

Prerequisites:

Participants are expected to have:

Linear Algebra: Understanding of vectors, matrices, matrix multiplication, eigenvalues, and eigenvectors. Familiarity with complex numbers is a plus as it is crucial in quantum computations.

Probability and Statistics: Knowledge of probability distributions, expectation values, variance, and standard deviation.

Programming: Proficiency in Python. Familiarity with Numpy, Pandas, and other Python data processing libraries would be beneficial.

Machine Learning: Basic understanding of machine learning concepts, including both supervised and unsupervised learning methods. Experience with any machine learning framework (like TensorFlow, PyTorch) would be beneficial.

Quantum Computing: Basic understanding of quantum computing concepts such as qubits, superposition, entanglement, quantum gates, and simple quantum algorithms. No deep knowledge required, but familiarity with these concepts will ease the understanding of quantum machine learning algorithms.

No extensive prior knowledge of quantum physics is required. The course is designed to introduce quantum computing principles to those familiar with traditional computing paradigms.