Quantum Computing Training and Certification Course

About
DevOpsSchool

DevOpsSchool is a unit of "Cotocus PVT ltd" and a leading platform which helps IT organizations and professionals to learn all the emerging technologies and trend which helps them to learn and embrace all the skills, intelligence, innovation and transformation which requires to achieve the end result, quickly and efficiently. We provide over 40 specialized programs on DevOps, Cloud, Containers, Security, AI, ML and on Big data that are focused on industry requirement and each curriculum is developed and delivered by leading experts in each domain and aligned with the industry standards.

About Course

We are excited to publish our new Quantum Computing Course which will help you to explore the key concepts of quantum computing and find out how it's changing computer science with the benefits it has. In this Quantum Computing Course, we will discuss all about to build quantum computers, cover the crucial principles in quantum computing, and take a look at some of the major quantum computing algorithms.

What is Quantum Computing?

Till date the computers which we are using helped us to unlock the computing power that we couldn't process with human power alone, but with quantum computing, we can take that power even further and we can use them to do more advance things more quickly and more efficiently. It work by using quantum mechanical phenomena to process massive data sets. Classical computers would get entangle with these datasets, but with quantum properties such as superposition of states and entanglement can speed up the processing power and it can handle a seemingly unlimited number of variables. Classical computers manipulate ones and zeroes to crunch through operations, but Quantum Computers will use qubits or quantum bits which mimic the state of subatomic particles and with quantum algorithms, it can process exponentially more data more efficiently wuth the help of quantum hardware. With help of Quantum Computing almost every industry from finance to agriculture, cybersecurity to artificial intelligence, all can reap the benefit of quantum processors.

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Duration	60 Hours
Mode	Online (Instructor-led, live & Interactive)
Projects (Real time scenario based)	1

FEATURES	DEVOPSSCHOOL	OTHERS
Faculty Profile Check	✔	✖
Lifetime Technical Support	✔	✖
Lifetime LMS access	✔	✖
Top 25 Tools	✔	✖
Interviews Kit	✔	✖
Training Notes	✔	✖
Step by Step Web Based Tutorials	✔	✖
Training Slides	✔	✖
Training + Additional Videos	✔	✖

AGENDA OF THE QUANTUM COMPUTING TRAINING AND CERTIFICATION COURSE

Quantum Computer and Classical Computer principals

- Quantum Computer and Classical Computer principals

Math refresher for Quantum Computing

- Complex Number Basics
- Algebra of Complex Numbers
- Complex Number Conjugates & Divisions
- Matrix Addition, Subtraction & Multiplication
- Matrix Transpose & Conjugate Transpose

Qubit and Physics

- Getting Started with Python (3.x) installation and configuration
- PyCharm and Anaconda Installation and configuration

Python with Machine Learning

- Qubit Introduction
- Superposition and Interference
- Entanglement
- Qubit State
- Braket
- Multi Qubit

Python from scratch

- Introduction to Python from Scratch
- Anaconda Installation for Windows Users
- Anaconda Installation for MAC Users
- Numbers
- Variables
- String
- Advanced String
- Variable Attributes
- Lists
- Lists Advanced
- Dictionary
- Sets
- Tuples
- Boolean
- Logical Comparisons
- If Statements
- Statements Continued
- Statements Practical Usage
- For Loop
- For Loop Practical Usage
- Break Continue Pass
- While Loop
- Useful Methods
- Zip and Random
- Lists Advanced
- Sublime Text for Windows Users
- Command Prompt for Windows Users
- Sublime Text for MAC Users
- Terminal for MAC Users
- Functions Explained
- Input and Output
- Functions Advanced
- Functions Practical Usage
- Scope
- Class
- Methods
- Class Practical Usage
- Inheritance
- Special Methods
- Error Handling
- Using Libraries
- Writing Own Modules
- Imported vs Direct

Qiskit 101

- Introduction to Qiskit
- Classical Gates
- IBM Signup
- Quantum Gates
- Entanglement
- Qiskit
- First Circuit
- Running on Simulator
- Getting Real Quantum Computer Properties
- Preview
- Toffoli

Teleportation

- Introduction to Teleportation
- Phase
- Phase and Bloch Sphere
- Phase ve Bloch Sphere GitHub Link
- Superdense Coding
- Quantum Teleportation
- Teleporation in Qiskit

Bernstein Vazirani

- Introduction to Bernstein Vazirani
- Quantum Algorithms
- Improving Codes

Deutsch

- Introduction to Deutsch
- Deutsch Algorithm
- Creating Algorithm
- Deutsch in Qiskit

Grover's

- Introduction to Grover's
- Classical Search Algorithm
- Applying Grover's on Qiskit
- Aqua and Dinner Party

Shor's

- Introcution to Shor's
- Shor's Algorithm
- Shor Easy Way
- Quantum Fourier Transform
- Quantum Phase Estimation

Qiskit Documentation and Quantum Hardware

Thank you!

Connect with us for more info

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