What is Quantum Computation?

The development of Quantum Mechanics over the last century has paved the way for the new paradigm of computation. Paul Benioff with his research on Quantum Information and Quantum mechanical model of Turing Machines pioneered the field of Quantum Computing. Quantum computation is based on the postulates of quantum mechanics. In the last couple of decades, many theoretical quantum algorithms have been developed which suggest a possible superiority of quantum computers over their classical counterparts.

Why Quantum Computation is required?

Qubit

Single and Multi-Qubit Gates

Circuit

Entanglement, Superposition, Quantum Parallelism

Quantum Machine Learning

Quantum Classifiers