



# UTSA Sky-Imager & Solar Forecasting

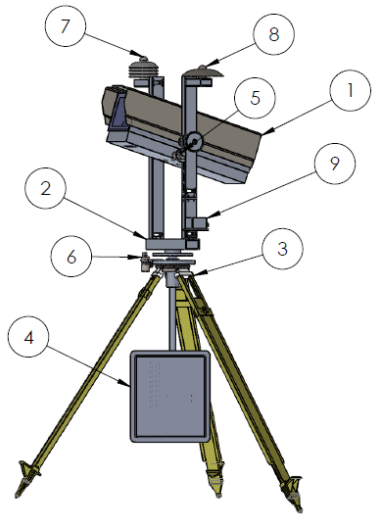
## SWISS-U.S. ENERGY INNOVATION DAYS

### October 8, 2019

***Walter Richardson***  
***TSERI & Math Dept., UTSA***

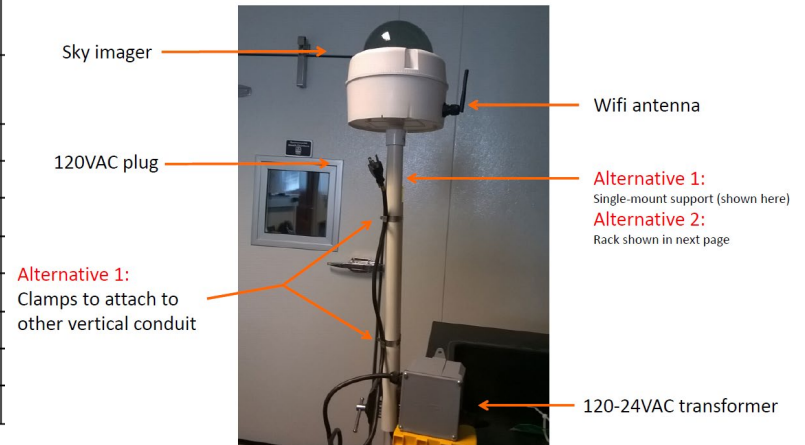


# Solar Forecasting @ TSERI



Item NO.	Part Number
1	Camera Housing Assembly
2	Pan & Tilt Assembly
3	Tripod
4	Enclosure Assembly
5	Tilt Motor
6	Pan Motor
7	Weather Station
8	Pyranometer
9	Compass


## UTSA Sky imager



# Forecast Ramp Events for Smart Grid



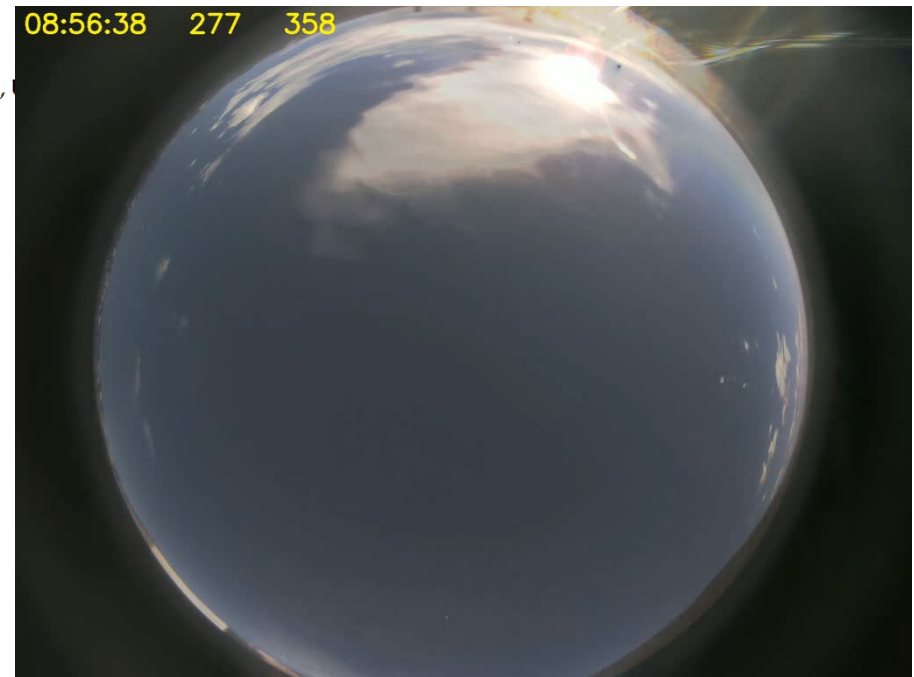
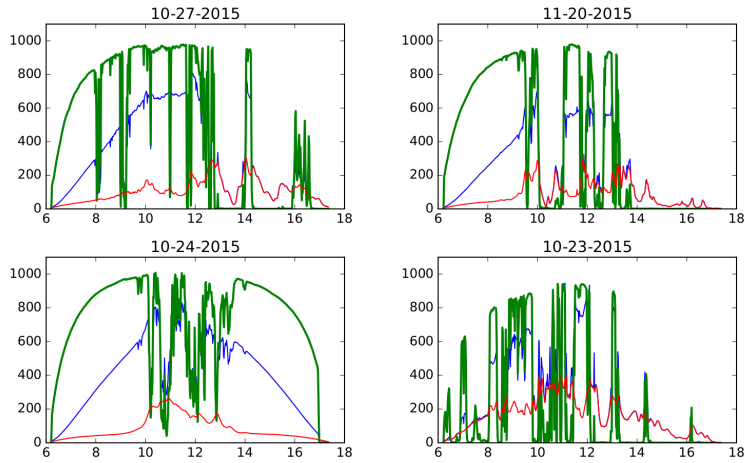
## Article Deep Learning to Forecast Solar Irradiance Using a Six-Month UTSA SkyImager Dataset

