GPS Based Solar Tracker

Presented By Team Perihelion

Sponsored By Dr. Asfaw Beyene

San Diego State University

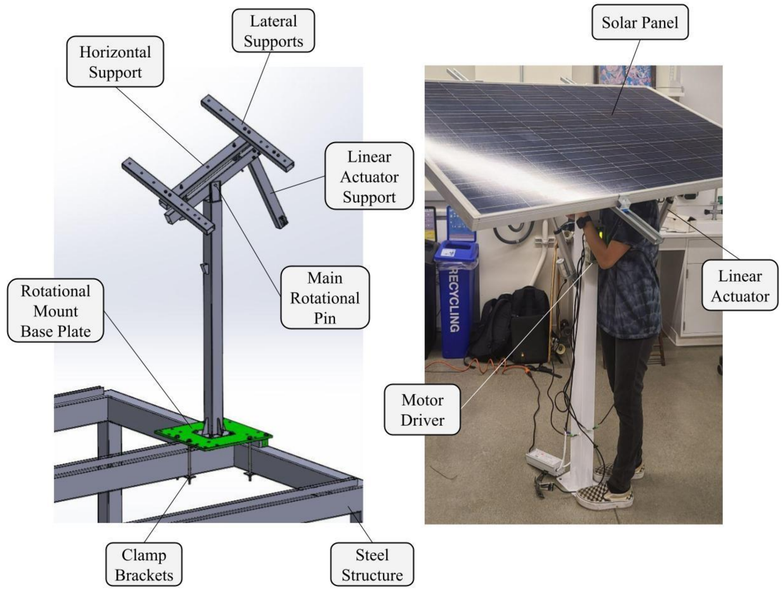
Perihelion

Project Overview

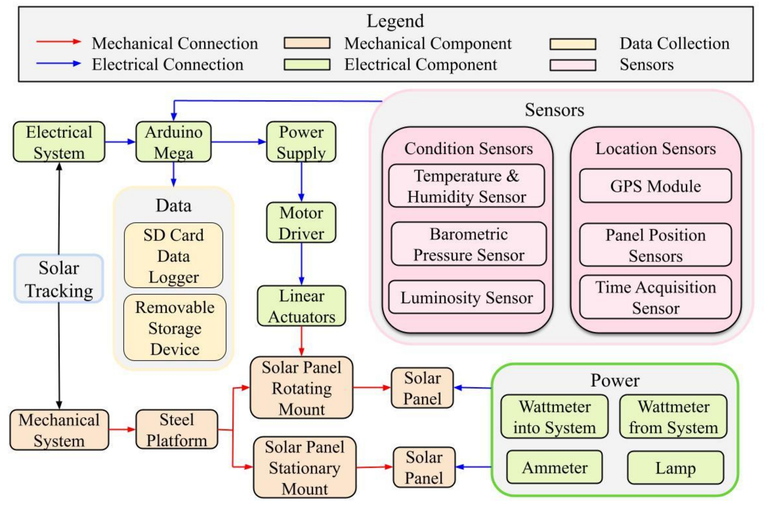
The purpose of the dual axis GPS Based Solar Tracker is to maximize the efficiency of photovoltaic solar panels, by rotating a panel in order to maintain an orthogonal position to the sun at all times. The data will be compared to the data collected by a stationary solar panel in order to determine the efficiency of the two.

The solar panel tracking system must be able to be used anywhere in the world using only GPS coordinates to follow the sun's position. The system must also track and store the surrounding environment temperature, pressure, humidity, and luminosity, as well as the time, date, and position.

Rotational Mount

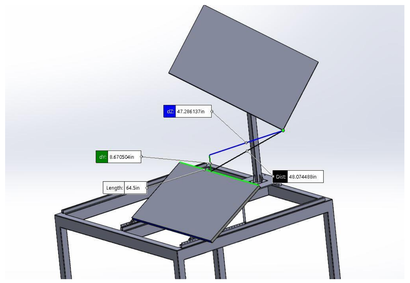


System Level Diagram

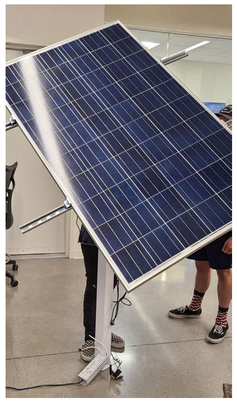


Testing Methods

Shadow Interference Test

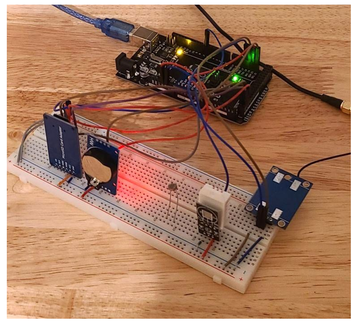


Rotational Test

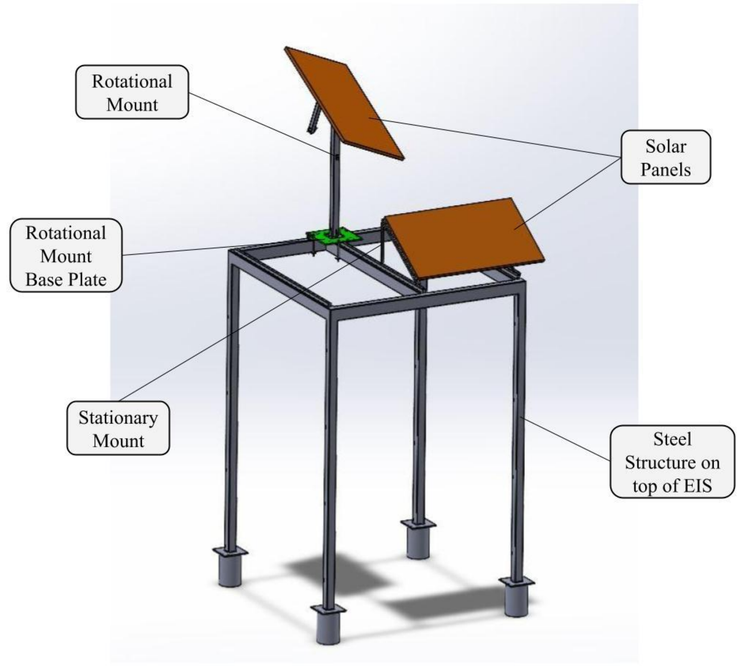


Load Test

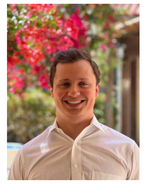
Data Logging Test



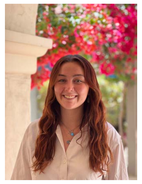
Final Product



Team Members



Weston Bourgeois
Manufacturing & Design Lead



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Acknowledgements

Team Perihelion would like to thank Dr. Asfaw Beyene and Dr. Scott Shaffar at San Diego State University for the guidance and support throughout the project.

Spring 2022