Impact of Robotics on saving Human lives

We are living in computer age, where there is hardly any field left in which 'computer science' is not applied or used.

We are rapidly progressing in field of Robotic engineering or simply robotics . The future world can not be seen without these "Man machines". Robots are already taking place of humans in many fields ie: production of goods, medical field, space exploration, battlefield, security etc. Human race is working hard to save more human lives with use of robots.

Robots are already been widely used in various fields to save precious human lives for example fire-fighting, medical surgery, security forces, bomb diffusal, millitary tasks, removing landmines, rescue operations etc. We will get into detail that how is robotics been used to save human lives.

Robots and landmines:

Landmines are explosive devices that are well hidden in unknown locations and are difficult to detect. It is dangerous threat to human lives. It is estimated that ninety percent of victims injured or killed by landmines are civilians, mostly children. Furthermore, landmines can destroy fields, disrupt agriculture and economic development.

Accordingly to the UNICEF, there are an estimated 110 million active landmines buried in over 64 countries around the world. Around 2,000 persons are involved in monthly landmine accidents, 800 (40%) of whom are innocent civilians; that is, an average of a victim every 20 minutes dies [1].

So to preserve human lives there is great need to remove landmines by robots rather than manual ways to save more lives.

A landmine detecting robot sweeps the ground to detect the mine. The robot process the signal and decides whether a mine exists or not. The robot uses a sensor to create real-time images of that area. These images are then send to computers and then processed digitally. Finally, these images are used to see if the detected object is a mine or not. Multi-sensor robots could provide an efficient means of safely detecting explosive devices without putting lives at risk. By gathering information from different sensors, the robots can plan paths and help guide soldiers towards landmines safely. Mobile robots use sensor fusion techniques to increase the probability of mine detection and decrease false alarms.

References:

[1] R. Achkar, M. Owayjan, and C. Mrad "Landmine Detection and Classification Using MLP", IEEE

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