Ariana Moncada <sup>1</sup>, Walter Richardson, Jr. <sup>1,\*</sup>  and Rolando Vega-Avila <sup>2</sup>

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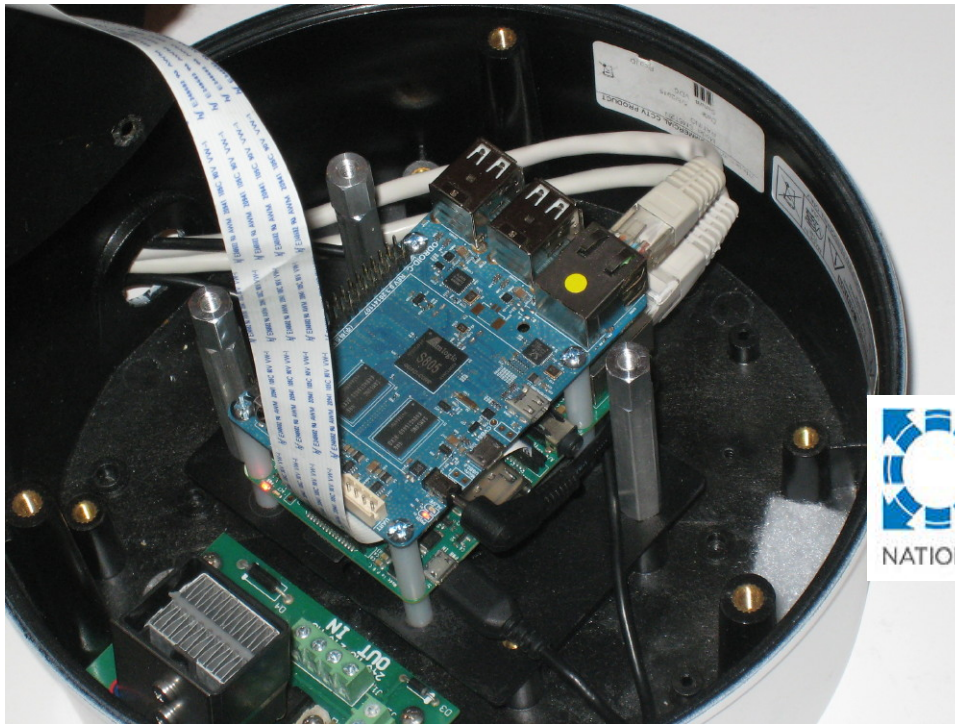
\* Correspondence: Walter.Richardson@utsa.edu; Tel.: +1-210-458-4760



