the aim and scope of the work presented in the report. It may also highlight the significant contributions from the investigation

**Chapter 2**

**Review of Literature**

Present a critical appraisal of the previous work published in the literature pertaining to the topic of the investigation.

**Chapter 3**

**Report on the Present Investigation**

* Experimental setups, procedures adopted, techniques developed, methodologies developed and adopted.
* While important derivations/formulae should normally be presented in the text of these chapters, extensive and long treatments, copious details and tedious information, detailed results in tabular and graphical forms may be presented in Appendices. Representative data in table and figures may, however, be included in appropriate chapters.
* Figures and tables should be presented immediately following their first mention in the text. Short tables and figures (say, less than half the writing area of the page) should be presented within the text, while large table and figures may be presented on separate pages.
* Equations should form separate lines with appropriate paragraph separation above and below the equation line, with equation numbers flushed to the right.

**Chapter \_**

**Results and Discussions**

Results shall include a thorough evaluation of the investigation carried out and bring out the contributions from the study. The discussion shall logically lead to inferences and conclusions as well as scope for possible further future work.

**Chapter \_**

**Conclusions**

Conclusions derived from the logical analysis presented in the Results and Discussions Chapter shall be presented and clearly enumerated, each point stated separately.

**Appendix**

Detailed information, lengthy derivations, raw experimental observations etc. are to be presented in the separate appendices, which shall be numbered in Roman Capitals (e.g. “Appendix I”).

**Chapter \_**

**References**

**ASME standard**

**Book,**

[1] Merritt, H. E., 1971, *Gear Engineering*, Pitman, New York, pp. 82–83.

**Journal Paper,**

[2] Arakere, N. K., and Nataraj, C., 1998, “Vibration of High-Speed Spur Gear Webs,” ASME Journal of Vibration Acoustics, 120(3), pp. 791–800.

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[3] Stewart, R. M., 1977, “Some Useful Data Analysis Techniques for Gearbox Diagnostics,” Proceedings of the Meeting on the Application of Time Series Analysis, ISVR, University of Southampton, Southampton, UK.

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[4] Kong, D. W., 2008, “Research on the Dynamics and Fault Diagnosis of the Large Gear Transmission Systems,” Ph.D., thesis, JiLin University, Changchun, China.

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[1] J. F. Curtis, (Ed.), *Processes and Disorders of Human Comm-unication.* New York: Harper and Row, 1978.

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[2] J. Schroeterand M. M. Sondhi, “Techniques for estimating vocal-tract shapes from the speech signal,”*IEEE Trans. Speech Audio Process.*, vol. 2, no. 1, pp. 133–150, 1994.

**Proceeding paper,**

**[3]** J. M. Pardo, “Vocal tract shape analysis for children,” in *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, 1982, pp. 763–766

**Acknowledgements**

I am profoundly grateful to Prof. GUIDE NAME for his expert guidance and continuous encouragement throughout to see that this project rights its target.

I would like to express deepest appreciation towards Dr. Varsha Shah, Principal RCOE, Mumbai and Prof. \_\_\_\_\_\_\_\_\_\_\_\_ HOD\_\_\_\_\_\_\_\_\_\_\_\_ Department whose invaluable guidance supported me in this project.

At last I must express my sincere heartfelt gratitude to all the staff members of Computer Engineering Department who helped us directly or indirectly during this course of work.

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STUDENT NAME 2

STUDENT NAME 3

STUDENT NAME 4

**Publications**

[Add you published research paper on this topic in any Conference / Journal.]