

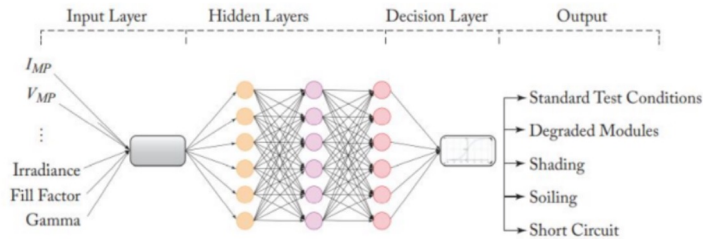
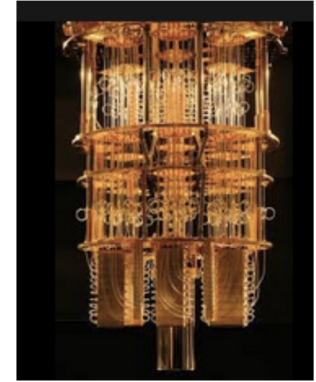
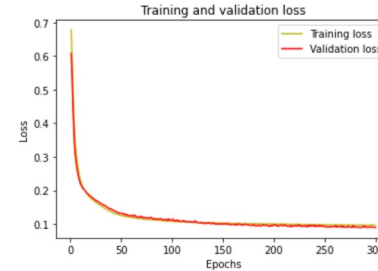
# Classical and Quantum Machine Learning Comparisons for Solar Panel Fault Detection



Kaden McGuffie<sup>1</sup>, Sameeksha Katoch<sup>2</sup>, Glen Uehara<sup>2</sup>, Andreas Spanias<sup>2</sup>

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

- ❑ Simulated dataset used for training and testing
- ❑ Ten features
- ❑ Multi Classification for five classes
- ❑ Classical models used
  - ❑ Logistic regression (LR)
  - ❑ Support Vector Machine (SVM)
  - ❑ Neural Network (NN)
- ❑ Hyperparameters tuned to optimize results
- ❑ Binary Quantum NN vs Binary Classical NN



	Degraded	Shaded	Soiled	SC	STC
Degraded	639	0	0	4	0
Shaded	7	408	21	57	209
Soiled	3	24	556	50	22
SC	6	44	33	479	85
STC	0	148	1	61	366
predicted label	Degraded	Shaded	Soiled	SC	STC
true label					

