

Abstract

In this project, an autonomous metal differentiating robot was built. This robot has the capability to detect land mines and bombs on the battlefield, and can save many lives. Currently, metal detectors exist that can differentiate between metal objects and nonmetal objects. This robot was designed to differentiate among the metal objects themselves. The robot was tested using metal and nonmetal objects. It was programmed in PBASIC to detect objects with the infrared sensors and metals with the inductive sensor. A conductivity sensor was used to differentiate between objects which give off electrical conductivity and objects which do not. The robot was able to emit a preprogrammed sound through the speaker and display the names of the different metals on the LCD Panel. The Basic Stamp II was programmed to detect various metal objects. The robot was capable of differentiating between metals and nonmetals and identifying various metal objects.