Classical vs Quantum Neural Networks for Fault Detection in Solar Cell Arrays

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Objective: Detect and classify faults in large-scale solar systems

- Clean & organize data (outliers, normalization, train/test/validation split)

- Test varying run conditions (activation functions, hidden layers, epochs)

- Create and compare different NN models (F-score, accuracy, confusion matrices)

- Compare classical and quantum results
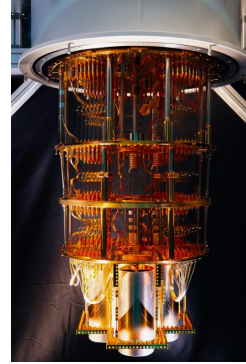
Type	Qubit	Layers	Neuron vs gates	Epoch	Accuracy
Classical	N/A	3	150	150	~95%
Quantum	2	1	6	30	69.26%
Quantum	4	1	12	30	85.12%
Quantum	2	4	18	30	76.56%
Quantum	4	4	36	30	82.30%