

Senior Design Info

- a. Team Members
 - i. Jeffrey Cho
 - ii. James Tsien
 - iii. Johnny Tran
 - iv. Buonkuang Priestley
 - v. Tobe To
- b. What is the problem?
 - i. Stationary solar panels do not rotate to get the maximum amount of sunlight energy. Current systems for rotating solar panels are not efficient or not worth expending resources on.
- c. What currently exists?
 - i. Tracking systems on solar panels cost more than fixed-tilt systems therefore there are not many solar panel systems with a tracking system.
- d. What is your proposed solution?
 - i. Devise an efficient device that will not only allow solar panels to rotate throughout the day, but also make it cost effective so that they are more efficient than regular fixed solar panels.
- e. What questions/concerns do you have about this project as-is?
 - i. Not being able to produce a good cost/output ratio on the device. Not having enough energy to power a device in the long run.
 - ii. Is it possible to have this idea be implemented onto a transportable vehicle, such as a bike, or maybe a rover that is used to transport food.
- f. Be open to a discussion, this idea may need to be scaled up or down
 - i. Scaling up
 - 1. Can be attached to power a moving object such as a toy car
 - 2. Attach it to a wearable device.

Professor Tseng,

Our senior design project team wanted to ask if you would be interested in being our advisor for our project. The team consists of:

- Jeffrey Cho - Electrical Engineering
- James Tsien - Electrical Engineering
- Johnny Tran - Computer Engineering
- Buonkuang Priestley - Computer Engineering
- Tobe To - Computer Science and Engineering

We want to take a new approach to traditional solar panels, which do not rotate to get the most amount of available sunlight. At different times of day, the changing angle of sunlight will change how efficiently a fixed-angle solar panel receives sunlight. Currently, some consumer rotating solar panels solutions do exist; however, they often are not preferred over fixed solar panels because the added efficiency does not make up for the added costs and maintenance that come with a moving solar panel.

To improve on this, we would design a moving solar panel that is more cost efficient, more reliable, and lighter than existing solar panels. We are currently researching ways to accomplish this and are open to suggestions; one idea we had was to design a panel that adapts to current lighting conditions and always rotates to the optimum angle, rather than relying on a fixed schedule based on the time of day. Other ideas we had to expand this project include attaching our rotating solar panel to a rover or a wearable device, as examples of potential applications of our innovation.

We look forward to the prospect of working with you on this project and would welcome any feedback or experience you may have for us.