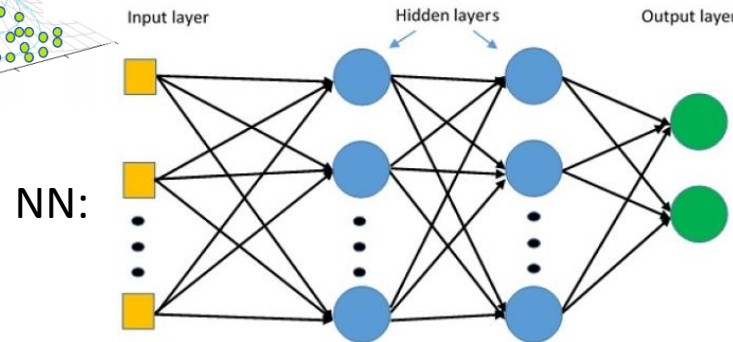
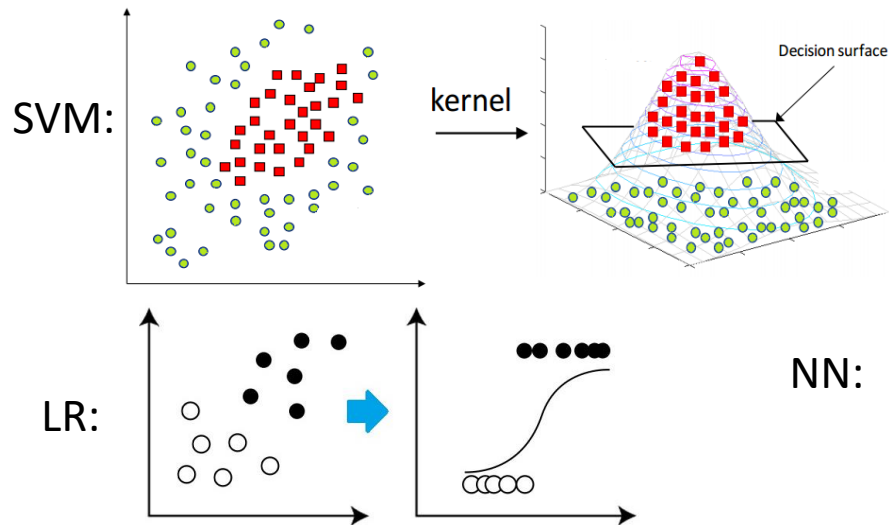


Quantum Machine Learning for Solar Panel Fault Detection

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- ❑ Dataset contains 10 features with 5 classifications: 4 faults and standard test conditions
- ❑ Pre-process data (normalization, one-hot encoding, binary classification split, train/test split)
- ❑ Train logistic regression, support vector machine, and neural network models
- ❑ Adjust hyperparameters (epochs, solver, penalty, activation function, hidden layers)
- ❑ Record results (accuracy, recall, precision, F-score)
- ❑ Test results against quantum versions of these models



Logistic Regression

Predicted Labels	Short Circuit	1338	143
	No Faults	195	1332
		Short Circuit	No Faults
		True Labels	

SVM

Predicted Labels	Short Circuit	1380	109
	No Faults	153	1366
		Short Circuit	No Faults
		True Labels	

Neural Network

Predicted Labels	Short Circuit	1451	72
	No Faults	82	1403
		Short Circuit	No Faults
		True labels	

Accuracies:
 LR 88.76%
 SVM 91.29%
 NN 94.88%