**ABSTRACT**

* Manual garbage pickup and cleaning is a tedious, boring and repetitive task.
* The robot is able to detect the garbage accurately and autonomously by using a deep neural network for garbage recognition.
* As the key component of the proposed system implements edge detection algorithm. However, it might confuse an obstacle with garbage due to the limited perception ability of sensors.
* The navigation strategy can reach almost the same cleaning efficiency with traditional methods.
* This project aims to segment the type of garbage can identify the garbage and pick it up automatically.
* This process can serve as a good assistance to relieve dustman’s physical labor on garbage cleaning tasks.
* It accepts any video, from that snapshots are converted. Each snapshot is analyzed with other frames, through this pixel calculation.
* After words edge detection algorithm applied to find is there any garbage.

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**LIST OF ABBREVIATIONS**

**ABBREVATION EXPANSION**

AES Advanced Encryption Standards

RC4 Rivest Cipher 4

DFD Data Flow Diagram

UML Unified Modeling Language

USB Universal Serial Bus