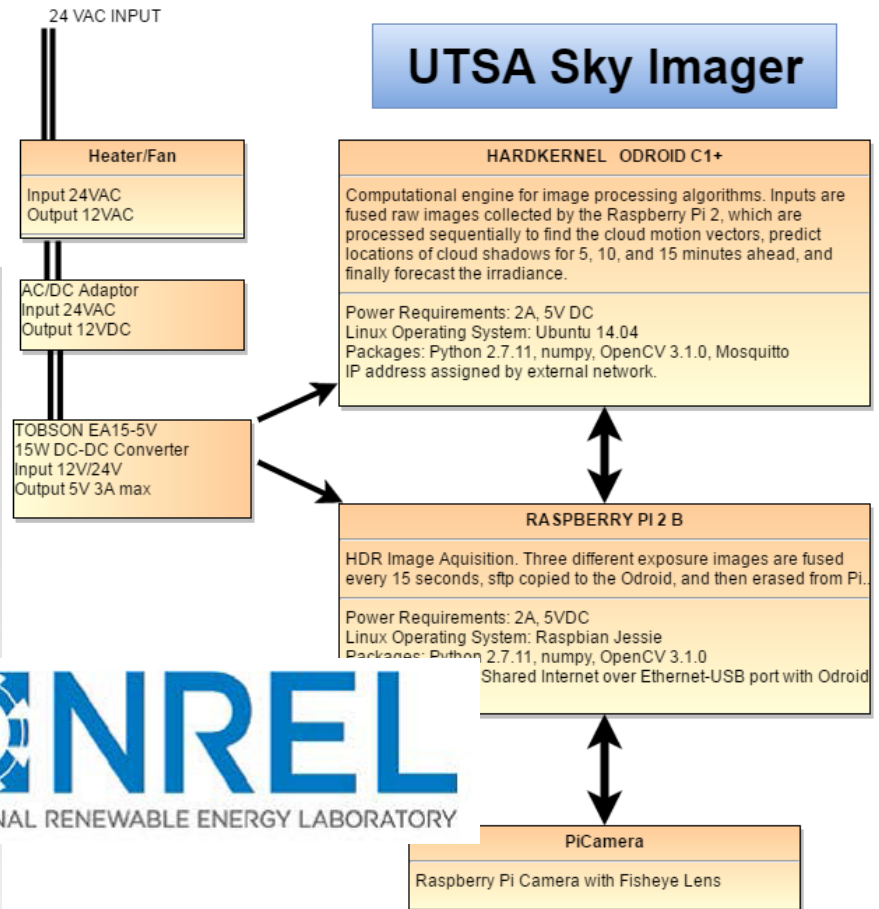


# CPS Energy, UTSA, NREL Partner

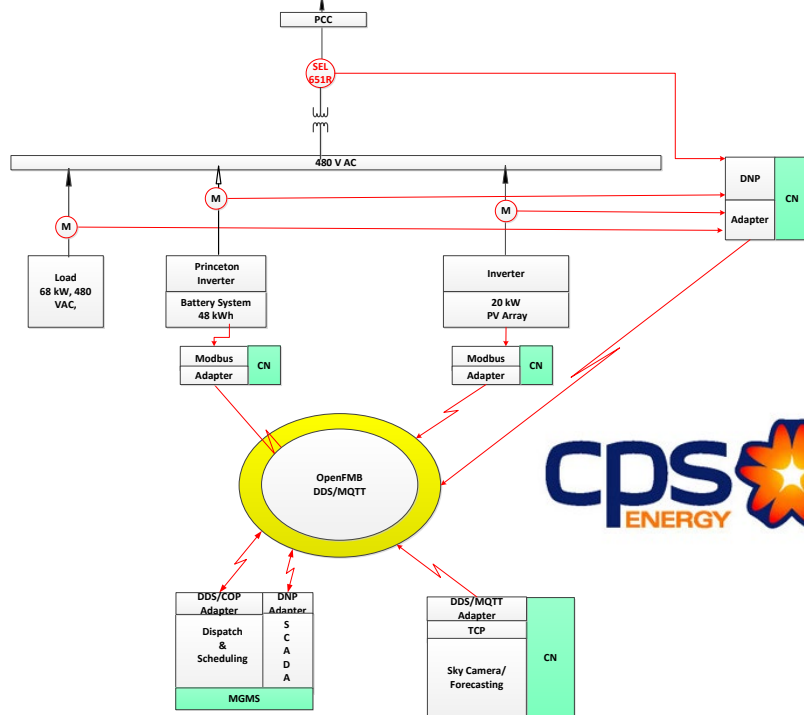
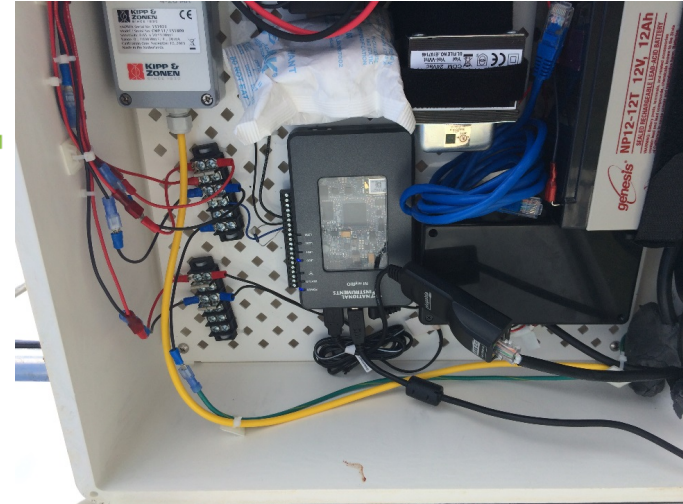
Low cost, edge computing all-sky imager was first deployed NREL in 2015. Based around 2 single board computers with Pi camera and Odroid C1 for real time computational power.



