Development of Mobile Robot for Inspecting of Environment Condition in Hazardous Terrains

Utkarsh Pandey 2004104

Group no: 06

Abstract: This project describes the design and implementation of a model mobile robot for the purpose of inspection of environmental condition by going in a hazardous terrain. It is an unmanned vehicle capable of autonomous driving by avoiding the obstacles in the terrain,it senses the environment using sensor system , and computer vision algorithms for better understanding of the environment and live streaming the video feed on to web page using a onboard computer as a server. The robot uses a LAN communication protocol to extend its communication range by forming a chain interconnected WiFi modules where the starting and ending point being the onboard computer in the robot and the computer of the user.

Keywords-robot, computer vision, autonomous, server,sensor system , LAN.

Individual contribution and findings: I have contributed in communication of this project where the raspberry pi and a PC has been connected to same network with the Help of Router(here mobile hotspot is being used) With the help of programming the camera stream of pi is being is live streamed in the PC and the raspberry is been controlled by using VNC viewer and using ESRGAN for enhancing the image obtained and image segmentation using live stream.

Individual contribution to project report preparation: I have edited project report in some part like Design Circuit, Experimental setup, Prototype testing/Simulation,Remedies.

Individual contribution for project presentation and demonstration: I have presented and explained how the robot communicates with the pc and stream the video and how to use ESRGAN and image Segmentation.

Full Signature of Supervisors:

…….

Full signature of the student: