

Alice & Bob selects OVHcloud to launch Felis, the first quantum emulator predicting the behavior of logical qubits

Felis enables users to tune error rates along the path to scalable quantum computing and abstracts error correction to simplify quantum algorithm testing

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/EINPresswire.com/ -- [Alice & Bob](#), a leading hardware developer in the race to fault tolerant quantum computers, today announced a partnership with leading cloud computing company [OVHcloud](#) to make its quantum emulator Felis publicly available through the OVHcloud Public Cloud universe. This is the first time an emulator is capable of anticipating the behavior of logical qubits with tunable error rates and abstracting error correction to simplify quantum algorithm test beds.



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*Miroslaw Klabá, OVHcloud
R&D Director*

“Felis is an exciting addition to OVHcloud's growing inventory of quantum emulators and a significant step forward for the thriving French quantum industry,” said Miroslaw Klabá, OVHcloud R&D Director. “Enabling algorithm developers to experiment with high-quality qubits is key to accelerating the path to industrially relevant applications.”

Felis focuses on two main use cases: how logical qubits are created out of physical ‘cat’ qubits, and what can be done when you have logical qubits. Researchers focused on improving hardware can explore quantum error correction techniques leveraging cat qubits to improve error

correction and accelerate the path to better error rates. Researchers focused on applications can

use the emulator to abstract everything that enables the creation of logical qubits and examine what can be done with high-quality qubits.

“Logical qubits are the only way we can escape decoherence and solve quantum computing’s struggle with errors,” said Théau Peronnin, CEO of Alice & Bob. “We are thrilled to partner with OVHcloud to show a compelling path to a fault-tolerant quantum computer. This will benefit researchers designing algorithms for industry problems as well as quantum scientists interested in error correction.”

The emulator also allows the tuning of several hardware parameters to anticipate short or long-term

experimental achievements. The resulting logical error rates range from as high as 10^{-3} to as low as 10^{-15} , the latter corresponding to the landmark paper showing how cat qubits reduce hardware requirements for Shor’s algorithm by [up to 60 times](#). Offering unique benefits beyond other qubit modalities, Alice & Bob’s hardware-efficient cat qubits reduce the number of physical qubits required to make an error-free logical qubit.

In combination with resource estimation techniques, Felis will be used by The Box – Alice & Bob’s business strategy division for early applications of quantum computing – to provide evidence-backed timelines for industrial applications.

As part of its efforts to broaden accessibility to the public and expand quantum education, OVHcloud will iterate on its platform to include access to real quantum hardware, including Alice & Bob’s, as soon as 2024.

About OVHcloud

OVHcloud is a global player and the leading European cloud provider operating over 450,000 servers within 38 data centers across 4 continents to reach 1,6 million customers in over 140 countries. Spearheading a trusted cloud and pioneering a sustainable cloud with the best price-performance ratio, the Group has been leveraging for over 20 years an integrated model that guarantees total control of its value chain: from the design of its servers to the construction and management of its data centers, including the orchestration of its fiber-optic network. This unique approach enables OVHcloud to independently cover all the uses of its customers so they can seize the benefits of an environmentally conscious model with a frugal use of resources and



a carbon footprint reaching the best ratios in the industry. OVHcloud now offers customers the latest-generation solutions combining performance, predictable pricing, and complete data sovereignty to support their unfettered growth.

About Alice & Bob

Alice & Bob is a French start-up whose goal is to realize the first universal, fault-tolerant quantum computer. Founded in 2020, Alice & Bob has already raised 30M€ in VC capital, hired over 80 employees, and demonstrated experimental results surpassing those of technological giants like Google or Amazon. A laureate of the French Tech DeepNum 20 and French Tech 2030 programs, Alice & Bob specializes in cat qubits, a technology reducing hardware requirements by up to 60 times compared to competing approaches. Demonstrating the power of its cat qubit architecture, Alice & Bob recently demonstrated that the number of qubits required for Shor's algorithm can be reduced from 20 million to 350 thousand through a combination of algorithm optimization and adaptation by leveraging its approach.

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