## UTSA Sky Imager



# Joint Base San Antonio Microgrid



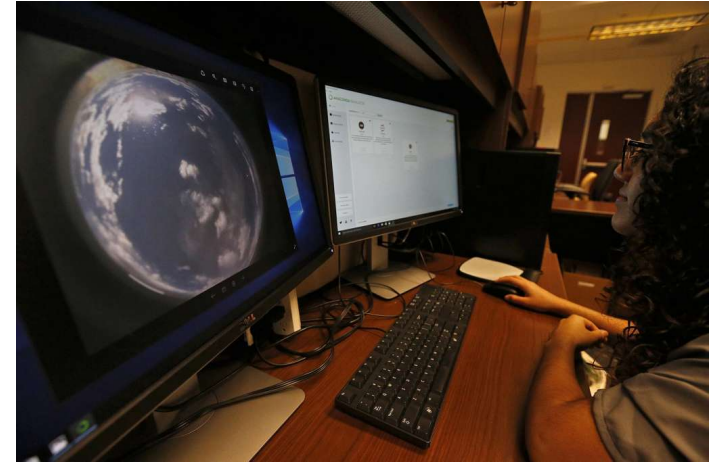


# Telling the Story of PV Research

## CPS Energy partners with UTSA researchers in hunt for new technology

*San Antonio  
Express-News*

By Rye Druzin | December 22, 2017



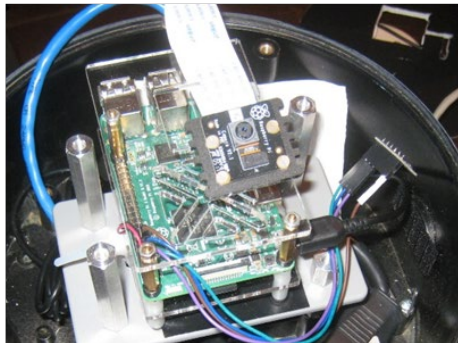
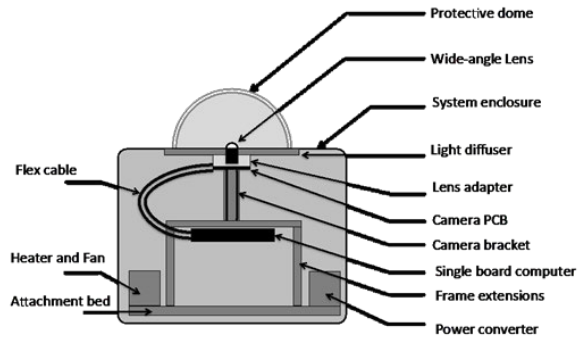
**Milestone Status:** Chris Duel from PBS affiliate KLRN came to UTSA and interviewed Ariana, Jonathan, and PI about the Sky-Imager Solar Forecasting project.

<http://video.klrn.org/show/klrn-scitech-now/>



# Developing Intellectual Property

## Evolution in Sky-Imager over past 4 years.



### 专利申请权转让合同 ASSIGNMENT

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# Connecting for a More Sustainable World

