

Project Design Phase-I Proposed Solution Template

Date	06 May 2023
Team ID	NM2020TMID18041
Project Name	Intelligent garbage classification using deep Learning

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The problem to be solved is intelligent garbage classification using deep learning. The goal is to develop a system that can automatically classify different types of waste or garbage items based on their images, enabling efficient waste management and recycling processes.
2.	Idea / Solution description	An intelligent garbage classification system using deep learning can be developed to automate and improve waste management processes. Here's a detailed description of the solution: <ol style="list-style-type: none">1) Dataset Collection and Preparation.2) Data Pre-processing.3) Deep Learning Model Architecture.4) Transfer Learning and Fine-tuning.5) Training and Optimization.6) Model Evaluation and Iteration.7) Deployment and Integration.
3.	Novelty / Uniqueness	While intelligent garbage classification using deep learning has been explored in various research and practical applications, there are several areas where a solution can introduce novelty and uniqueness: <ol style="list-style-type: none">1) Dataset Customization.2) Fine-grained Classification.3) Multimodal Learning.4) Real-time Classification.5) Mobile Application Integration.6) Edge Computing.
4.	Social Impact / Customer Satisfaction	Intelligent garbage classification using deep learning can have a significant social impact and contribute to customer satisfaction in several ways: <ol style="list-style-type: none">1) Environmental Conservation.2) Efficient Waste Management.3) Recycling Promotion.4) Public Health and Safety.5) Convenience and User Experience.6) Community Engagement.

5.	Business Model (Revenue Model)	<p>An intelligent garbage classification system using deep learning can generate revenue in several ways:</p> <ol style="list-style-type: none"> 1) Licensing Fees. 2) Service Subscription. 3) Device Sales. 4) Data Analytics. 5) Advertising. 6) Grants and Funding.
6.	Scalability of the Solution	<p>The intelligent garbage classification system using deep learning has the potential to scale to meet the needs of different customers and communities. Here are some factors that contribute to the scalability of the solution:</p> <ol style="list-style-type: none"> 1) Modularity. 2) Cloud-Based Architecture. 3) Machine Learning Algorithms.