NASA Inspired Dual Axis Solar Tracker

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We will be solving the problem of the amount of solar energy not being collected, by designing and building an effective and affordable dual axis solar tracker. The purpose of this project is to create an efficient prototype that captures more sunlight by following the Sun. Most solar panels being used throughout the world as of right now are in a fixed position. Since solar energy isn't getting captured efficiently, the idea of a solar tracker, a device that tracks the Sun, was built. In order for NASA's Parker Solar Probe to touch the Sun's atmosphere, the spacecraft had solar limb sensors that, when illuminated, signaled a computer to reposition the spacecraft to directly face the Sun. Instead of having solar limb sensors direct the spacecraft through a computer, mini solar panels would move the solar tracker through a motor. In the building process, connect the vertical axis to horizontal axis and configure the wiring from each mini solar panel to the specified motor. Test the solar tracker and an ordinary solar panel by recording the battery percentage of two phones every 15 minutes, for 2 hours, on the three different days. This solar tracker exceeded expectations. According to the results, the dual axis solar tracker is more efficient compared to an ordinary solar panel. In total, this solar tracker produced 21.3% more battery than the control solar panel. This project, if replicated on a global scale, will enable the world to live in a cleaner environment.

Awards Won:
University of Arizona: Renewal Tuition Scholarship