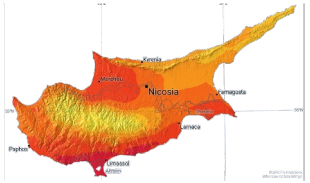

Quantum SVM Based Positive Unlabeled Learning for PV Fault Detection

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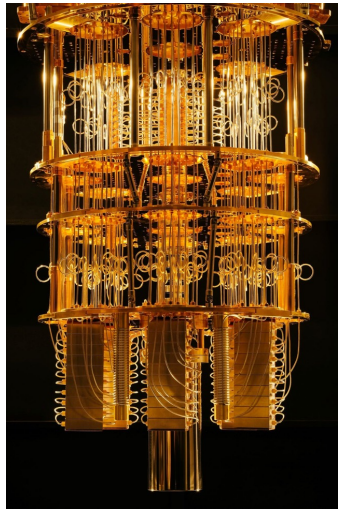
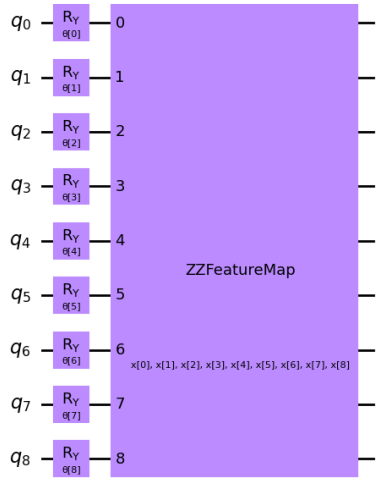
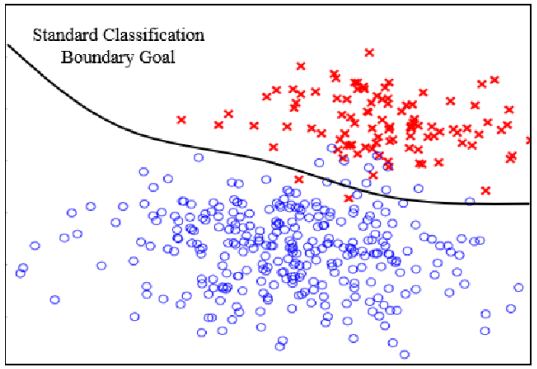
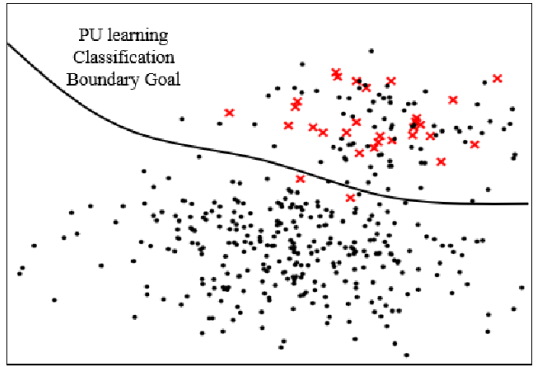
- Objective: automatically detect solar panel faults with quantum machine learning
- Obtain solar data with 9 features and 2 classifications
- Preprocess data (normalization, binary encoding, train/test/validation split)
- Train positive unlabeled learning (PU learning) algorithms using:
  - Quantum neural networks (QNN)
  - Quantum support vector machines (QSVM)
- Compare each PU learning algorithm and determine feasibility of quantum PU learning in solar fault detection



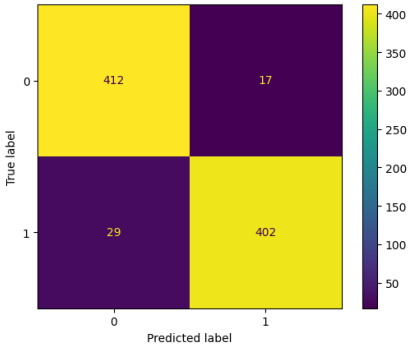




(a) Supervised classification learning problem with all labels known.



(b) Positive Unlabeled learning problem with only a percentage of known positive labels.



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IRES project sponsored by NSF Award 1854273.