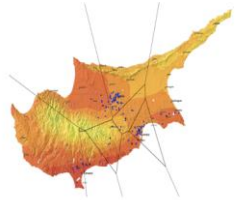
Machine Learning for Solar Panel Fault Detection

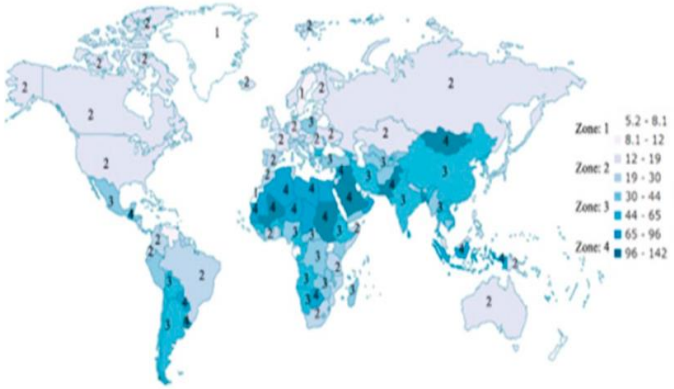
Sanika Naik, Glen Uehara, Dr. Andreas Spanias

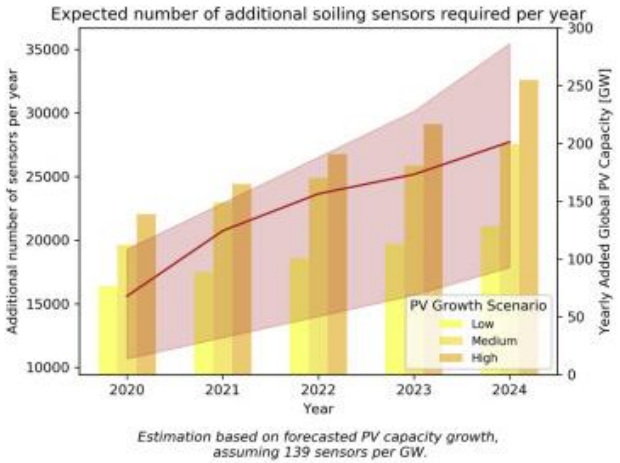
[1] Arizona State University School of Engineering [2] School of ECEE at Arizona State University

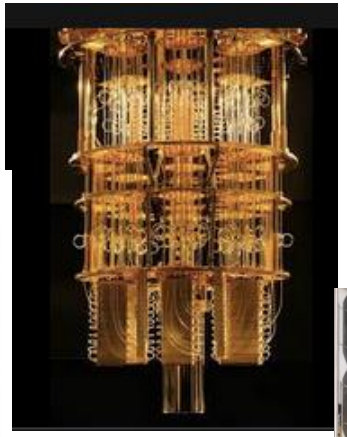


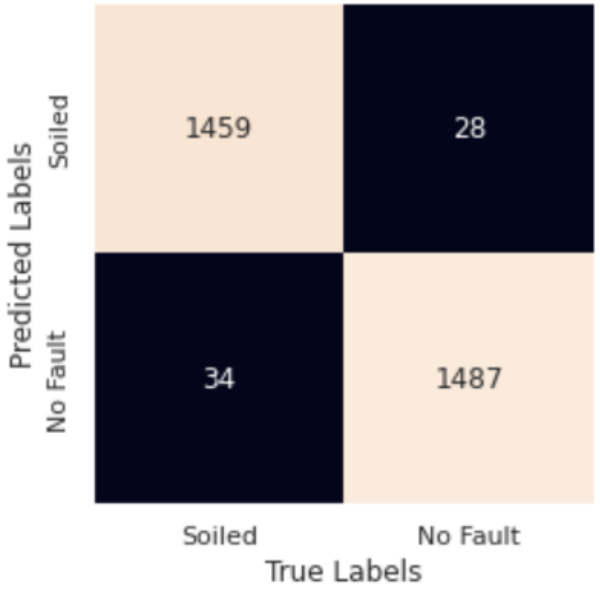
- Obtain solar data with 10 features and 5 classifications.
- Pre-process data (normalization, one-hot encoding, train/validation/test split).
- Train SKLearn's Logistic Regression model to detect solar soiling faults in the system.
- Compare binary classical and quantum results

```
Test accuracy =  97.94
F-score =  97.96
Precision =  97.76
Recall =  98.15
```









IRES project sponsored by NSF Award 1854273.