



Cover page

Project title: Solar panels cleaner

Academic Year: 2022/2023

Group Members: Dana Shmai 11819955

Department Name: Computer Engineering.

Haneen Ibrahim 11819655

Project Type Hardware

Supervisor Name: Sufyan Samara.





Project's Abstract:

The world is moving towards solar energy to generate electricity, and the Solar Energy Association notes that dirty solar panels can lose 20% of their energy production. Clean solar photovoltaic panels ensure optimal performance.

So, the solution is solar panel cleaning robot.

We will design a robot to automatically clean the surfaces of solar panels, as it is able to operate the pump and brush as well as move on multiple panels with a certain angle of inclination. It has sensors like ultrasonic sensors, two from the front, one on the right, and one on the left to ensure that it does not fall, if the robot goes towards the left or right edges, it will adjust itself. When it reaches the end of the board it will stop.

The alternative available in the market is similar to the irrigation system, it sprays water on the panels, our robot is better in terms of cost and water-saving and cleans better using the brush, so it gives better performance.