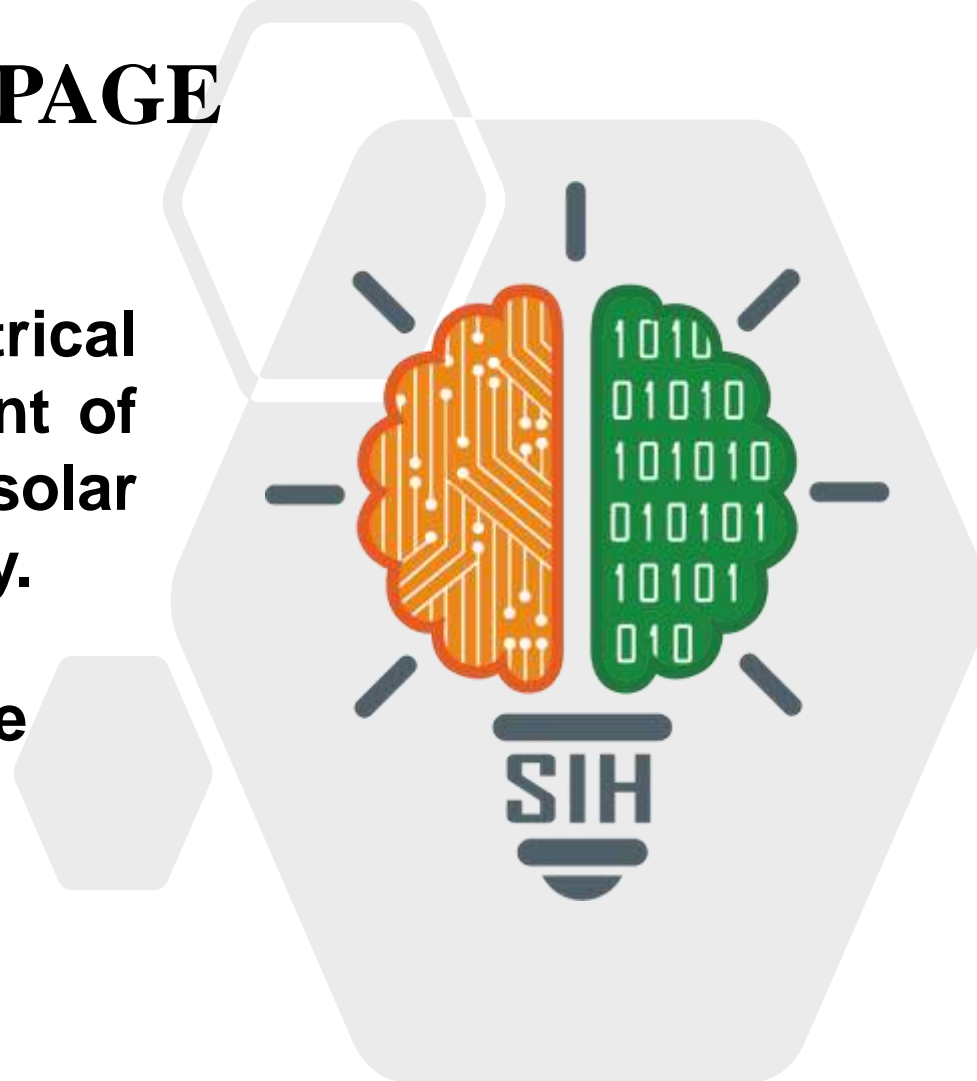


## TITLE PAGE

- Problem Statement ID - SIH1545
- Development of a non-electrical device for tracking the movement of the sun for movement of the solar panels, increasing their efficiency.
- Theme - Renewable/Sustainable Energy
- PS Category - Hardware
- Team Name - PYRO CREW



**Development of a non-electrical device for tracking the movement of the sun for movement of the solar panels, increasing their efficiency.**

## ❖ Proposed Solution

- Addresses inefficiency in traditional solar panels.
- Adjusts the panel's angle to maximize sunlight.
- Motorized rotating mechanism and RTC module.
- Reduce energy loss from fixed-angle panels.
- Provides a more reliable and efficient renewable energy source.

- Aurdino UNO - Embedded C (Micro-controller and automation)
- Solar panel (Energy production)
- Servo motor (Angle control)
- RTC module (Real time-measurement)

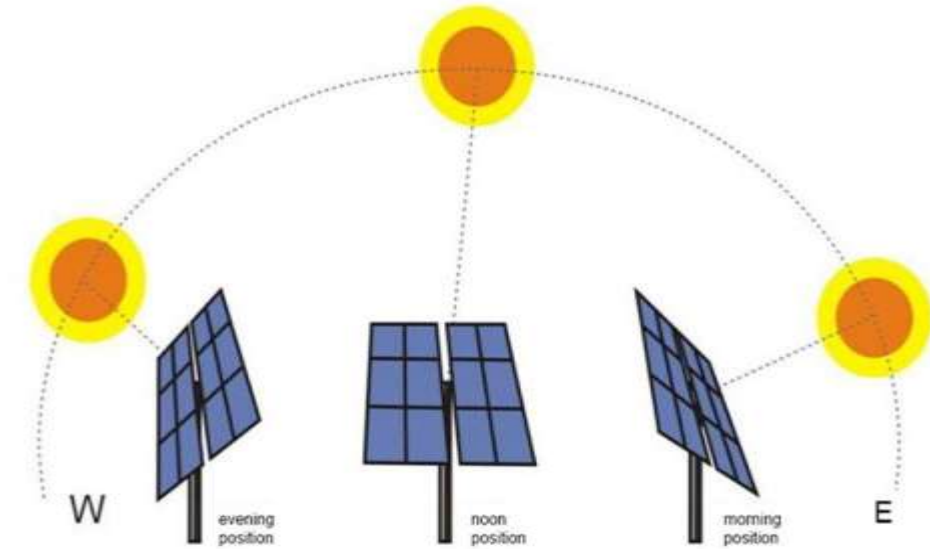


Fig.5.Solar Panel at different positions



Fig.1.Aurdino UNO

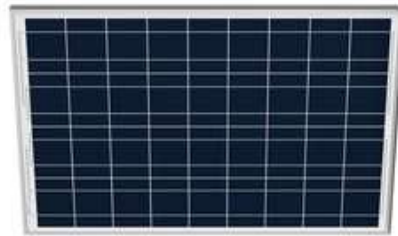


Fig.2.Solar Panel



Fig.3.Servo Motor



Fig.4.RTC Module

- Works in diverse weather condition.
- The components are cost effective.
- Minimal maintenance after installation
- **Challenge:** Moving parts of the solar tracking system can wear out over time due to exposure to rain, wind, and dust, leading to corrosion and failure.
- **Strategy:** Use rust-resistant materials and weatherproof seals to prevent damage.

## IMPACT

- Reduce electricity bills due to higher efficiency.
- Improved power quality.
- Consistent energy production due to better sun exposure.

## BENEFITS

- Reduces reliance on fossil fuels.
- Lowers carbon footprint by utilizing renewable energy more effectively.
- Real time monitoring and optimization.

# RESEARCH AND REFERENCES



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