

NTU Q

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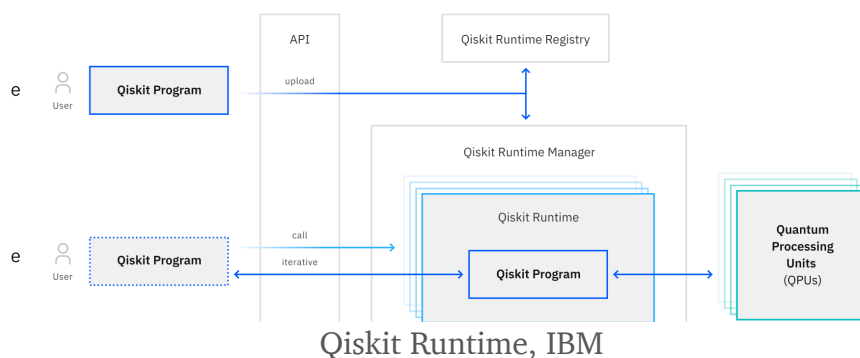
IBM Quantum delivers 120x speedup of quantum workloads with Qiskit Runtime

IBM announced that their team demonstrated a 120x speedup in simulating the behavior of the lithium molecules. They find that not only quantum circuit they have to improve but also the classical processing. They use the term quantum program to describe the mixture of quantum circuits and classical processing.

The improvement in quantum program including:

1. Algorithmic improvements
2. System software
3. Processor performance
4. Control system

Additionally, the team introduce the Qiskit Runtime to provide the final boost. Qiskit Runtime is a containerized service for quantum computers, authorized users can run their program in the Qiskit Runtime execution environment to minimize the time delay. By using the Qiskit Runtime, researchers can speedup their simulation in quantum chemistry. Moreover, this tool also increase the performance of quantum machine learning task.



Source:

<https://research.ibm.com/blog/120x-quantum-speedup>

<https://quantum-computing.ibm.com/lab/docs/iql/runtime/start>

IBM BREAK THROUGH THE MILLISECOND BARRIER WITH SINGLE-JUNCTION TRANSMON

Jay Gambetta, the Vice President in IBM Quantum computing, announced that IBM break through the millisecond barrier with single-junction transmon.

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COLDQUANTA JOINS THE IBM QUANTUM NETWORK, BRINGING COLD ATOM QUANTUM TECHNOLOGY TO GROWING ECOSYSTEM

ColdQuanta announced it has joined the IBM Quantum Network. Moreover, ColdQuanta will also integrate with Qiskit. "Joining the IBM Quantum Network and our integration with Qiskit will enable our commercial and government customers to accelerate their quantum computing initiatives and realize the wide-ranging benefits of quantum," said Dan Caruso, executive chairman of ColdQuanta.

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IDELFT-BASED QUANTUM TECH STARTUP QPHOX RAISES €2 MILLION, USES QUANTUM MODEM TO TURN THEORY INTO REALITY

Delft, Netherlands-based quantum tech company QphoX has raised €2 million in a round. The company's breakthrough device, the quantum modem, will make new applications in networked quantum information processing possible.

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計畫補助單位：




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