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ABSTRACT

THE PROBLEM:

Power transmission line inspection duties are performed to examine the condition of the high voltage power transmission lines in operation and identify any defects. High voltage power transmission line equipment is still currently inspected manually by personnel on the ground using a telescope. They occasionally have to ride in gondolas dangling from the ground wires above or climb the towers. These working methods have a number of drawbacks, including a lengthy inspection cycle, high levels of working stress, high costs, and increased risk. As an alternative way, doing the inspection using helicopters is highly effective as compared to manual operation. Despite having a better efficiency, this approach has the drawbacks of being more expensive and climate-dependent.

Team's approach to solve the problem:

In general, inspecting high-voltage power lines is a very dangerous and challenging task. Therefore, we created a robot that will examine the power lines. The robot will be positioned over the power lines. By shifting the direction, it checks the power line. Using the camera's rotating mechanism, it examines the power line. Using the pan and tilt servo assembly, we can control the rotation of the camera. The robotic arm, which is operated by hand gestures, can also be used to adjust the bolts which are used for power lines in a correct way. The flex sensors are attached to the gloves. To regulate the servo motors in robotic arm, flex sensors are employed. By using hand motions, this glove can be utilised to operate a robotic arm. Two different motions are possible for the robotic arm.

1. Up and down
2. Side to side

For the robot's forward and backward motion, pulley-type wheels are used. For pulley rotation we can use dc motors for it.t.

BLOCKDIAGRAM :