AI Based Autonomous Garbage Sorting Bin for Public Places

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Pollution of the environment with household waste leads to a violation of the ecological balance on the whole planet. One of the main problems at present is sorting garbage based on its material in batches that can be used for recycling. The project presents a hardware and software package that allows you to fully automate the sorting of various medium-sized solid garbage using computer vision and machine learning algorithms. Currently, object classification and sorting methods are mainly based on deep neural networks (DNN). This project uses a proprietary method based on modified convolutional neural networks (CNN) to speed up processing and reduce system requirements. Finally, the sorting bin was created and tested in a school and university environments.

Awards Won: