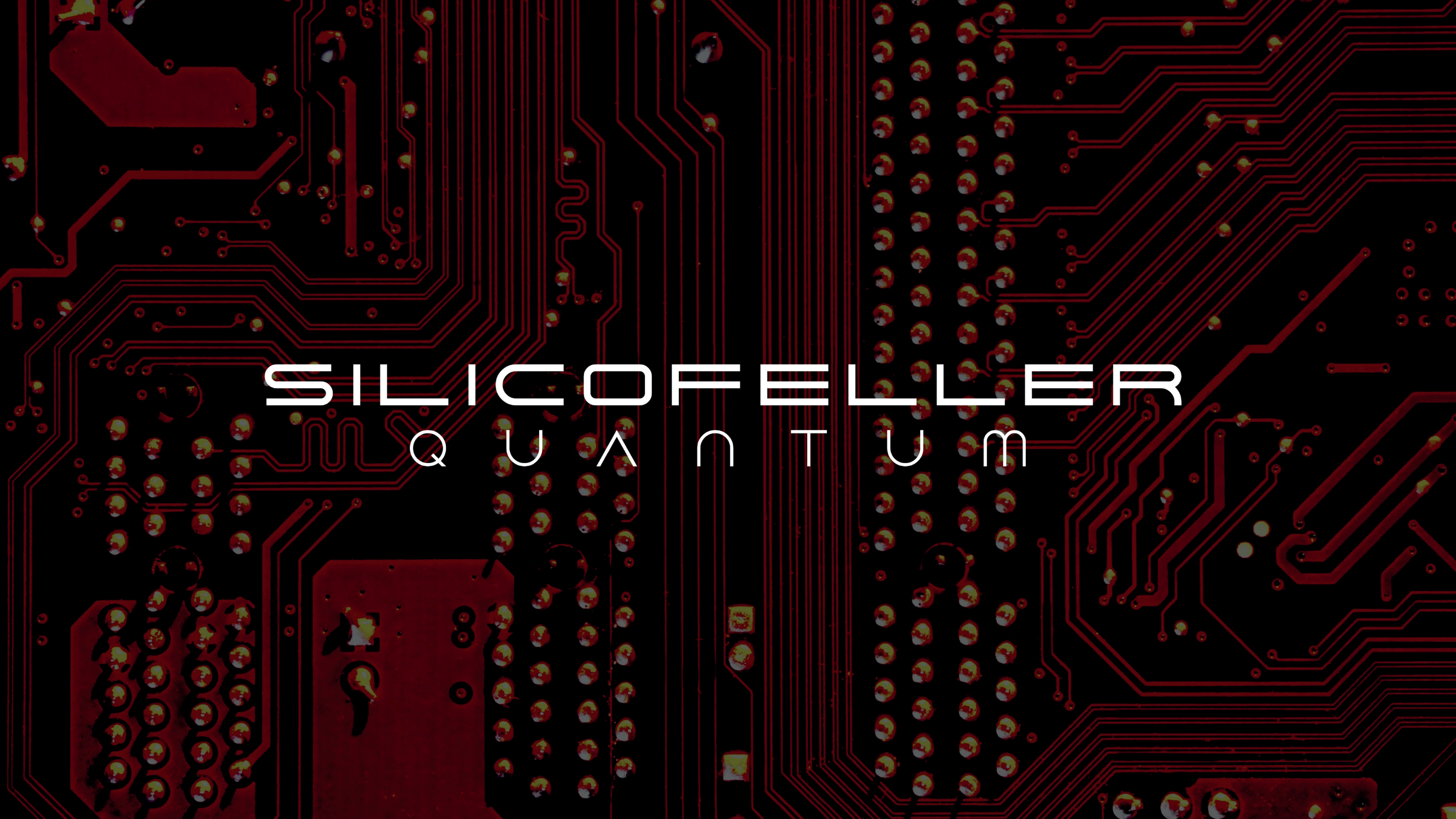
SILICOFELLER
QUANTUM

Take the Quantum Leap

Online Course - Qiskit Programming with IBM Quantum Computers

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Course Overview

An IBM Qiskit Developer is an individual who demonstrates fundamental knowledge of quantum computing concepts and is able to express them using the Qiskit open source software development kit.

They have experience using the Qiskit SDK from the Python programming language to create and execute quantum computing programs on IBM Quantum computers and simulators.

Gain strong foundational technical knowledge and write, build, test, train and deploy Quantum solutions by becoming an **IBM Certified Qiskit Developer** with the help of our course.

Learning Outcome

Module 1: Prerequisite

Qubit Representation
Superposition
Entanglement
Matrix multiplication
Linear Algebra

Module 2: Perform Operations on Quantum Circuits

Construct multi-qubit quantum registers
Measure quantum circuits in classical registers
Use single-qubit gates
Use multi-qubit gates
Use barrier operations
Return the circuit depth
Extend quantum circuits
Return the OpenQASM string for a circuit

Module 3: Executing Experiments

Execute a quantum circuit
Use the available simulators
Read a QASM file and string

Module 4: Compare and Contrast Quantum Information

Use classical and quantum registers
Use operators
Measure fidelity

Module 5: Return the Experiment Results

Return and understand the histogram data of an experiment
Return and understand the statevector of an experiment
Return and understand the unitary of an experiment

Module 6: Use Qiskit Tools

Monitor the status of a job instance
Display and use system information
Perform operations around the Qiskit version
Use information gained from %qiskit_backend_overview

Module 7: Construct Visualizations

Draw a circuit
Plot a histogram of data
Plot a Bloch multivector
Plot a Bloch vector
Plot a QSphere

Module 8: Access Aer Provider

Access a statevector_simulator backend
Access a qasm_simulator backend
Access a unitary_simulator backend

Get in touch

Email
communications@silicofeller.com

Address
Infinity Loops, Birbal Road, Block B, Lajpat Nagar II, Lajpat Nagar, New Delhi, Delhi, India

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