

DESIGN AND IMPLEMENTATION OF AN AUTONOMOUS “UNMANNED GROUND VEHICLE “USING MACHINE VISION FOR MILITARY APPLICATION

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Abstract

In this project we propose to design of a remotely controlled robot/unmanned ground vehicle (predator) capable of reaching the site of threat or security hazard. Real time down link parameters are projected on a video monitor and counter actions are divided accordingly in real time in threat scenario like border security, tracking remote places etc. The camera used here is a wireless Night vision camera which works during day as well as night. The robot has three significant contributions firstly a remote controlled robot for military application in case of threats , secondly automatic battery charging using the voltage generated by solar energy and thirdly in case of detection of mines in threat areas. This robot is movable on any terrain due to its wheel belt and can move preventing obstacles. These are a sort of mobile robots which are the focus of a great deal in current research scenario. These are found in industry, military and security environments.

The scope of machine vision is broad and Comprehensive, and it also includes quality assurance and provides a definite solution. The primary uses of machine vision are automatic inspection and robot guidance. The machine vision incorporated here increases the security in the border areas or restricted areas

Keywords : Machine Vision; Unmanned ground vehicle; Solarenergy; border security automatic inspection; robot guidance.