**Capstone Three: Project Proposal**

**Problem Statement**

Find the best location of the three selected areas in the United States where we can best predict the GHI (Global Horizontal Irradiation), key indicator for the potential of energy storage, with weather indicators of the past 20 years to be able to install solar panels.

**Context**

These US locations were selected by the company and project analyst based on historical average values of GHI, and land availability and cost. The data is provided by NASA of the POWER Project over the past 20 years with an hourly frequency.

**Criteria for Success**

Find the location that we can best predict the GHI index for the next year based on more than 20 years of climate data with an hourly frequency.

**Scope of solution space**

Train a neural network for short-term solar power forecasting for three different locations selected. The model would predict solar energy output to help optimize energy grid operations and minimize reliance on fossil fuels. The client could be a client that specializes in some type of solar, glass or mirror panels to explore where it needs to find new clients; or a land owner with high energy demand in a particular region interested in converting to renewable energy resources.

**Constraints**

Data accuracy and availability, as well as that the past climate patterns repeating into the future.

**Stakeholders**

Sun Solutions: Company specialized in renewable energy storage and distribution

Project Manager

Senior Data Analyst

**Data Sources**

Nasa – POWER project

<https://power.larc.nasa.gov/data-access-viewer/>

**Deliverables**

* Slide deck
* Project Report