Literature Survey Report (Final Project)

S. No.	Year	Author(s)	Paper Title	Methodology Used	Dataset / Domain	Key Findings	Limitations
1	2025	Fotovvatikhah, F.; Ahmedy, I.; Noor, R.M.; Munir, M.U.	A Systematic Review of AI-Based Techniques for Automated Waste Classification	Systematic Literature Review (Kitchenham & PRISMA guidelines)	Public datasets (TrashNet, TACO, Open Litter Map, etc.)	Deep learning and hybrid models outperform traditional ML; roadmap for AI in waste management	Dataset imbalance, variability, lack of standardization, high computational cost
2	2025	Langley, A.; Lonergan, M.; Huang, T.; Rahimi Azghadi, M.	Analyzing Mixed Construction and Demolition Waste in Material Recovery Facilities	Review of DL methods (YOLO, Mask R-CNN, Transformers)	Construction & Demolition Waste datasets (CODD, ZeroWaste, SODA, synthetic datasets)	DL shows strong results; segmentation + sensors promising for real-time MRFs	Lack of diverse datasets, poor generalization to contaminated waste, sensor degradation
3	2022	Shubham Kumar, Ramesh Kumar	Waste Classification for Sustainable Development Using AI and Machine Learning	CNN, Transfer Learning, Hybrid ML Models	TrashNet Dataset & Real-time Waste Images	Proposed hybrid CNN classifier with >90% accuracy; AI crucial for SDGs	Small dataset size, lacks real-world heterogeneous waste testing
4	2021	M. Gupta, R. Mehra	Waste Classification Using Artificial Intelligence	Deep CNN + Image Preprocessing	TrashNet Dataset (6 categories)	Achieved ~92% accuracy; demonstrated AI feasibility in smart bins	Limited generalization; dataset imbalance; needs deployment validation

5	2023	Kaggle Contributor : *Sumanth N.*	Garbage Classification v2 Dataset	Image Dataset (Pre-collected & Annotated)	~15,000 labeled images across **12 categories** of waste (cardboard, glass, paper, metal, plastic, trash, clothes, shoes, batteries, biological, etc.)	Provides a **large, diverse dataset** for training deep learning models in waste classification; improves generalization compared to smaller datasets like TrashNet	Dataset is **imbalanced** across classes; no real-time/streaming data; limited to static images without contextual environment